



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

JUL 29 1985

MEMORANDUM FOR: Gus C. Lainas, Assistant Director
for Operating Reactors
Division of Licensing

FROM: William V. Johnston, Assistant Director
Materials, Chemical & Environmental Technology
Division of Engineering

SUBJECT: REQUEST FOR EXEMPTIONS FROM THE REQUIREMENTS OF
APPENDIX R TO 10 CFR 50, DONALD C. COOK NUCLEAR
POWER PLANT UNITS 1 & 2 (TAC #55809/10)

Facility: Donald C. Cook Nuclear Power Plant Units 1 & 2
Licensee: Indiana & Michigan Electric Co.
Docket Nos.: 50-315/316

Responsible Branch & Project Manager: ORB #1; D. Wigginton
CMEB Reviewer: K. S. West

Status: Three deviations from Appendix A to BTP APCSB 9.5-1 requested. Two
are acceptable, one is not acceptable.

By letters dated March 8 and June 15, 1984, the licensee requested three
technical exemptions from the requirements of Appendix R to 10 CFR 50.
By letters dated June 15, June 27 and August 13, 1984, the licensee provided
additional information. Enclosed is our evaluation.

These three technical exemption requests concern hatch covers, seismic gaps,
and ventilation duct penetrations located in fire area boundaries. Our
acceptance criteria for fire area boundaries are set forth in Appendix A
to BTP APCSB 9.5-1, not in Appendix R to 10 CFR 50. Because deviations
from our Appendix A guidelines do not require exemptions, we have reviewed
the fire area boundary penetrations identified in the exemption requests as
deviations from our guidelines, rather than exemptions from Appendix R to
10 CFR 50.

Based on our evaluations, we conclude that the following are acceptable
deviations from the guidelines of Appendix A to BTP APCSB 9.5-1:

1. Auxiliary Building Ventilation Duct Penetrations (Fire Areas A, B, C, D
and E)
2. Containment and Auxiliary Buildings Seismic Gaps (Numerous Fire Areas)

Contact: K. S. West
x28599

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Gus C. Laines

We also conclude that the following is not an acceptable deviation from our guidelines:

- 1. Non-Fire Rated Hatch Covers (Numerous Fire Areas)

Our evaluations incorporate the technical input provided by the Auxiliary Systems Branch in their memorandum dated June 25, 1985.

Our SALP input is also enclosed.

William V Johnston

William V. Johnston, Assistant Director
Materials, Chemical & Environmental
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Division of Engineering

Enclosures: As stated

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Chemical Engineering Branch/Fire Protection Section
Exemption Requests
Donald C. Cook Nuclear Power Plant
Units 1 & 2
Docket Nos. 50-315/316

1.G Introduction

The licensee's March 1983 report entitled, "Safe-shutdown Capability Assessment and Proposed Modifications," identified the safe-shutdown systems requirements relative to Appendix R to 10 CFR 50, included 19 requests for technical exemptions from Appendix R, and identified modifications required to bring fire areas into compliance with Section III.G of Appendix R.

By letter dated March 8, 1984, the licensee requested one additional technical exemption from the requirements of Section III.G of Appendix R to 10 CFR 50 to the extent that it requires the separation of redundant safe-shutdown components by 3-hour fire rated barriers and requested relief from their commitment to provide fire rated hatch covers in the Control Room, the access control area, the switchgear rooms, and the cable vault rooms. By letters date June 15 and 27, 1984, the licensee provided additional information.

By another letter dated June 15, 1984, the licensee requested technical exemptions from the requirements of Section III.G of Appendix R to 10CFR 50 for unsealed seismic gaps between the containment and the auxiliary buildings, and for 17 undamped duct penetrations. By letter dated August 13, 1984, the licensee requested exemptions for 5 additional undamped duct penetrations. By Supplement 2 to their March 1983 report, the licensee provided additional information on the seismic gap and duct penetration exemption requests.

These three technical exemption requests concern fire area boundaries. Our acceptance criteria for fire area boundaries are set forth in Appendix A to BTP APCSB 9.5-1, not in Appendix R to 10 CFR 50. Because deviations from our Appendix A guidelines do not require exemptions, we have reviewed the fire area boundaries identified in the exemption requests as deviations from our guidelines, rather than exemptions from Appendix R to 10 CFR 50.

2.0 Non-Fire Rated Hatch Covers (Numerous Fire Areas)

2.1 Discussion

In the March 1983 report, the licensee committed to install fire rated hatch covers in the Control Room, the access control area, the switchgear rooms, and the cable spreading rooms. By letter dated March 8, 1984, the licensee requested relief from this commitment because fire-rated hatch covers are not commercially available. By letters dated June 15 and 27, 1984, the licensee proposed to install a fire barrier material on nine hatch covers to achieve the required fire resistance ratings and to justify this rating by analysis rather than test.

Exemptions previously granted for the Control Rooms and the Circulating Water Pump Motor Control Room were based in part on the licensee's commitment to provide 3-hour fire-rated hatch covers in these rooms.

2.2 Evaluation

The guidelines of Section D.1.(j) of Appendix A to BTP APCSB 9.5-1 are not met because there are hatch covers in fire barriers that do not provide a fire resistance rating equal to the fire barrier itself.

We are concerned that a fire in any of the fire areas with a non-fire rated hatch cover will spread through the hatch resulting in loss of safe shutdown capability.

The information provided by the licensee does not contain sufficient information for us to perform an independent evaluation of the proposed modifications.

The results of the licensee's heat transfer calculations show that the fire resistance ratings required to meet our commitment will not be achieved by the modified hatch covers. The analysis also does not address hose stream testing of the hatch covers.

The licensee has not provided adequate justification as to why hatch covers with fire resistance ratings less than those of the fire barrier for which they are installed are acceptable deviations from our guidelines.

2.3 Conclusion

Based on our review, we conclude that the modifications proposed for the nine hatch covers do not provide reasonable assurance that the hatch covers will provide a level of fire protection equivalent to Section D.1.(j) of Appendix A to BTP APCSB 5.5-1. Therefore, the non-fire rated hatch covers are not an acceptable deviation from our guidelines. The licensee should provide test results for the modified hatch covers demonstrating that their fire resistance ratings are equivalent to the barriers in which they are installed.

3.0 Auxiliary Building Ventilation Duct Penetrations (Fire Areas A, B, C, D and E)

3.1 Discussion

These fire areas are the 573, 587, 609, 633 and 650 foot elevations of the Auxiliary Building. There are 22 undampened ventilation duct penetrations in the floor/ceiling assemblies separating these fire areas. The penetrations are shown in Figures 1 through 8 of Supplement 2 to the March 1983 Report.

Several ducts penetrate the floor and/or ceiling of Fire Area C, but are continuous through the area. Similarly several ducts penetrate the floor/ceiling assembly separating Fire Areas D and E, but are continuous through both fire areas. Other ducts communicating between fire areas have exhaust or supply registers open to the fire areas.

Fire Areas A, B, C and D contain safe shutdown components. There are no safe-shutdown components in Fire Area E. The fuel loads in these fire areas are uniformly distributed throughout and yield estimated equivalent fire severities ranging from one to 10 minutes.

All of the fire areas containing safe-shutdown components are equipped with ionization type fire detection systems. Fire Areas B, C and D are equipped with automatic preaction sprinkler systems such that each duct penetration through the fire area floor is provided with sprinkler coverage.

The stairway connecting Fire Areas A and B is provided with an automatic water suppression system. An exemption from the requirements to provide automatic suppression in Fire Area A has been granted previously.

3.2 Evaluation

The guidelines of Section D.1.(j) of Appendix A to BTP APCSB 9.5-1 are not met because there are undampened ventilation duct penetrations through floor/ceiling assemblies enclosing fire areas.

We were concerned that a fire in any of the fire areas of concern would spread through the vertical undampened ducts resulting in loss of safe-shutdown capability.

Because the individual fuel loads are low and uniformly distributed, we do not expect a fire of significant magnitude or duration to occur in any of the fire areas. If a fire does occur, it would be detected by the ionization detectors and extinguished by the plant fire brigade before spreading to another fire area through any of the ventilation ducts.

Because of the low fire loads, we do not expect a fire of sufficient intensity to breach any of the ventilation ducts. However, should this occur, the sprinklers positioned around the ducts in Fire Area B, C or D would operate and prevent the fire from spreading from the duct into the fire area.

Automatic suppression is not installed throughout Fire Area E. However, all of the ducts in this area are continuous through the area. Therefore, we

do not expect damage in this area as a result of a fire in any of the fire areas below. Moreover, there are no safe-shutdown components located in Fire Area E. Therefore, if fire or smoke spread into the area it would not affect safe-shutdown.

Automatic suppression is not installed throughout Fire Area A. However, the combustible loading in this area is low. Therefore, if a fire occurred in this area, it is our opinion that it would not be of sufficient intensity or duration to damage safe-shutdown components in any of the fire areas above.

3.4 Conclusion

Based on our evaluation, we conclude that we have reasonable assurance that the 22 Auxiliary Building undampered ventilation duct penetrations will not affect safe-shutdown in the event of a fire in Fire Area A, B, C, D or E. The lack of fire dampers in these 22 ventilation duct penetrations is, therefore, an acceptable deviation from the guidelines of Section D.1.(j) of Appendix A to BTP APCSB 9.5-1.

4.0 Containment and Auxiliary Buildings Seismic Gaps (Numerous Fire Areas)

4.1 Discussion

A seismic gap exists around the Containment Building of each unit which leaves an opening of approximately 6 inches between containment and the adjacent structures. The licensee's March 1983 report did not address these seismic gaps when defining fire area boundaries. Supplement 2 to the Report lists the fire areas that contain seismic gaps and provides an analysis of the potential effects on safe-shutdown capability in the event of postulated fire spread through the gaps.

The licensee's analysis methodology assumes that a postulated fire will damage the safe-shutdown components in the area of origin and in the areas to the left, right, and above as a result of fire spread through the gaps. The licensee

conducted an analysis for each area with a seismic gap. Systems evaluations were conducted to verify that safe plant shutdown would not be compromised as a result of the postulated fires.

The minimum set of safe-shutdown systems necessary to meet the requirements of Appendix R are described in the March 1983 Report. These systems are:

- Chemical and Volume Control System (CVCS)
- Reactor Coolant System (RCS)
- Auxiliary Feedwater System (AFW)
- Residual Heat Removal System (RHR)
- Component Cooling Water System (CCW)
- Essential Service Water System (ESW)
- Emergency Power System (EPS)
- Main Steam System (MS)

4.2 Evaluation

The guidelines of Section D.1.(j) of Appendix A to BTP APCSB 9.5-1 are not met because there are unsealed penetrations, i.e., seismic gaps, in barriers separating fire areas.

In order to confirm that safe-shutdown capability is available in the event of the postulated fires, we performed a detailed review of Fire Area 33B. In Supplement 2 and additional information obtained in telephone conferences on June 20 and June 21, 1985, the licensee stated that the resulting postulated fire damage is to be following shutdown equipment/components:

MS: Pressure transmitters and associated cables for steam generators 2 and 3. Control cable associated with main steam system power operated relief valves (PORVs) steam generators 1 and 4.

AFW: Control cable for auxiliary feedwater control valves, FMO 212, 242, 241 and 211 for steam generators 1 and 4.

RCS: Cables for T_{hot} and T_{cold} primary temperature indication is loops 1 and 4.

CVCS: Cable for charging flow control valve, QRV-251.

Per Table 2-1 of Supplement 2, the licensee indicates that the unaffected safe shutdown systems for Fire Area 33B are: ESW, CCW, EPS and RHR. For those safe-shutdown system trains subject to potential fire damage, the following redundant train or other capability is provided:

MS: Instrumentation associated with steam generators 1 and 4 is not affected by the fire. The main steam PORVs for steam generators 1 and 4 will be manually operated.

AFW: The affected valves in the AFW trains to steam generators 1 and 4 will be manually operated, allowing two of three AFW trains to be available.

RCS: T_{hot} and T_{cold} indications for loops 1 and 4 are affected. However, alternative primary temperature indication is provided as documented in Appendix R Safety Evaluation Report input dated November 4, 1983.

CVCS: Mechanical stops will cause the charging flow control valve, QRV-251 to fail in a satisfactory minimum flow control position.

4.4 Conclusion

Based on our review, we conclude that the methodology used by the licensee to evaluate postulated fire spread through the seismic gaps and safe shutdown capability in the event of a postulated fire is acceptable. Further, based on our review of the systems evaluations contained in Supplement 2, we conclude

that satisfactory safe shutdown capability is available for those areas with seismic gaps and that the licensee has demonstrated adequate post-fire shutdown capability in the event of fire spread via the seismic gaps. These unsealed fire barrier penetrations, i.e., seismic gaps, are, therefore, an acceptable deviation from the guidelines of Section D.1.(j) of Appendix A to BTP APCS 9.5-1.

5.0 Summary

Based on our evaluations, we conclude that the following are acceptable deviations from the guidelines of Appendix A to BTP APCS 9.5-1:

1. Auxiliary Building Ventilation Duct Penetrations (Fire Areas A, B, C, D and E)
2. Containment and Auxiliary Building Seismic Gaps (Numerous Fire Areas)

We also conclude that the following is not an acceptable deviation from our guidelines:

1. Non-Fire Rated Hatch Covers (Numerous Fire Areas)

Input to the SALP Process

A. Functional Area: Fire Protection

1. Management involvement in assuring quality: Throughout the review process, the licensee's activities exhibited evidence of prior assignment of priorities to fire protection safety.

Rating Category 2

2. Approach to resolution of technical issues: With the exception of the non-fire rated hatch covers, the licensee's representatives displayed an understanding of our concerns with the level of fire protection during telecons and in their submittals. The various submittals for the hatch covers were general and vague and did not demonstrate a conservative approach toward providing an adequate level of safety.

Rating Category 2

3. Responsiveness to NRC Initiatives: The licensee provided timely oral responses to our requests for information. However, our fire protection concerns on the non-fire rated hatch covers were not resolved.

Rating Category 2

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	<u>J.C. PROBERT</u>					X	✓
	<u>DAN BROWN</u>					X	✓
	<u>ED. HENNEBERRY</u>					X	✓
	<u>CHUCK KURTZ</u>					X	✓
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P.E. Supv.	S. S. Jeschke						
	<u>K.A. JANSLOW</u>					X	
	<u>S.P. PROBERT</u>					X	
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	<u>ED. HENNINGBERRY</u>					X	
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	<u>J.C. PRASERT</u>					X	<u>[Signature]</u>
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	<u>K.A. JANSION</u>				<u>X</u>	
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P.E. Supv.	S. S. Jeschke						
	<u>K.A. JONSON</u>					<u>X</u>	
	<u>S.C. PRASERT</u>					<u>X</u>	
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<u>GASSEE ASSOC.</u>							

3M/TSI INTERFACE PROPOSAL

Installation Only

3M CERAMIC MATERIALS DEPARTMENT

PROJECT PLAN PJ-10

Prepared by Duane A. Lanwermeyer

June 5, 1986

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I. TEST OBJECTIVE

The objective of this 3M/TSI interface proposal is to determine the installation technique required to join 3M Interam™ E-50 Series One-Hour Fire Protection System with TSI's One-Hour Preform System. The Beaver Valley Nuclear Power Plant will be installing both systems; therefore, it is imperative that a drawing package be designed that includes 3M's system interfacing with TSI's.

II. SCOPE OF TEST PROGRAM

Installation of the TSI Preform System will be performed by an outside TSI certified installer, namely API. API will also wrap the 3M Fire Protection System after they have been trained by certified 3M personnel. Installation of the two fire protection systems on the 5" O.D. conduits will take place at 3M's fire test facility, Chemlite Bldg. 66, located in Cottage Grove, Minnesota. A total of three 5" O.D. aluminum conduits will be fire protected. One conduit will contain 3M Interam™ E-50 Series 1-Hour Fire Protection System which includes one layer E-50D and two layers E-53A. A second conduit will contain TSI's 1-hour Preform Fire Protection System; and a third conduit will contain two 3' sections of 3M's 1-Hour Fire Protection System on each end of the conduit and one 3' section of TSI's 1-Hour Fire Protection System in the middle of the conduit, thus providing two interfaces.

III. DESCRIPTION OF 3M INTERAM™ FIRE PROTECTION PRODUCTS AND OTHER INSTALLATION MATERIALS

A. Interam, E-50D Mat

1. 3M part 98-0400-0501-3
2. Supplied in rolls nominally 49" wide x 12' long x .4" thick
3. Gray in color with 2 mil aluminum foil 48" wide on one side and nylon scrim on the other side
4. This mat must be installed with the aluminum foil side away from the fire-protected item.

B. Interam™ E-53A Mat

1. 3M part 98-0400-0551-8
2. Supplied in rolls nominally 49" wide x 16' long x .3" thick
3. Green in color with 2 mil aluminum foil 48" wide on one side and nylon scrim on the other side
4. This mat must be installed with the aluminum foil side away from the fire-protected item.

C. Interam™ T-49 Fire Protection Tape

1. 3M part 98-0400-0172-3
2. Supplied in rolls nominally 4" wide x 180' long x .003" thick
3. The aluminum foil tape must be applied to all seams on all layers on all three configurations.

D. 3M Scotch Brand Tape #898

1. 3M part 70-0028-2311-3
2. Supplied in rolls nominally 3/4" wide x 180' long
3. The filament tape is used primarily as an installation aid to temporarily hold mat pieces in position prior to taping with T-49 tape.

E. Stainless Steel Banding and Seals

1. These are non-3M products and may be purchased independent of 3M.
2. 1/2" wide minimum x .020" thick minimum 300-Series stainless steel banding must be used as part of the restraining system for all 3M Interam™ Fire Protection Systems.
3. Either fold-over wing-tab seals or crimp-on seals may be used to hold the banding.

IV. THERMOCOUPLE ASSIGNMENTS

Thermocouples 0-8 will be used to measure furnace temperatures.

	+ 3.0'	+ 2.0'	+ 1.5'	Center	-1.5'	- 2.0'	- 3.0'
<u>Conduit #1</u> 3M							
Conduit O.D.				9		10	
7c/#12		18		19		20	
Bare #8		29		30		31	
<u>Conduit #2</u> TSI							
Conduit O.D.				11		12	
7c/#12		21		22		23	
Bare #8		32		33		34	
<u>Conduit #3</u> 3M/TSI							
Conduit O.D.	13		14	15	16		17
7c/#12	24		25	26	27		28
Bare #8	35		36	37	38		39

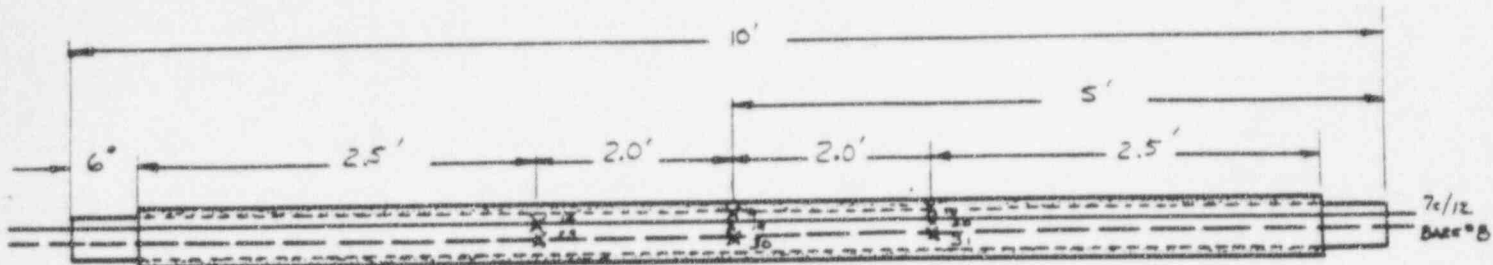
CONDUIT DESCRIPTION

Conduit #1 3M Interam™ 1-Hour Fire Protection System
One layer E-50D and two layers F-53A

Conduit #2 TSI 1-Hour Preform Fire Protection System

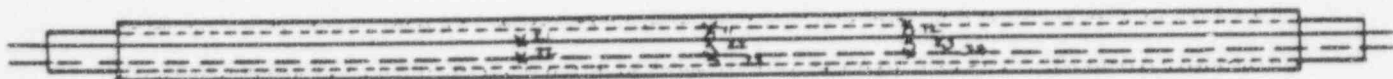
Conduit #3 3M 1-Hour Fire-Protection System interfaced with
TSI's 1-Hour Preform Fire Protection System

V. THERMOCOUPLE LOCATIONS



CONDUIT #1

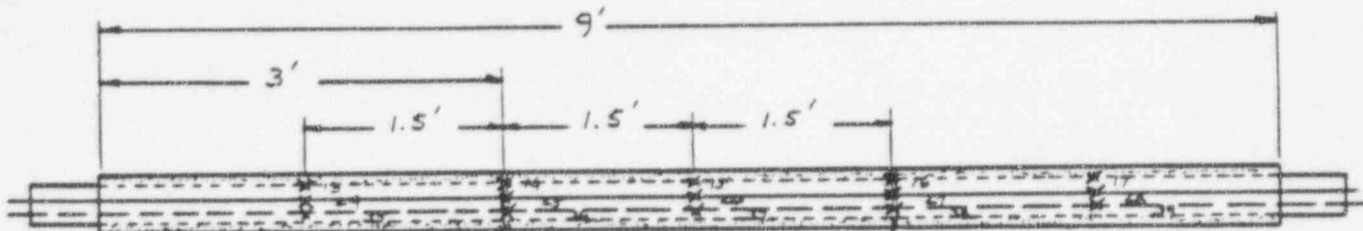
1 layer 3M Interamtm E-50D
and
2 layers 3M Interamtm E-53A



CONDUIT #2

1 layer TSI Preform

Note: Thermocouple placement is the same as Conduit #1



CONDUIT #3

2 3' section 3M Interamtm Fire Protection System
1 3' section TSI Preform Fire Protection System

VI. FIRE PROTECTION MATERIALS DOCUMENTATION

DESCRIPTION AND LOT NUMBER OF THERMOCOUPLE WIRE

M.I. 52751

Item Protected	Fire Protection Material	Lot # of Fire Protection Material	Size	Weight	Calculated Weight for 4" x 6" Sample
2" ALUM. COLU - "	ESOD 1 st LAYER	8029006012 0060493011	49x22 49x22 7 1/2" x 22		
	ES3A 2 nd LAYER	8220002010 0260953013	49x25 1/4 47x25 1/4 7 1/2" x 25 1/4		
	ES3A 3 rd LAYER	8220002010 0260953013	49x28 45x28 11 5/8" x 28		
	ES3A COLLAR		4" x 30" 4" x 30"		
COIL #2	TST 5" PROGRAM	F15101 DB	COILS 36" LONG 8" LONG		
			7 1/2" LONG 20" LONG		
			36" LONG 36" LONG 9" LONG		
BRACKET #5	TSE	F15101 CB	HALVES HALVES 36" LONG 36" LONG		
	3M ESOD 1 st LAYER	8029006012 0060493011	18x22 18x22		
ON CRACK BRK	3M ES3A 2 nd LAYER	8220002010 0260953013	16x25 1/4 20x25 1/4		
	3 rd LAYER		14x28 22x28		
	ES3A COLLARS		4 X 4" x 30 1/4		
	2" SHIMS ES3A		2 1/4 x 2"		

Installer's Name	Signature	Date
<u>RICHARD KROENING</u>	<u>Richard Kroening</u>	<u>6-6-86</u>
<u>BOONIE MOSNER</u>	<u>Boonie Mosner</u>	<u>6-6-86</u>

APPENDIX A

INSTALLATION QUALITY ASSURANCE GUIDELINES FROM

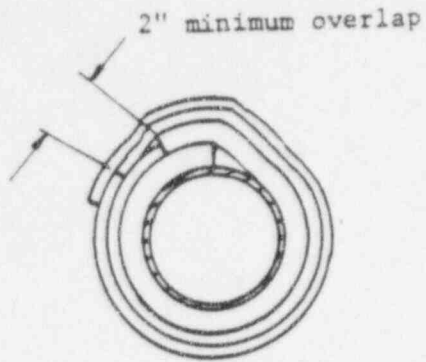
3M DOCUMENT 5500-QA

Conduit #1

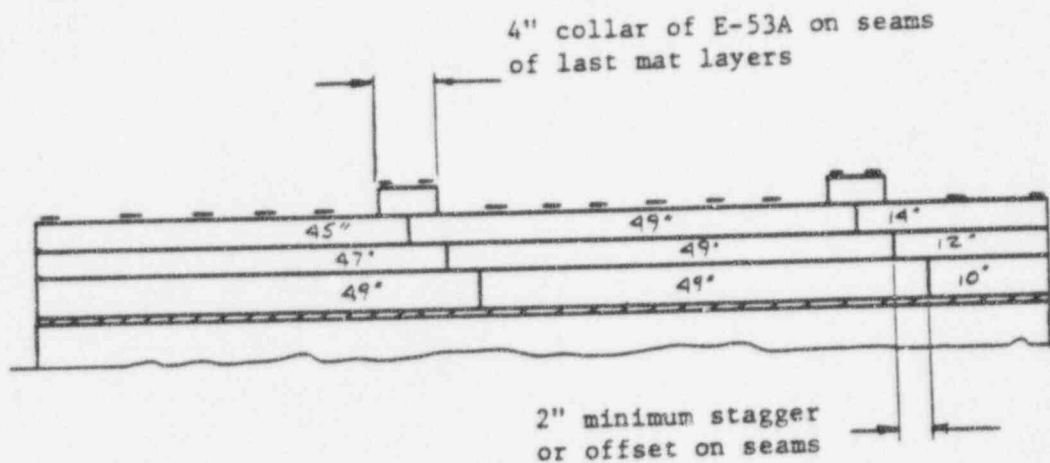
1. One layer of E-50D mat and two layers of E-53A mat are required on all aluminum conduits.
2. The first layer of protection shall consist of one layer of E-50D. The succeeding layers, #2 and #3, require one layer each of E-53A mat.
3. 2" minimum overlap of the mat wrapped around the conduit and back onto itself is required.
4. Adjoining pieces of the same layer of mat may be butted together.
5. The stagger or offset of the seams of a given layer to the seams of the next layer must be a minimum of 2".
6. Apply Interam™ T-49 aluminum foil tape to all seams on all layers.
7. A minimum 4" wide strip of Interam™ E-53A mat must cover the seams on the last layer. These strips are wrapped around the conduit with a 2" minimum overlap onto itself. These strips, or collars, must be secured with 1/2" wide minimum x .020" thick minimum stainless steel banding such that the edge of the banding is 1/2" to 1" from the edge of the collars on both sides.
8. 1/2" wide minimum x .020" thick minimum stainless steel banding is required after the last layer of mat. Maximum band spacing is 8" on center. Also, banding is required on all seams on the last layer such that the edge of the banding is 1/2" to 1" from the edge of the mat.

<p>DAL:30.1</p> <p><small>ALL STATEMENTS, TECHNICAL INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN ARE BASED ON TESTS AND DATA TO BE RELIED UPON BY THE USER UNDER THE CONDITIONS OF USE AND APPLICATIONS AND ARE NOT TO BE USED FOR ANY PURPOSES OTHER THAN THAT FOR WHICH THEY WERE DEVELOPED. 3M SHALL NOT BE LIABLE FOR ANY DAMAGE, LOSS OR CONSEQUENCES RESULTING FROM THE USE OF THIS MATERIAL OR DESIGN. 3M'S ONLY WARRANTY SHALL BE TO REPLACE ANY OF OUR PRODUCTS FOUND TO BE DEFECTIVE.</small></p>	<p>ISSUE 1</p>	<p>DATE 6-5-86</p>	<p>REV.</p>	<p>CH.</p>	<p align="center">INSTALLATION DETAILS OF 3M INTERAM™ E-50 SERIES ONE-HOUR FIRE PROTECTION SYSTEM ON ALUMINUM CONDUIT</p>
	<p>NOT TO SCALE</p>		<p>D.A. LAWMEYER</p>		
	<p>K.A. JENSEN</p>		<p>R. R. LIGHT</p>		
<p>Ceramic Materials Department/3M</p>	<p>3M/TSI INTERFACE INSTALLATION</p>				<p>Page 1 of 7</p>





SECTION OF CONDUIT



Schedule 40 minimum electrical rigid conduit
nominal 5" diameter (~5.6" O.D.) x 10' long

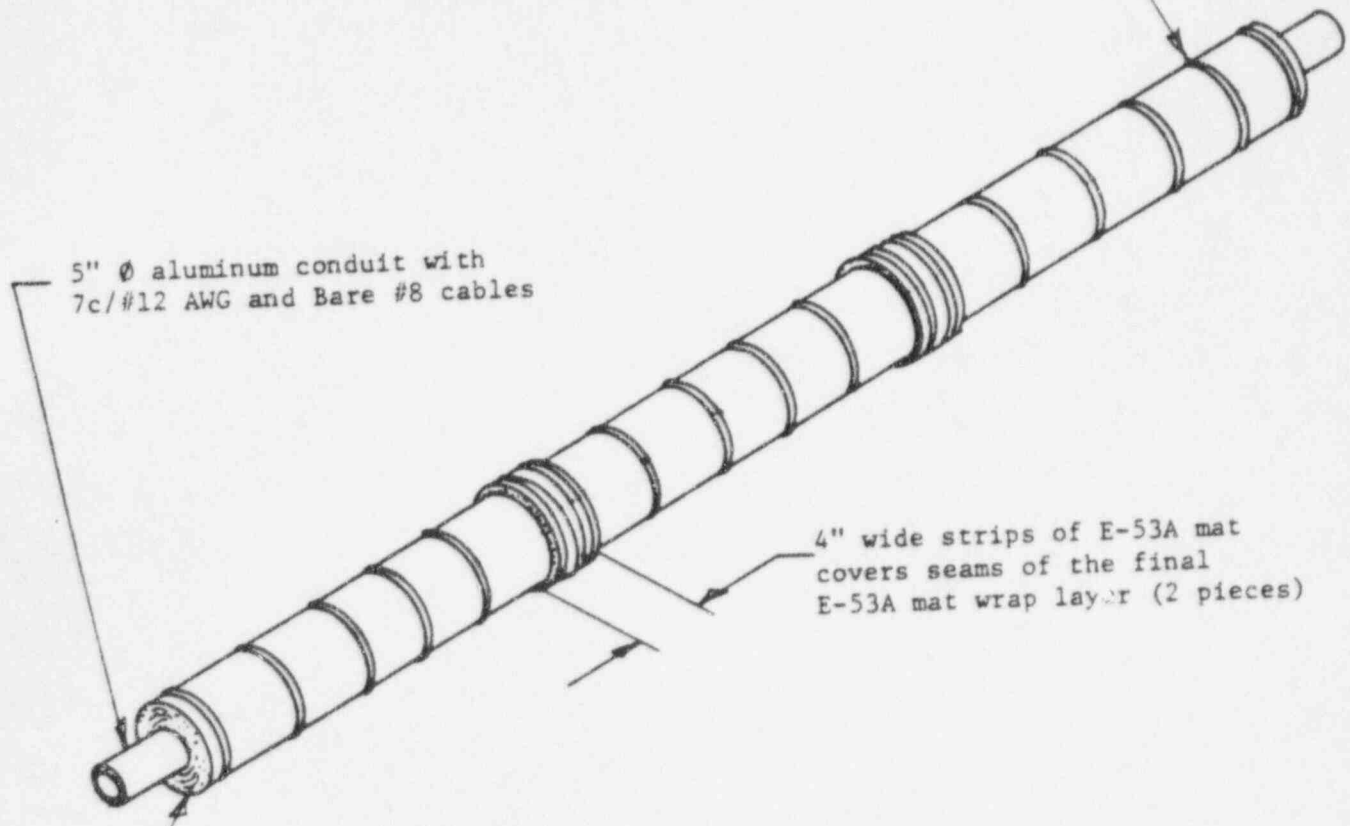
DAL: 30.2 <small>All statements, technical information and recommendations contained herein are based on tests and believe to be reliable however, since the conditions of use and application are beyond our control, we shall not be liable for any damage direct or consequential, resulting from the use of this material or through 3M's only products shall be to replace any of our products found to be defective.</small>	ISSUE 1	DATE 6-5-86	REV.	CH.	INSTALLATION DETAILS OF 3M INTERAM™ E-50 SERIES ONE-HOUR FIRE PROTECTION SYSTEM ON ALUMINUM CONDUIT
	NOT TO SCALE		D.A. LaVergne		
	K.A. Jensen		R.R. Licht		
Ceramic Materials Department/3M			3M/TSI INTERFACE INSTALLATION		Page 2 of 7

Use 1/2" wide minimum stainless steel banding to restrain mat wrap. Banding is placed 1" from seams or mat edges and 8" on center throughout the rest of the system.

5" Ø aluminum conduit with 7c/#12 AWG and Bare #8 cables

4" wide strips of E-53A mat covers seams of the final E-53A mat wrap layer (2 pieces)

3M mat wrap
1 layer E-50D
2 layers E-53A



DAL:30.3

ALL DIMENSIONS, UNLESS OTHERWISE SPECIFIED, ARE IN INCHES AND DECIMALS THEREOF. DIMENSIONS ARE GIVEN IN PARENTHESIS IF BOTH METRIC AND INCH DIMENSIONS ARE GIVEN. METRIC DIMENSIONS TAKE PRECEDENCE. THIS DRAWING IS THE PROPERTY OF 3M AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM. WITHOUT PERMISSION IN WRITING FROM 3M, THIS DRAWING IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.

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NOT TO SCALE		D.A. Lanzenmeyer	
M.A. Jensen		D.W.R. Licht	

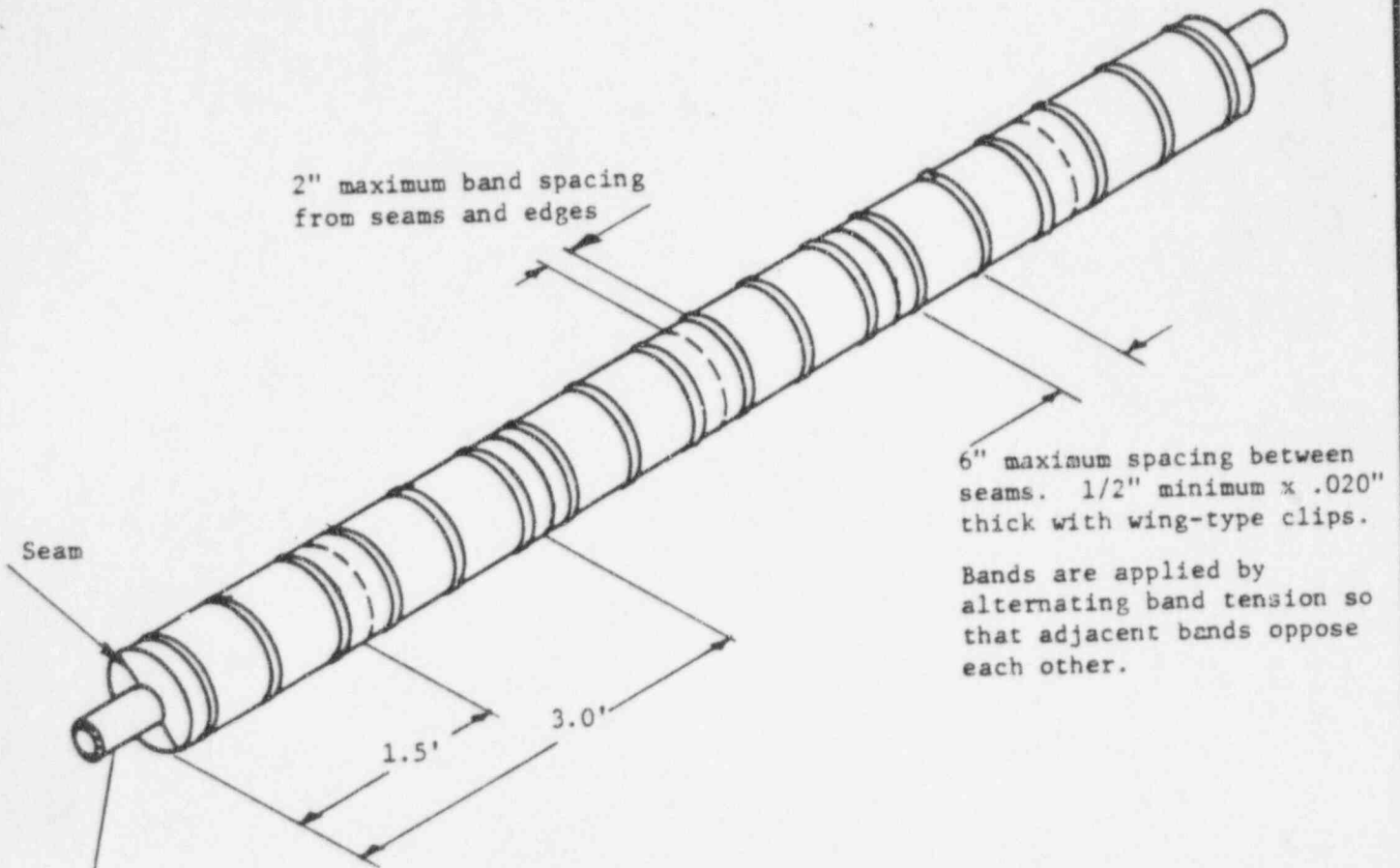
INSTALLATION DETAILS OF
OF 3M INTERAM™ E-50 SERIES
ONE-HOUR FIRE PROTECTION
SYSTEM ON ALUMINUM CONDUIT

Ceramic Materials
Department/3M



3M/TSI INTERFACE INSTALLATION

TSI Preform installed according to API certified installers and TSI procedures.



6" maximum spacing between seams. 1/2" minimum x .020" thick with wing-type clips.

Bands are applied by alternating band tension so that adjacent bands oppose each other.

Thermo-Lag 330-1 is applied on all seams and on inside of Preform halves where Preform does not fit snugly on conduit.

5" \emptyset aluminum conduit with 7/c #12 AWG and Bare #8 cables

<small>All statements, technical information and recommendations contained herein are based on tests and findings to be reliable however, under the application of use and conditions are beyond our control. 3M shall not be liable for any damage, direct or consequential, resulting from the use of this material or design. 3M's only warranty shall be to replace any of our products found to be defective.</small>	ISSUE	DATE	REV.	CH.	TSI PREFORM ON 5" \emptyset CONDUIT 1-HOUR SYSTEM
	1	6-5-86			
	NOT TO SCALE		BY	D.A. Lanwe Meyer	
	BY	K.A. Jensen	BY	R.R. Licht	
Ceramic Materials Department/3M		3M/TSI INTERFACE INSTALLATION			Page 4 of 7

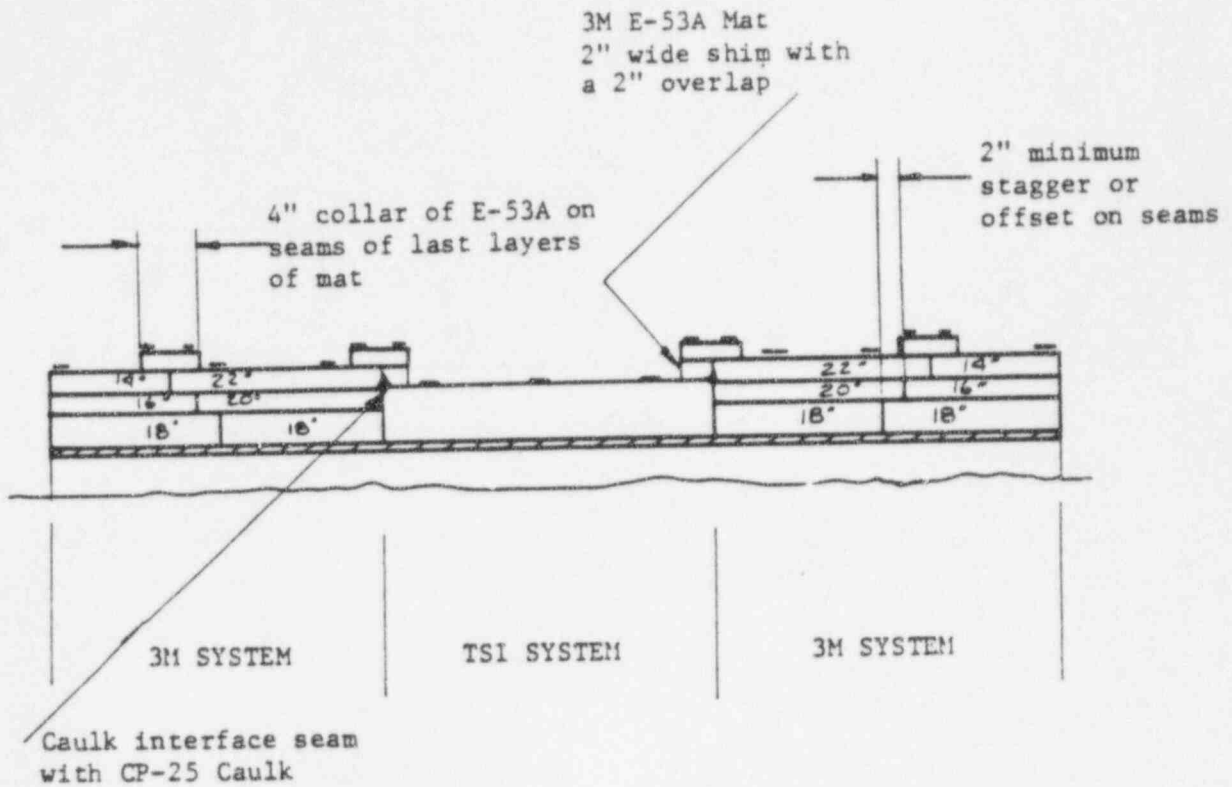
INSTALLATION QUALITY ASSURANCE GUIDELINES

FROM 3M DOCUMENT 5500-QA

Conduit #3

1. One 3' section of TSI preform and two 3' sections of one layer E-50D and two layers of E-53A mat are required on the third aluminum conduit.
2. The TSI preform shall be installed according to API certified installers and TSI procedures.
3. The first layer of 3M fire protection shall consist of one layer of E-50D. The succeeding layers, #2 and #3, require one layer each of E-53A mat. 3M fire protection materials will be used on each end of the conduit, and TSI fire protection materials will interface with 3M's in the middle section.
4. 2" minimum overlap of the mat wrapped around the conduit and back onto itself is required.
5. Adjoining pieces of the same layer of mat may be butted together.
6. The stagger or offset of the seams of a given layer to the seams of the next layer must be a minimum of 2".
7. Apply Interam™ T-49 aluminum foil tape to all seams on all layers.
8. A minimum 4" wide strip of Interam™ E-53A mat must cover the seams on the last layer. These strips are wrapped around the conduit with a 2" minimum overlap onto itself. These strips, or collars, must be secured with 1/2" wide minimum x .020" thick minimum stainless steel banding such that the edge of the banding is 1/2" to 1" from the edge of the collars on both sides.
9. 1/2" wide minimum x .020" thick minimum stainless steel banding is required after the last layer of mat. Maximum band spacing is 8" on center. Also, banding is required on all seams on the last layer such that the edge of the banding is 1/2" to 1" from the edge of the mat.

DAL: 30.5 <small>ALL STATEMENTS, TECHNICAL INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN ARE BASED ON DATA ON HAND AND TO BE RELIED UPON HOWEVER, UNDER THE CONDITIONS OF USE AND APPLICATION ARE BEYOND OUR CONTROL. WE SHALL NOT BE HELD RESPONSIBLE FOR ANY DAMAGE OR CONSEQUENCES RESULTING FROM THE USE OF THIS MATERIAL OR EQUIPMENT. 3M'S ONLY LIABILITY SHALL BE TO REPLACE ANY OF OUR PRODUCTS FOUND TO BE DEFECTIVE.</small>	ISSUE	DATE	REV.	CH.	INSTALLATION DETAILS OF 3M INTERAM™ E-50 SERIES ONE-HOUR FIRE PROTECTION SYSTEM INTERFACED WITH TSI ONE-HOUR PREFORM SYSTEM Page 5 of 7
	1	6-5-86			
	NOT TO SCALE		A.A. Lange R. Licht		
Ceramic Materials Department/3M				3M/TSI INTERFACE INSTALLATION	

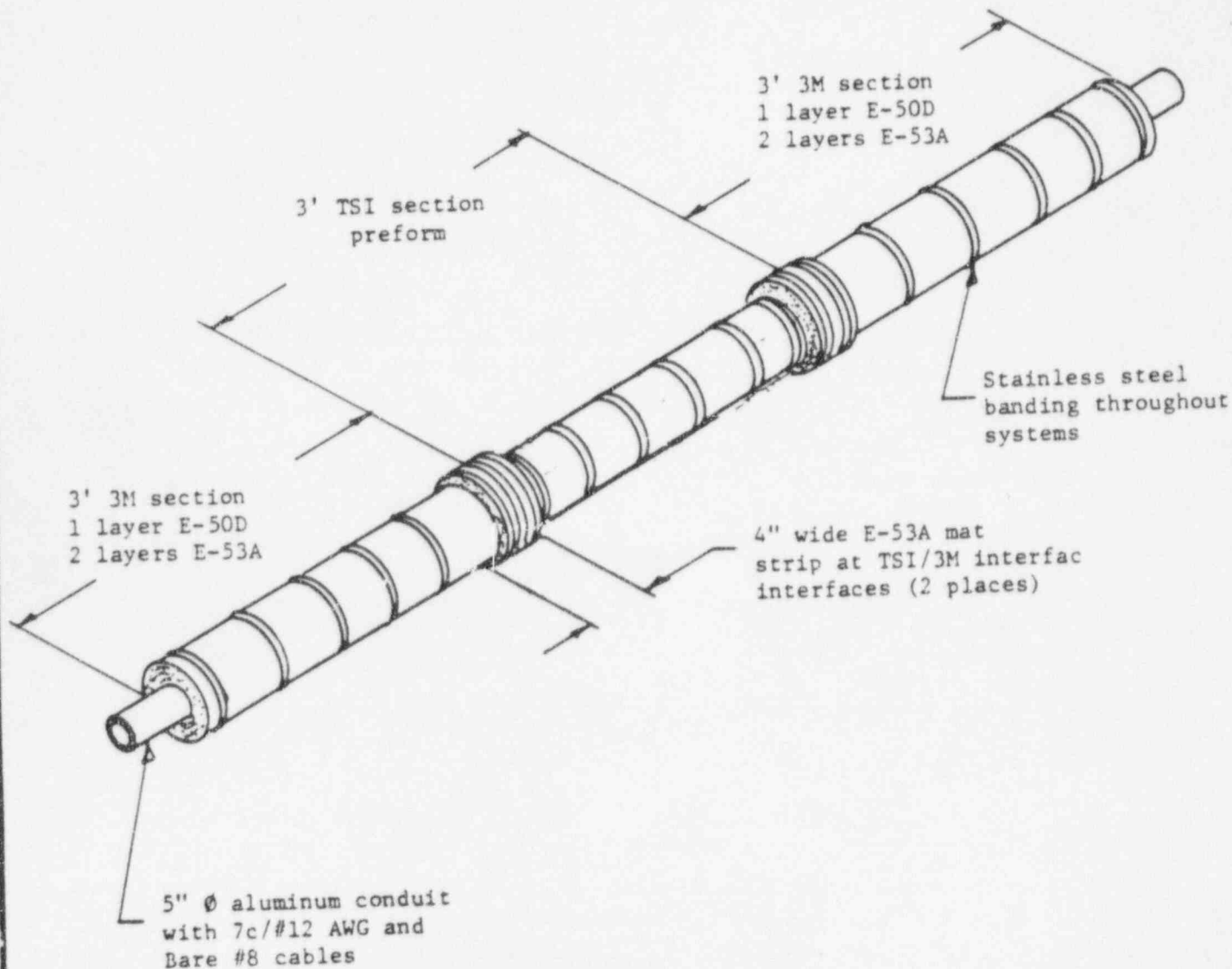


Schedule 40 aluminum electrical rigid conduit
nominal 5" diameter (~5.6" O.D.) x 10' long

DAL: 30.6 <small>All statements, technical information and recommendations contained herein are based on tests and devices to the best of our knowledge under the conditions of use and application are beyond our control. 3M shall not be liable for any damage, direct or consequential, resulting from the use of the material or design. 3M's only warranty shall be to replace any of our products found to be defective.</small>	ISSUE 1	DATE 6-5-86	REV.	CH.	INSTALLATION DETAILS OF 3M INTERAM™ E-50 SERIES ONE-HOUR FIRE PROTECTION SYSTEM INTERFACED WITH TSI ONE-HOUR PREFORM SYSTEM
	NOT TO SCALE		D.A. Lanter <i>[Signature]</i>		
	K.A. Jensen		R. Licht <i>[Signature]</i>		
Ceramic Materials Department/3M	3M	3M/TSI INTERFACE INSTALLATION			Page 6 of 7

Install all fire protection according to drawings and appropriate procedures supplied by API and 3M Company.

NOTE: Use 1/2" wide minimum stainless steel banding to restrain all 3M mat wrap. Banding is placed 1" from seams or mat edges and 8" on center throughout the rest of the system.



<p>DAL: 30.7</p> <p><small>All statements, technical information and recommendations contained herein are based on tests and data to be reliable however, since the application of use and installation are beyond our control, 3M shall not be liable for any damage, direct or consequential, resulting from the use of this material or design 3M's only warranty shall be to replace any of our products found to be defective.</small></p>	<p>ISSUE</p> <p>1</p>	<p>DATE</p> <p>6-5-86</p>	<p>REV.</p>	<p>CH.</p>	<p>INSTALLATION DETAILS OF 3M INTERAM™ E-50 SERIES ONE-HOUR FIRE PROTECTION SYSTEM INTERFACED WITH TSI ONE-HOUR PREFORM SYSTEM</p>
	<p>NOT TO SCALE</p>		<p>B. A. Lanwe Meyer</p>		
	<p>DR K.A. Jensen</p>		<p>DR R. Licht</p>		
<p>Ceramic Materials Department/3M</p>	<p>3M</p>	<p>3M/TSI INTERFACE INSTALLATION</p>			<p>Page 7 of 7</p>

APPENDIX B

TSI TECHNICAL NOTE 11266

INSTALLATION PROCEDURES FOR THE

"READY ACCESS DESIGNS"

OF THE

THERMO-LAG 330-1 SUBLIMING FIRE BARRIER SYSTEMS

WRITTEN BY:

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R. FELDMAN

DATE:

26 JANUARY 1983

FIRST REVISION:

14 MAY 1983

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2.2	Safety Precautions	1
2.3	Delivery	1
2.4	Storage	2
3.0	PREFABRICATION OF FIRE BARRIER ENVELOPE	2
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THERMO-LAG 330-1 SUBLIMING FIRE BARRIER
PREFABRICATED PANEL
LIST OF FIGURES

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THERMO-LAG 330-1 SUBLIMING FIRE BARRIER
PREFABRICATED PANEL
LIST OF FIGURES
CONTINUED

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TSI TECHNICAL NOTE 11266
INSTALLATION PROCEDURES FOR THE
"READY ACCESS DESIGNS"
OF THE
THERMO-LAG 330-1 SUBLIMING FIRE BARRIER SYSTEMS

1.0 INTRODUCTION

This procedure sets forth sequential steps involved in installing THERMO-LAG 330-1 Subliming Fire Barrier System to cable trays in conformance with the prerequisites of "Ready Access Designs" and to conduits.

The THERMO-LAG 330-1 Subliming Fire Barrier System consists of THERMO-LAG 330-1 Subliming Materials and THERMO-LAG Stress Skin Type 330-69, and as an option or when required by specific design, THERMO-LAG 350 Two Part Spill Resistant Topcoat.

2.0 PRE-APPLICATION PRACTICES

2.1 Qualification of Contractor

The application shall be performed by a qualified contractor who has had prior training in applying the materials and who has the equipment required to perform the application.

2.2 Safety Precautions

The contractor shall follow standard industrial safety practices established for the handling of chemical coatings and shall conform to applicable OSHA and owner safety rules in all respects.

2.3 Delivery

The coating materials shall be delivered to the jobsite in original containers which show the product name, color, name of the manufacturer, and the expiration date.

2.4 Storage

The coating materials shall be stored off the ground when not in use in totally enclosed and weather protected areas provided for that purpose.

The Prefabricated Panels do not require any temperature protection. The Bulk Materials such as THERMO-LAG 330-1 Subliming Coating, THERMO-LAG 330-1 Trowelable Grade Material or THERMO-LAG 350-2 Part Water Based Topcoat shall be protected against freezing and from temperatures above 100°F.

3.0 FABRICATION OF FIRE BARRIER ENVELOPE

3.1 Cable Trays

- 3.1.1 Cut a piece of material large enough to form the bottom section from a Prefabricated Panel. The width of the bottom section shall be equal to the sum of the base (W) and both sides (H) of the cable tray, plus 2½ inches as shown in Figure 1.0.1. The length of the bottom section shall not exceed 6½ feet since longer sections are unwieldy and more difficult to install.
- 3.1.2 Cut a square 1½ inch piece from each corner at the bottom section of the Stress Skin.
- 3.1.3 Score along dotted lines which are located at each end of the (W) plus 1/2 inch dimension lines as shown in Figure 1.0.1. Form a rectangular shape section by making two (2) 90° bends along the scored lines and form a box section.
- 3.1.4 Form a 1½ inch flange on each side of the bottom section by making a score along the dotted lines as shown in Figure 1.0.1, followed by making a 90° bend along the dotted lines.
- 3.1.5 Cut a piece of material large enough to form the top section from a Prefabricated Panel. The width of the top section shall be equal to the base (W) of the cable tray plus 2½ inches, as shown in Figure 1.0.1.
- 3.1.6 Mount the bottom box shape fire barrier section on the cable tray by the use of approved stainless steel tie wires as shown in Figure 1.0.2. The application of the tie wires, while the fire barrier section is supported to the bottom section of the cable tray, is accomplished by firmly tying the tie wires to an interior rung of the cable tray, draping it over the Prefabricated Box Section following along the one side, the bottom, the opposite side of the cable tray, until the opposite end of the rung is reached and the tie wire is securely fastened. The recommended maximum spacing between tie wire fasteners shall not exceed 6 inches.

FIGURE 1.0.1

THERMO-LAG 330-1 SUBLIMING FIRE BARRIER PREFABRICATED PANEL
TYPICAL LAYOUT FOR CABLE TRAY SECTIONS

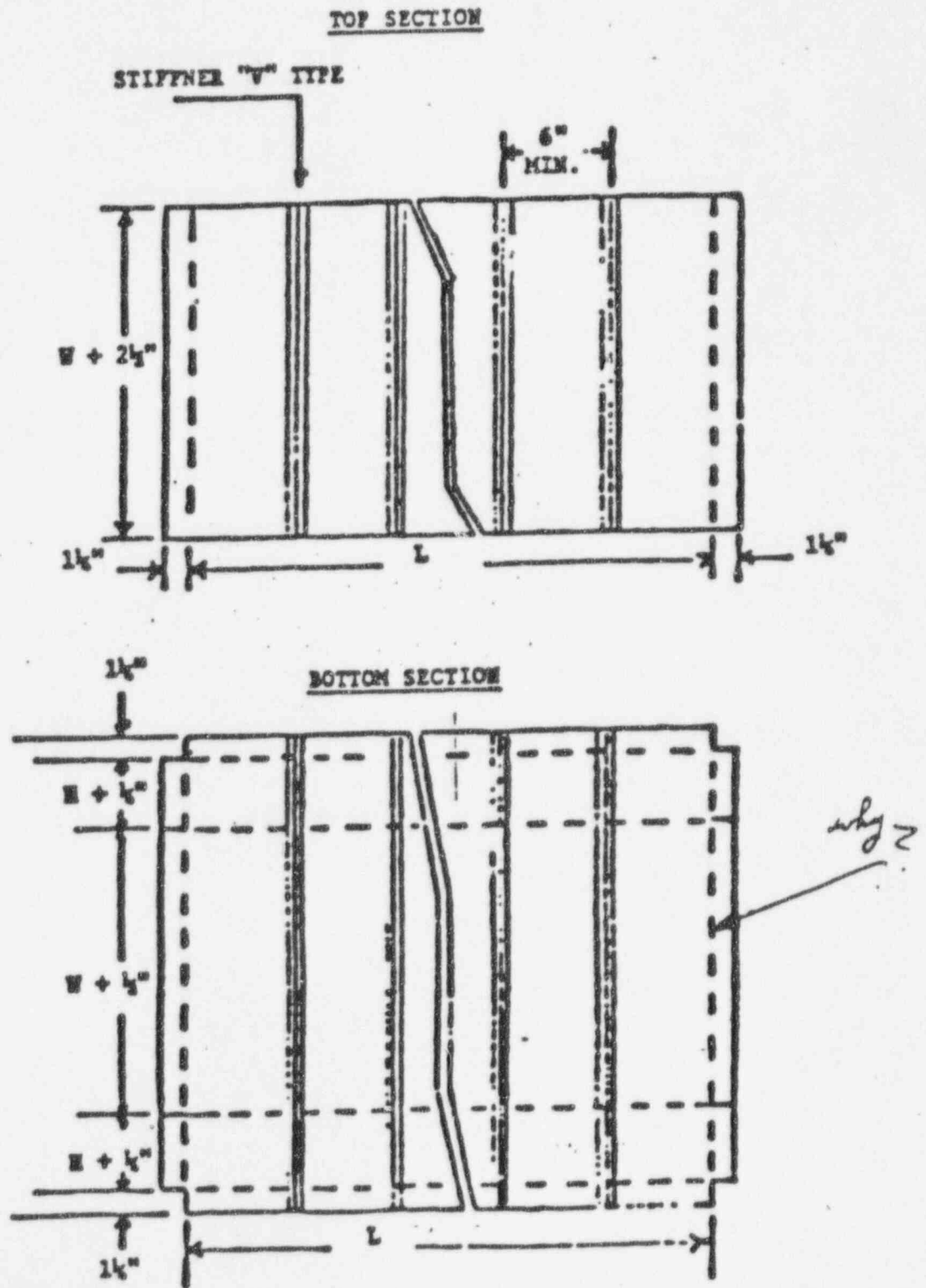
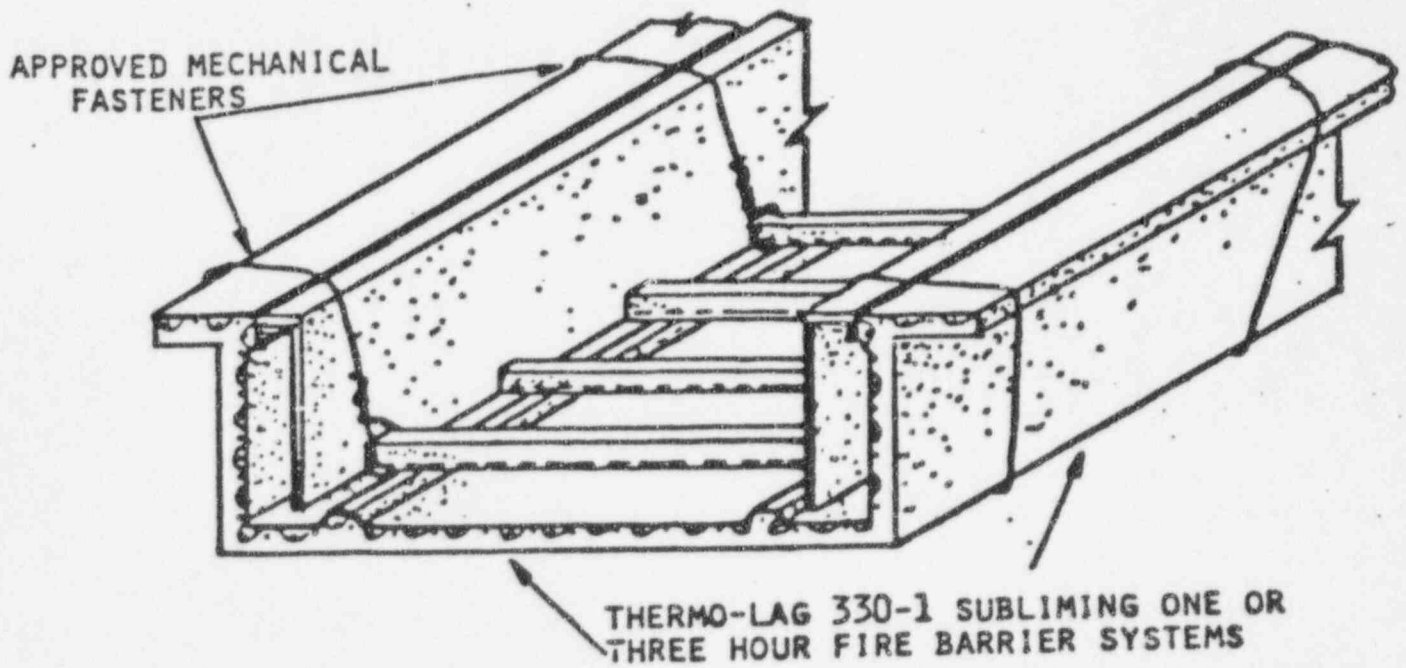


FIGURE 1.0.2

THERMO-LAG 330-1 SUBLIMING FIRE BARRIER PREFABRICATED PANEL

BOTTOM "BOX ASSEMBLY



TST, INC. 3260 BRANNON ST. LOUIS, MO. 63139.		
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DATE: 12-14-1982		REVISED
THERMO-LAG 330-1 SUBLIMING FIRE BARRIER SYSTEMS READY ACCESS DESIGN		
4		DRAWING NUMBER FIGURE 1.0.2

- 3.1.7 Attach the flat top section of the fire barrier material as shown in Figure 1.0.3 to the balance of the assembly, making sure that the entire system is flush, using complete wraps of tie wires, at spacing not to exceed 6 inches.
- 3.1.8 The assembly is completed by filling in the scored areas by troweling or caulking the THERMO-LAG 330-1 Subliming Coating - Trowelable Grade Material formed by the operations delineated in Sections 3.1.1 and 3.1.3. A minimum dry film thickness of 0.5 inches of THERMO-LAG 330-1 Subliming Coating must be present at all cross-sections of the system.

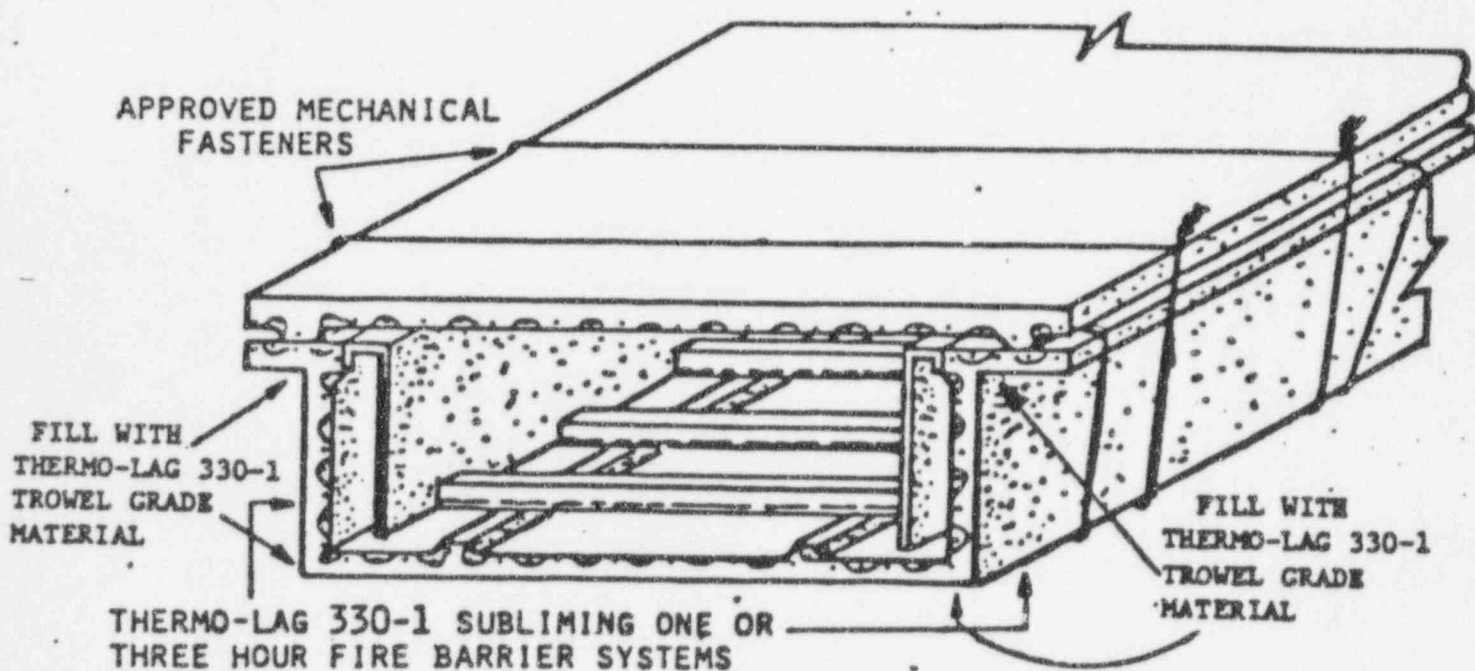
AS AN OPTION

- 3.1.9 Drill holes, having a maximum diameter of 0.25", in the cable tray shell along the upper horizontal lip as shown in Figure 1.0.4. Only tools and procedures approved by the owner may be employed. The maximum distance between each hole shall not exceed 8 inches.
- 3.1.10 Mount the bottom rectangularly shaped bottom section to the cable tray fabricated per Section 3.1.1, 3.1.2, 3.1.3 and 3.1.4. While in place, firmly affix the tie wires to the pre-drilled holes on the cable tray. Drape the tie wire along the two sides of the tray and the bottom and fasten securely through the pre-drilled holes on the opposite side of the cable tray as shown in Figure 1.0.4.
- 3.1.11 Cut a piece of material large enough to form the top section from a Prefabricated Panel. The width of the top shall be equal to the base (W) of the cable tray plus 2½ inches, as shown in Figure 1.0.1 (Top Section).
- 3.1.12 Attach the flat top section of the fire barrier materials as shown in Figure 1.0.5 to the balance of the assembly, making sure that the entire system is flush, using complete wraps of tie wires, at spacing not to exceed 6 inches.
- 3.1.13 The assembly is completed by filling in the scored areas by troweling or caulking the THERMO-LAG 330-1 Subliming Coating - Trowelable Grade Material formed by the operations delineated in Sections 3.1.1 and 3.1.3.

FIGURE 1.0.3

THERMO-LAG 330-1 SUBLIMING FIRE BARRIER PREFABRICATED PANEL

TOTAL ASSEMBLY

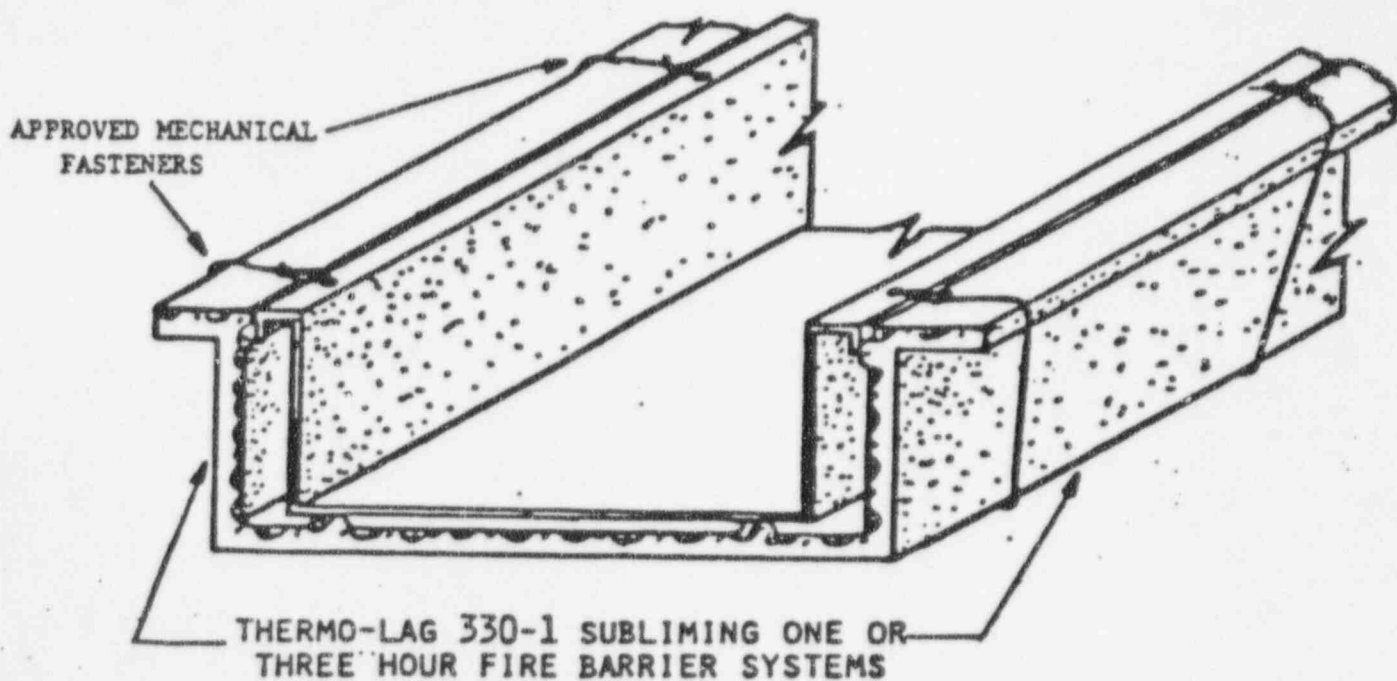


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SCALE: NONE	APPROVED BY: <i>R. D. Johnson</i>	DRAWN BY J. DUMPIS
DATE: 12-14-1982		REVISED
THERMO-LAG 330-1 SUBLIMING FIRE BARRIER SYSTEMS READY ACCESS DESIGN		
- 6 -		DRAWING NUMBER FIGURE 1.0.3

FIGURE 1.0.4

THERMO-LAG 330-1 SUBLIMING FIRE BARRIER PREFABRICATED PANEL

ALTERNATE BOTTOM "BOX" ASSEMBLY



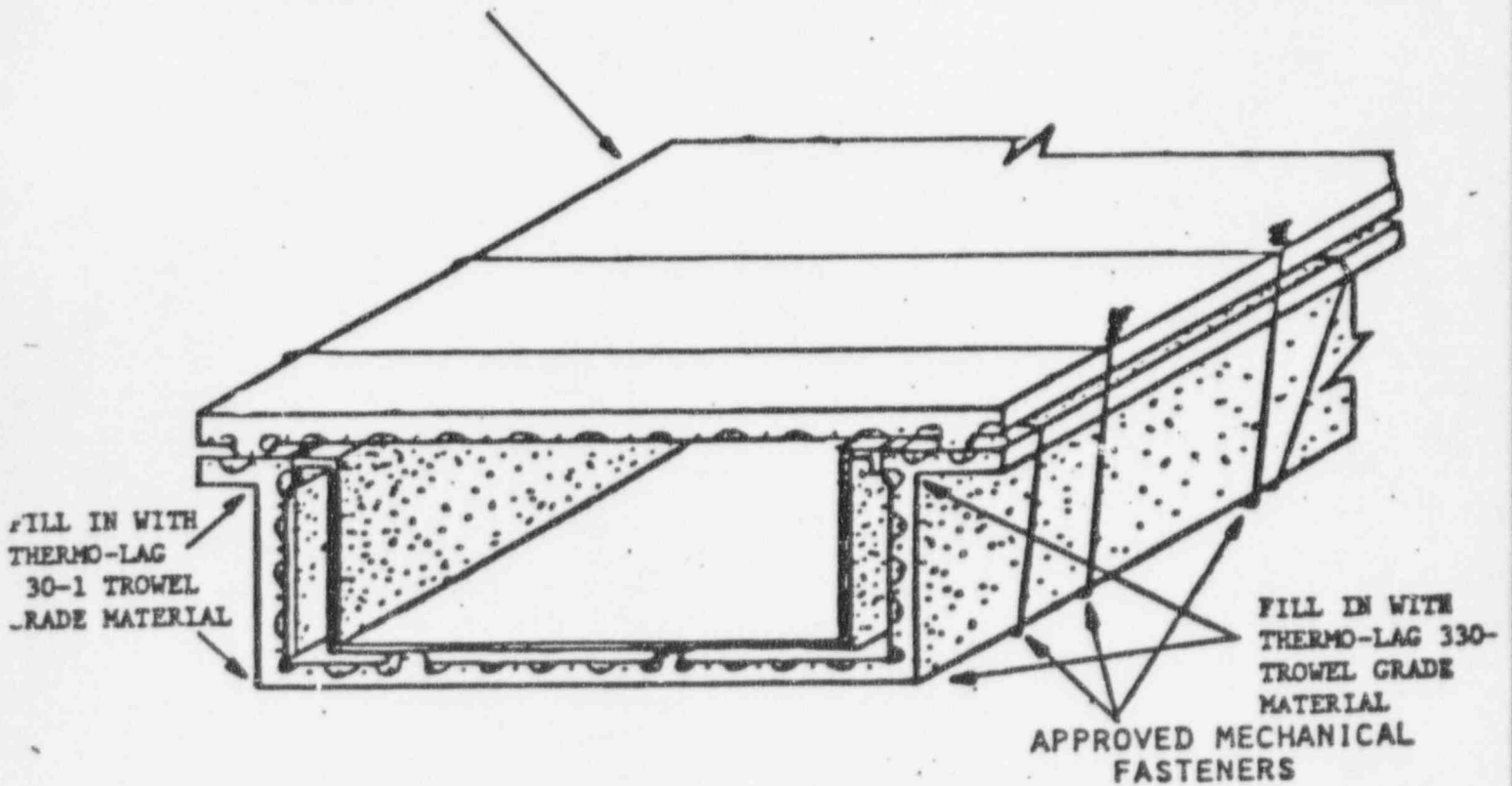
TST, INC. 3260 BRANNON ST. LOUIS, MO. 63139.		
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DATE: 12-14-1982		REVISED
THERMO-LAG 330-1 SUBLIMING FIRE BARRIER SYSTEMS READY ACCESS DESIGN		
- 7 -		DRAWING NUMBER FIGURE 1.0.4

FIGURE 1.0.5

THERMO-LAG 330-1 SUBLIMING FIRE BARRIER PREFABRICATED PANEL

ALTERNATE TOTAL ASSEMBLY

THERMO-LAG 330-1 SUBLIMING ONE OR—
THREE HOUR FIRE BARRIER SYSTEMS



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DATE: 12-14-1982		REVISED:
THERMO-LAG 330-1 SUBLIMING FIRE BARRIER SYSTEMS READY ACCESS DESIGN		
- 8 -		DRAWING NUMBER FIGURE 1.0.5

3.2 Conduit

3.2.1 Semi-Circular Section Fire Barrier Design

- 3.2.1.1 Cut two equal sections from Prefabricated Panel(s) large enough for enclosing the conduit. The width of each section shall be equal to 1/2 of the circumference of the conduit plus 1/4 inch to provide adequate tolerance in fitting the fire barrier sections on the conduit. The length shall not exceed 6 1/2 feet since longer sections are unwieldy and more difficult to handle.
- 3.2.1.2 Score the subliming coating side of the two precut sections along the dotted lines shown in Figure 1.0.6.
- 3.2.1.3 Form a semi-circular fire barrier section from each of the scored precut sections by bending each section, with the stress skin side down, along the conduit.
- 3.2.1.4 Mount the two semi-circular fire barrier sections on the conduit with the edges flush with each other to form a cylindrical section around the conduit and fasten the two sections together with approved stainless steel tie wires as shown in Figure 1.0.7.
- 3.2.1.5 Attach additional semi-circular formed fire barrier sections to previously installed sections by butt joining them together at their ends as shown in Figure 1.0.7.
- 3.2.1.6 The assembly is completed by filling in the scored areas by troweling or caulking the THERMO-LAC 330-1 Subliming Coating - Trowelable Grade Material formed by the operations delineated in Section 3.2.1.1, 3.2.1.2 and 3.2.1.3.

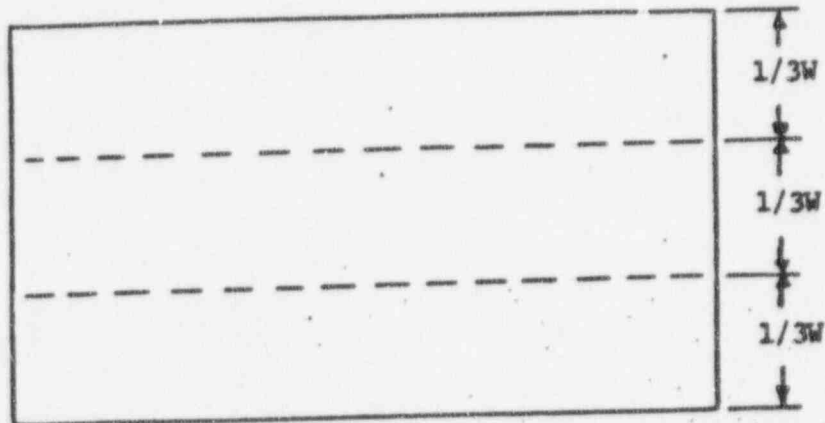
AS AN OPTION

3.2.2 Box Section Fire Barrier Design

- 3.2.2.1 Cut two equal sections from Prefabricated Panel(s) large enough for enclosing the conduit. The width of each section shall be equal to two (2) times the outer diameter of the conduit plus 1 1/4 inches. The length shall not exceed 6 1/2 feet since longer sections are unwieldy and more difficult to install.
- 3.2.2.2 Score the subliming coating side of the bottom precut section and the top precut section along the dotted lines shown in Figure 1.0.8.
- 3.2.2.3 Form a two sided bottom fire barrier section with the stress skin side facing inward, from the scored bottom precut section, by making one 90° bend along the middle dotted line and then two 90° bends along the two outer dotted lines shown in Figure 1.0.8.

FIGURE 1.0.6

THERMO-LAG 330-1 SUBLIMING FIRE BARRIER PREFABRICATED PANEL
CONDUIT
SEMI-CIRCULAR FIRE BARRIER DESIGN



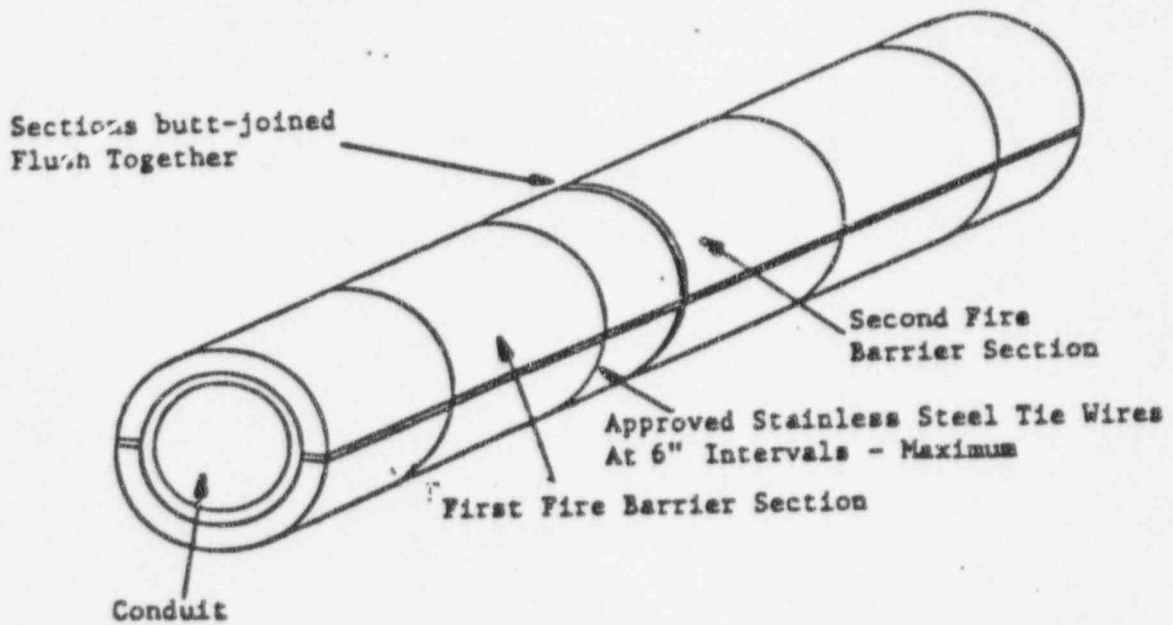
TST, INC. 3260 BRANNON ST. LOUIS, MO. 63139.		
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DATE: 12-14-1982		REVISED
THERMO-LAG 330-1 SUBLIMING FIRE BARRIER SYSTEMS READY ACCESS DESIGN		
10		DRAWING NUMBER FIGURE 1.0.6

FIGURE 1.0.7

THERMO-LAG 330-1 SUBLIMING FIRE BARRIER PREFABRICATED PANEL

CONDUIT

SEMI-CIRCULAR SECTION FIRE BARRIER DESIGN



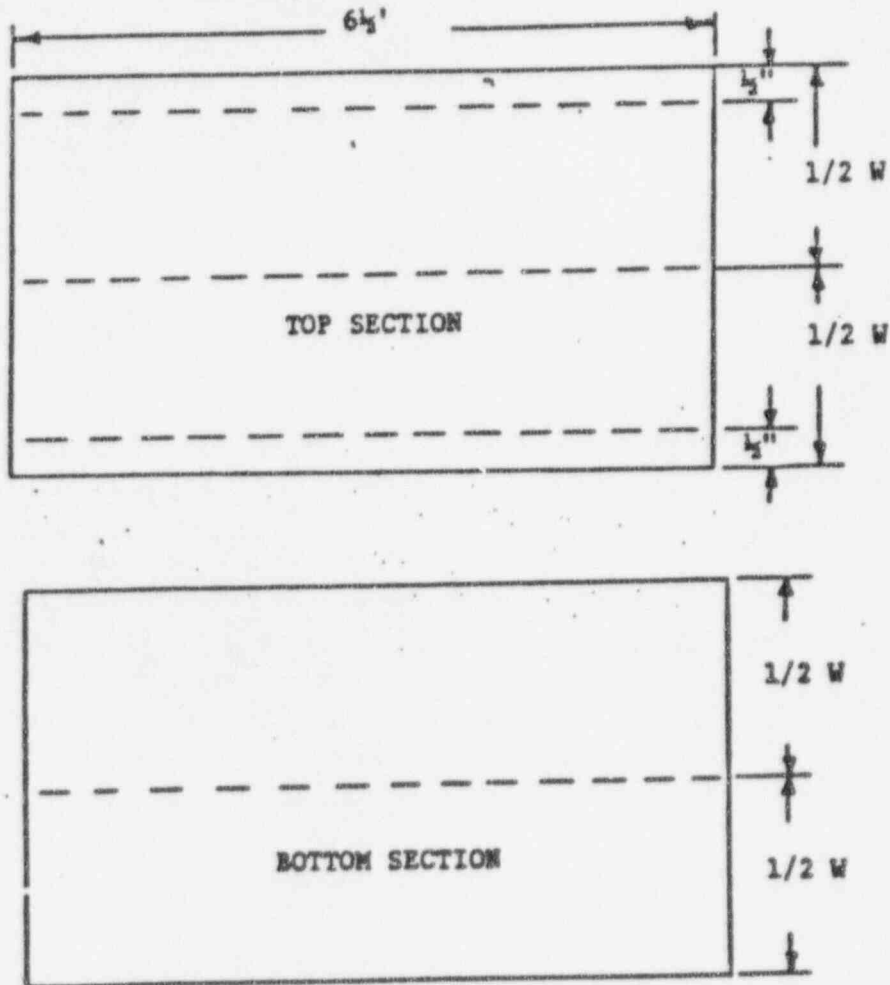
TST, INC. 3260 BRANNON ST. LOUIS, MO. 63139.		
SCALE: NONE	APPROVED BY: <i>R. D. Johnson</i>	DRAWN BY: J. DUMPIS
DATE: 12-14-1982		REVIEWED:
THERMO-LAG 330-1 SUBLIMING FIRE BARRIER SYSTEMS READY ACCESS DESIGN		
11		DRAWING NUMBER FIGURE 1.0.7

FIGURE 1.0.8

THERMO-LAG 330-1 SUBLIMING FIRE BARRIER PREFABRICATED PANEL

CONDUIT

BOX FIRE BARRIER DESIGN



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DATE: 12-14-1982		REVISED
THERMO-LAG 330-1 SUBLIMING FIRE BARRIER SYSTEMS READY ACCESS DESIGN		
12		FIGURE 1.0.8

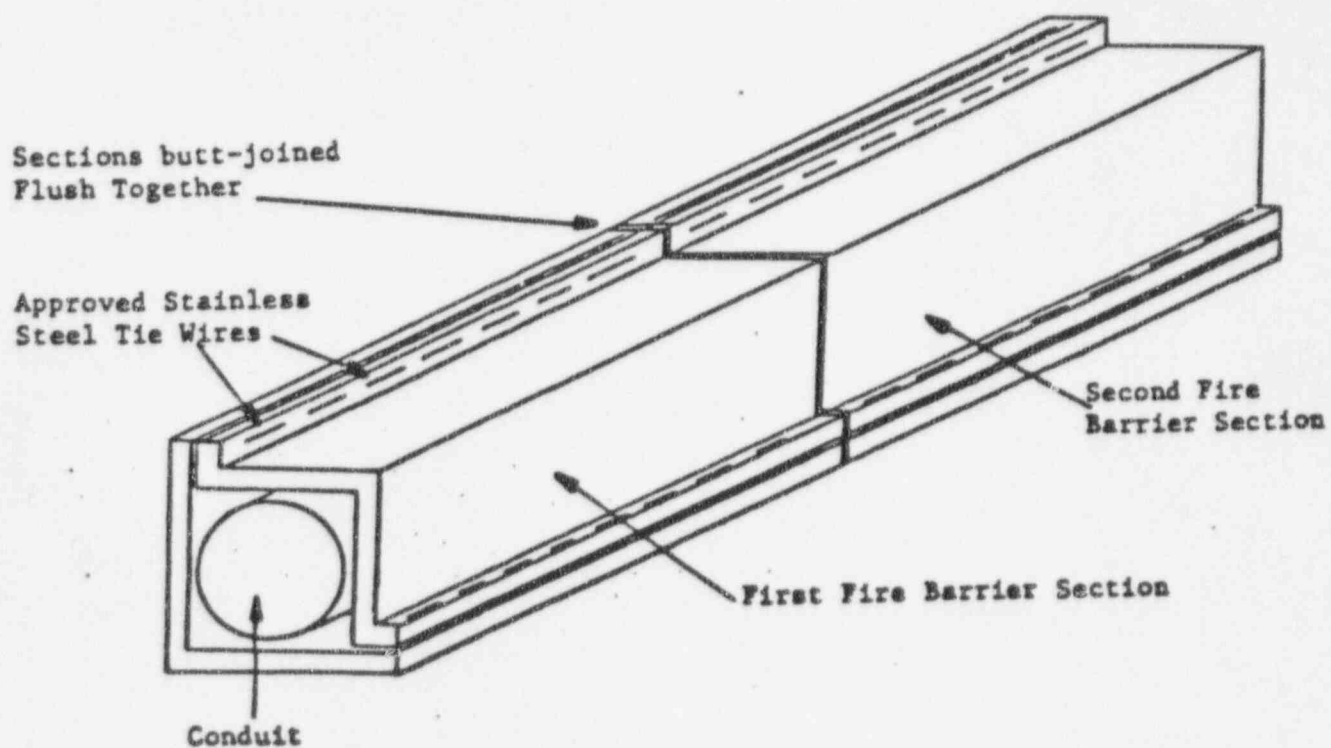
- 3.2.2.4 Mount the two fire barrier sections on the conduit to form a box design around the conduit and then lace the two sections together at the flanges using approved stainless steel tie wires as shown in Figure 1.0.9.
- 3.2.2.5 Attach additional top and bottom fire barrier sections to previously installed sections by butt joining them together at their ends as shown in Figure 1.0.9.
- 3.2.2.6 The assembly is completed by filling in the scored areas by troweling or caulking the THERMO-LAG 330-1 Subliming Coating - Trowelable Grade Material formed by the operations delineated in Section 3.2.2.1 and 3.2.2.2.

FIGURE 1.0.9

THERMO-LAG 330-1 SUBLIMING FIRE BARRIER PREFABRICATED PANEL

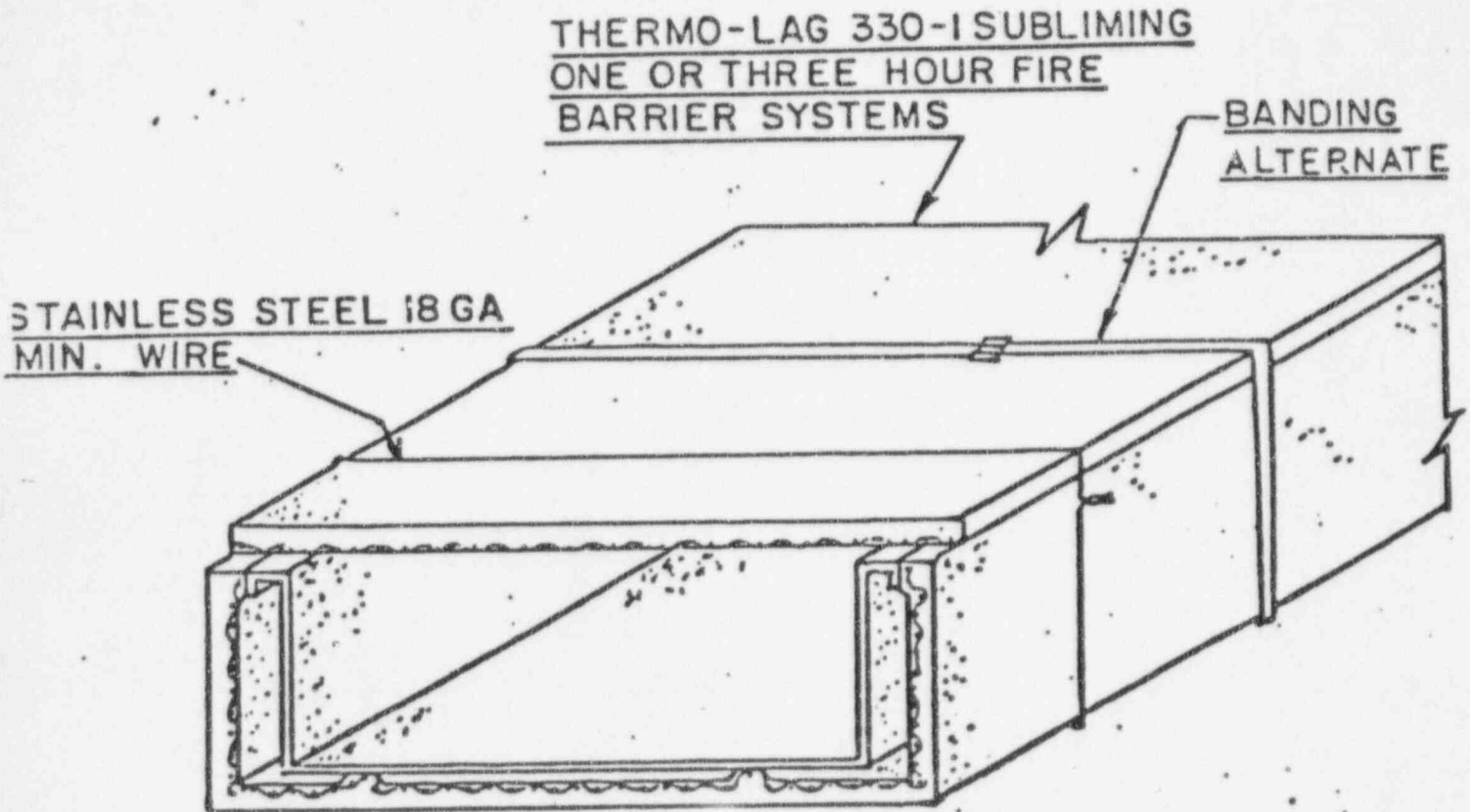
CONDUIT

BOX SECTION FIRE BARRIER DESIGN



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DATE: 12-14-1982		REVIEWED:
THERMO-LAG 330-1 SUBLIMING FIRE BARRIER SYSTEMS READY ACCESS DESIGN		
14		DRAWING NUMBER FIGURE 1.0.9

THERMO-LAG 330-1 SUBLIMING FIRE BARRIER
PREFABRICATED PANEL. ALTERNATE TOTAL
ASSEMBLY.

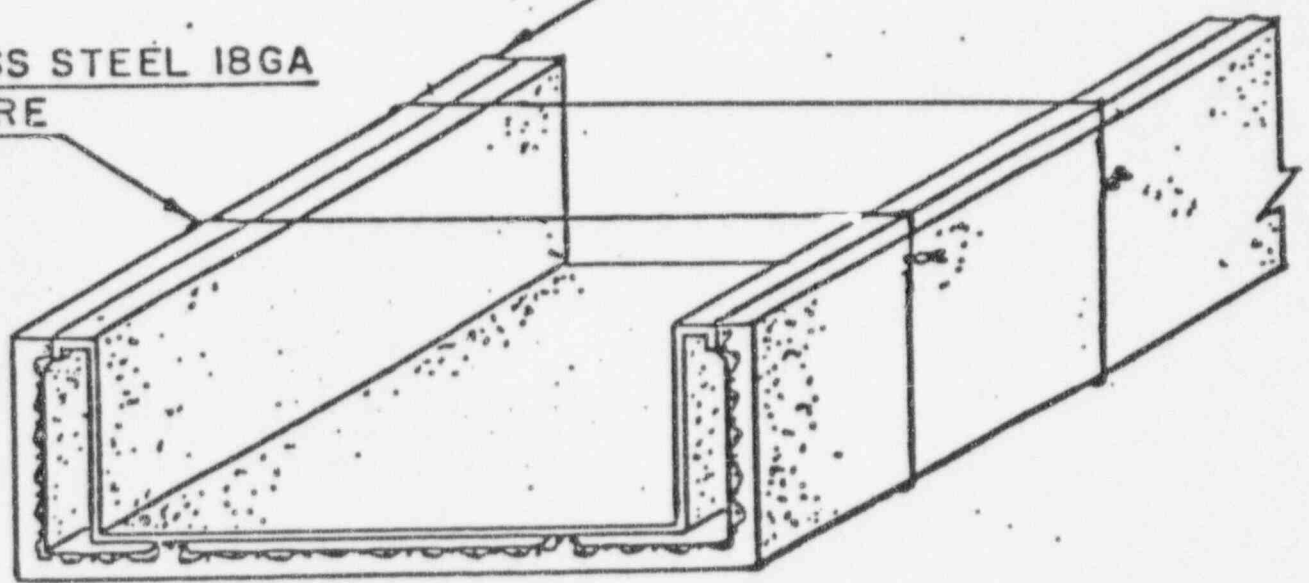


TST INC. 326 D BRANNON ST. LOUIS, MO. 63135		
MADE NONE	DATE 5-14-1983	DUMP
THERMO-LAG 330-4 SUBLIMING FIRE BARRIER SYSTEMS READY ACCESS DESIGN.		1.0.10

THERMO-LAG 330-1 SUBLIMING FIRE BARRIER
PREFABRICATED PANEL. ALTERNATE BOTTOM
"BOX" ASSEMBLY.

THERMO-LAG 330-1 SUBLIMING
ONE OR THREE HOUR FIRE
BARRIER SYSTEMS

STAINLESS STEEL 18GA
MIN. WIRE

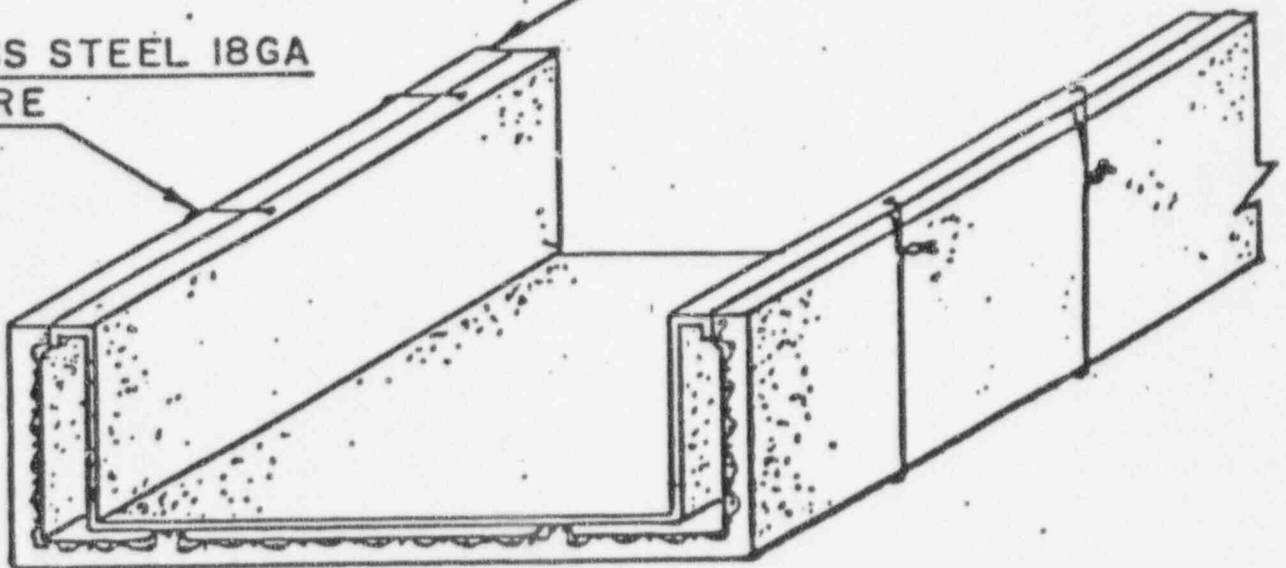


ISI INC. 3280 BRANNON ST. LOUIS, MO. 63139		
DATE: NONE	APPROVED BY: <i>R. A. Johnson</i>	DATE: J. DUMF
DATE: 5-14-1983		
THERMO-LAG 330-1 SUBLIMING FIRE BARRIER SYSTEMS READY ACCESS DESIGN.		
		1.0.11

THERMO-LAG 330-1 SUBLIMING FIRE BARRIER
PREFABRICATED PANEL, ALTERNATE BOTTOM
"BOX" ASSEMBLY.

THERMO-LAG 330-1 SUBLIMING
ONE OR THREE HOUR FIRE
BARRIER SYSTEMS

STAINLESS STEEL 18GA
MIN. WIRE



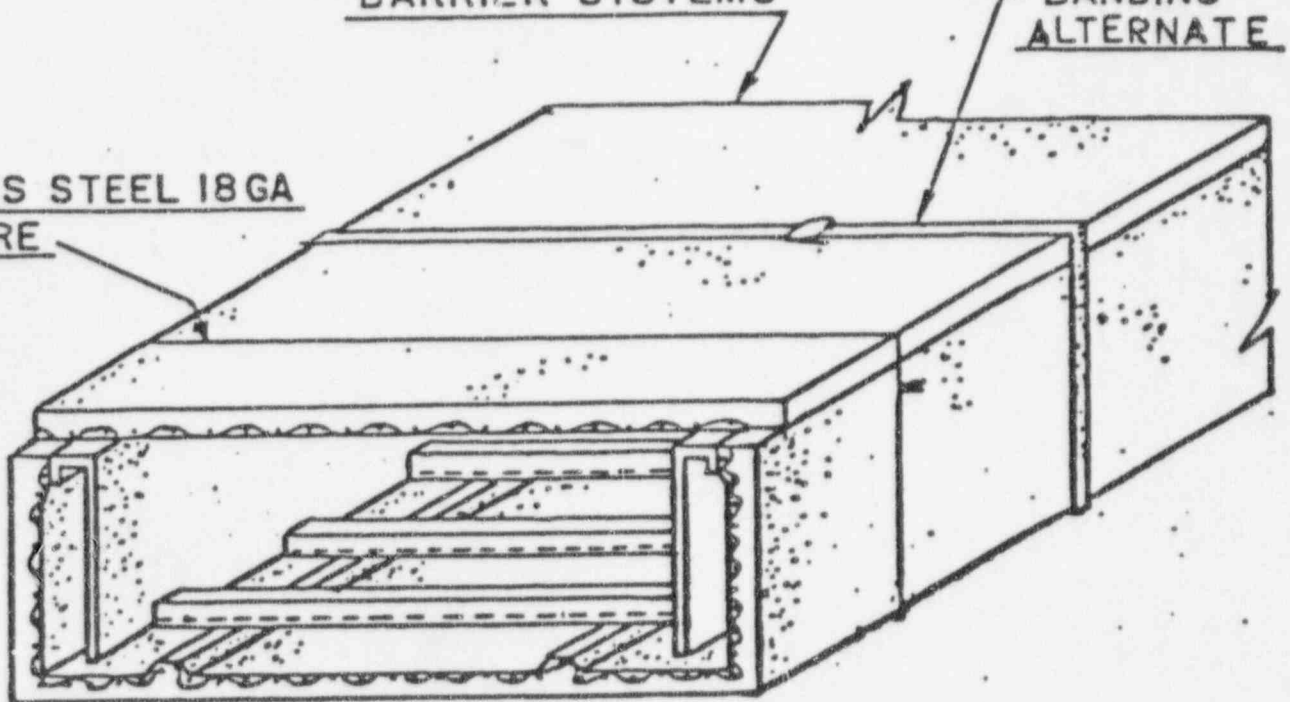
TST. INC. 3260 BRANNON ST. LOUIS, MO. 63139.		
DATE: NONE	APPROVED FOR: <i>T. A. Solomon</i>	DATE: J. DUMPE
DATE: 5-14-1983		
THERMO-LAG 330-1 SUBLIMING FIRE BARRIER SYSTEMS READY ACCESS DESIGN.		
		1.0.12

THERMO-LAG 330-1 SUBLIMING FIRE BARRIER
PREFABRICATED PANEL . TOTAL ASSEMBLY.

THERMO-LAG 330-1 SUBLIMING
ONE OR THREE HOUR FIRE
BARRIER SYSTEMS

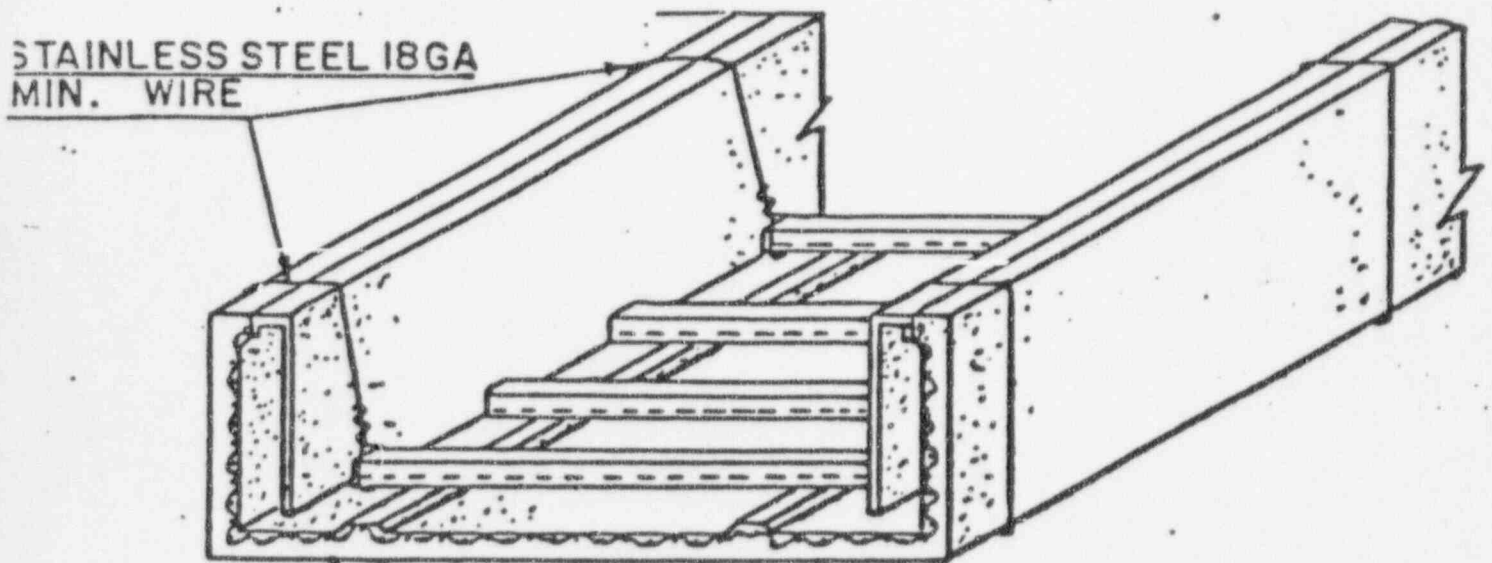
BANDING
ALTERNATE

TAINLESS STEEL 18GA
MIN. WIRE



ISI. INC. 3260 BRANNON ST. LOUIS, MO. 63139.		
DATE: NONE	DESIGNED BY: <i>R. D. Johnson</i>	CHECKED BY: J. DUMPI
DATE: 5-14-1983		
THERMO-LAG 330-1 SUBLIMING FIRE BARRIER SYSTEMS READY ACCESS DESIGN.		
		REVISION: 1.0.13

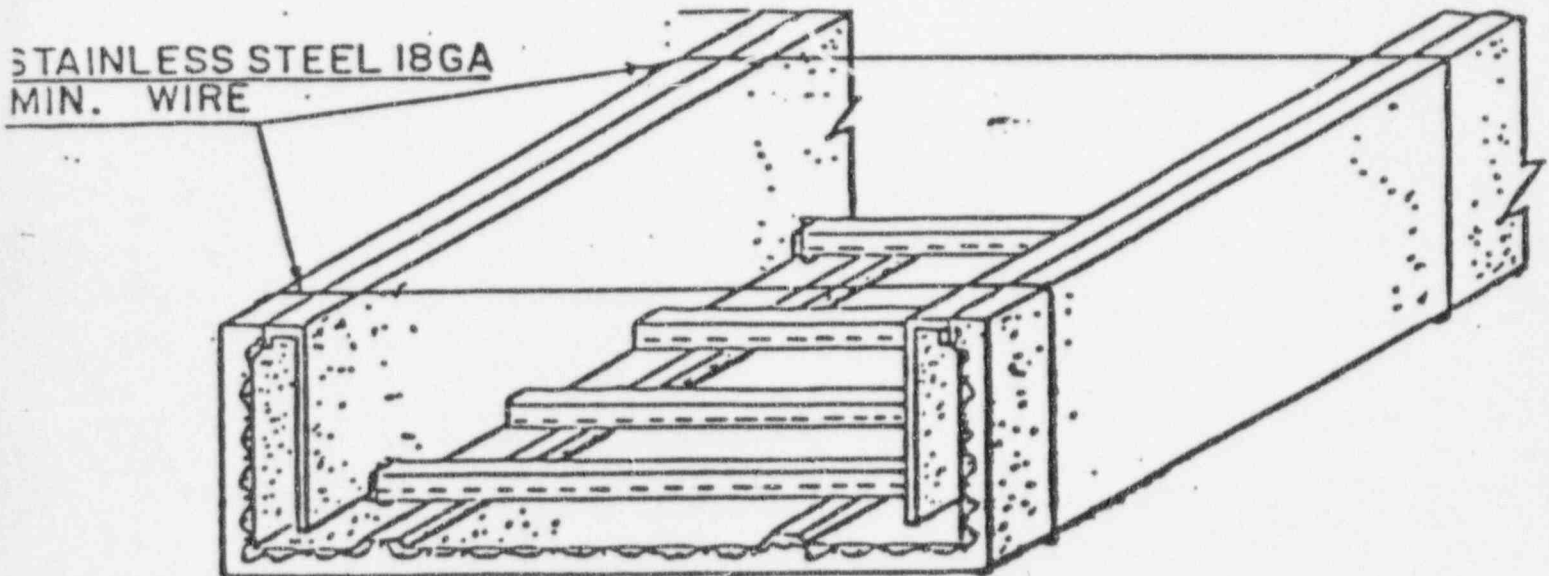
THERMO-LAG 330-I SUBLIMING FIRE BARRIER
PREFABRICATED PANEL. BOTTOM "BOX" ASSEMBLY.



THERMO-LAG 330-I SUBLIMING ONE OR
THREE HOUR FIRE BARRIER SYSTEMS.

TST. INC. 3260 BRANNON ST. LOUIS, MO. 63139.		
MADE: NONE	DESIGNED BY: <i>P. A. Johnson</i>	DATE: 5-14-1983
THERMO-LAG 330-I SUBLIMING FIRE BARRIER SYSTEMS READY ACCESS DESIGN.		
		DRAWING NUMBER: 1.0.14

THERMO-LAG 330-I SUBLIMING FIRE BARRIER
PREFABRICATED PANEL. BOTTOM "BOX" ASSEMBLY.



THERMO-LAG 330-I SUBLIMING ONE OR
THREE HOUR FIRE BARRIER SYSTEMS.

TST INC. 3260 BRANNON ST. LOUIS, MO. 63		
DATE: NONE	<i>P. P. Johnson</i>	BY: JDL
DATE: 5-14-1983		
THERMO-LAG 330-I SUBLIMING FIRE BARRIER SYSTEMS READY ACCESS DESIGN.		
		1.0.15-

- Entire original to test coordinator
- Copy entire original to test requestor
- Copy cover page only to the following:

All pages + graphs of results to the following:

TEST DATA

3M FIRE TEST REQUEST/REPORT

FIRE TEST NO. 26-73 FIRE TEST DATE 6/12/86

FIRE TEST OBJECTIVE PRELIMINARY INTERSPACE FIRE TEST
OF 3M "INTERAM" 1 HOUR FIRE PROTECTION SYSTEM
INTERFACED TO TSI 1 HOUR PERFORM FIRE PROTECTION
SYSTEM

TEST ORIGINATOR R. E. LIGHT

ASSIGNED TEST COORDINATOR D. A. LANWERMAYER

DATE OF REQUEST 6/2/86

CONFIGURATIONS TO BE TESTED:

Item	Fire Protection Materials
<u>5" - ALUMINUM CONDUIT</u>	<u>3M 1 HOUR SYSTEM</u>
<u>5" - ALUMINUM CONDUIT</u>	<u>1 LAYER C-501</u>
<u>5" - ALUMINUM CONDUIT</u>	<u>1 LAYER C-53A</u>
<u>5" - ALUMINUM CONDUIT</u>	<u>TSI 1 HOUR PERFORM SYSTEM</u>
<u>5" - ALUMINUM CONDUIT</u>	<u>3M-TSI 1 HOUR SYST. 1</u>
<u>5" - ALUMINUM CONDUIT</u>	<u>INTERFACE</u>

FURNACE TO BE USED:

- Bldg. 63 large scale side load
- Bldg. 66 large scale top load
- Bldg. 66 small scale top load
- Other _____

TYPE OF FIRE TEST:

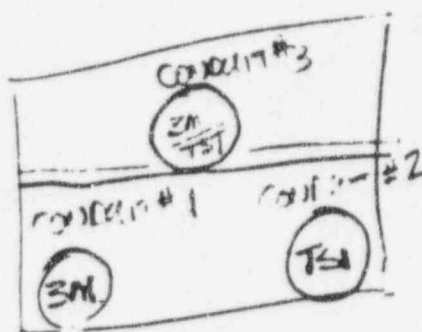
- E-119
- Full open to 2000°F
- Open pit
- Other _____

LENGTH OF FIRE TEST:

- Time only _____
- Temperature only _____
- Time or temperature 1 HOUR MINIMUM - CCT FAILURE
- Time and temperature _____

L/44

REFERENCE FI-10



TEST CONTROL ROOM

INFORMATION FOR COMPUTER DATA ACQUISITION

TITLE? (up to 40 characters)

.F.M./T.S.I. .9. .H.D.U.R. .I.N.T.E.R.F.A.C.E. .F.I.R.E. .T.E.S.T. .E.1.1.9. .

FOOTNOTE ON PLOT? (up to 30 characters)

F.M. C.H.E.M. .6.3. .F.T. .#8.6.-7.3. .6.1.1.3.1.8.4. . .

Example of Preferred Footnote Format:

3.M. .C.H.E.M. .6.3. .F.T. .#8.5.-1.0.1. .1.2.-1.6.-8.5.

<u>Group #</u>	<u>Thermocouple #</u>	<u>Description (For general info, No computer input)</u>	<u>Graph line #</u>	<u>Name (up to 10 characters)</u>
<u>0</u>	<u>0-8</u>	<u>FURNACE</u>	<u>1</u>	<u>F.U.R.N.A.C.E. . .</u>
<u>1</u>	<u>9,10</u>	<u>CONDUIT #1 - O.D. - 3M</u>		<u>3.M. .O.D. . . .</u>
<u>2</u>	<u>11,12</u>	<u>CONDUIT #2 - O.D. - TSI</u>		<u>.T.S.I. .O.D. . . .</u>
<u>3</u>	<u>13-17</u>	<u>CONDUIT #3 - O.D. - 3M/TSI</u>		<u>.3.M./T.S.I. .O.D. . .</u>
<u>4</u>	<u>18-20</u>	<u>CONDUIT #1 - 7/12 - 3M</u>	<u>2</u>	<u>.3.M. .7.c./1.2. . .</u>
<u>5</u>	<u>21-23</u>	<u>CONDUIT #2 - 7/12 - TSI</u>	<u>3</u>	<u>.7.S.I. .7.c./1.2. . .</u>
<u>6</u>	<u>24-28</u>	<u>CONDUIT #3 - 7/12 - 3M/TSI</u>	<u>4</u>	<u>.3.M./T.S.I. .7.c. . .</u>
<u>7</u>	<u>29-31</u>	<u>CONDUIT #1 - BRK #8 - 3M</u>		<u>3.M. .#8. . . .</u>
<u>8</u>	<u>32-34</u>	<u>CONDUIT #2 - BRK #8 - TSI</u>		<u>.T.S.I. .#8. . . .</u>
<u>9</u>	<u>35-39</u>	<u>CONDUIT #3 - BRK #8 - 3M/TSI</u>	<u>5</u>	<u>.3.M./T.S.I. .#8. . .</u>
				<u>.</u>
				<u>.</u>

CIRCUIT CONTINUITY TESTER (CCT) ASSIGNMENTS

	LEAD NO.	BOX NO. 1	BOX NO. 2
CONDUIT #1 3M	1	Blue, Red/Black, Yellow	
	2	Red, Brown, Orange	
	3	Black	
CONDUIT #2 TSI	4	Blue, Red/Black, Yellow	
	5	Red, Brown, Orange	
	6	Black	
3M/TSI	7	Blue, Red/Black, Yellow	
	8	Red, Brown, Orange	
	9	Black	
	10		
	11		
	12		
	13		
	14		
	15		
	16		

DESCRIPTION AND LOT NUMBER OF THERMOCOUPLE WIRE

- JPK K 1/11/1990

CABLE INFORMATION:

No. of Conductors - Size	Measured O.D. of Cable	Insulation Type	Jacketing Type	Imprinted Identification on Cable
4/12 #12				
7/12		XLPE-PVC		

CONCRETE SLAB INFORMATION:

~~Identification _____
 Size _____
 Date Cast _____
 History of Forced Drying _____~~

INSTALLER'S NAME	SIGNATURE	DATE
S.C. P5-10		

LAST CALIBRATION DATE OF MONITOR LABS DATALOGGER _____

NOTES ON CIRCUIT CONTINUITY TESTER INDICATIONS:

PROPANE GAS METER READINGS (standard cubic feet):

0 minutes	_____	90 minutes	_____
10	_____	120	_____
20	_____	150	_____
30	146.71	180	_____
60	_____		_____

LENGTH OF FIRE TEST BEFORE FURNACE TURNED OFF _____

WATER HOSE STREAM TEST:

Duration _____

Pressure _____

Distance _____

VISUAL OBSERVATIONS DURING AND AFTER FIRE TEST:

SUMMARY OF KEY TIMES AND ENDING TEMPERATURES

<u>Item</u>	<u>Time</u>	<u>Avg. Temp °F</u>	<u>Max. Temp °F</u>

FIRE TEST WITNESSES:

<u>Name</u>	<u>Signature</u>	<u>Date</u>
Robert Jordan	<i>Robert Jordan</i>	6-13-86
Donald R. Coy	<i>Donald R. Coy</i>	6-13-86
Joseph C. Peisert	<i>Joseph C. Peisert</i>	6-13-86
<i>Bill Fl</i>	<i>Bill Fl</i>	6-13-86
Craig P. Madley	<i>Craig P. Madley</i>	6-13-86
Robert Henegary	<i>Robert Henegary</i>	6-13-86
<i>Thomas R. Brown</i>	<i>Thomas R. Brown</i>	6-13-86
Donald R. Brown	<i>Donald R. Brown</i>	6-13-86
Charles C. Kreutz	<i>Charles C. Kreutz</i>	6-13-86
Diane F. Lunnenschlager	<i>Diane F. Lunnenschlager</i>	6/15/86

TECHNICAL NOTEBOOK REFERENCE _____

FINAL REVIEW BY PRODUCT DEVELOPMENT SUPERVISOR:

<u>Name</u>	<u>Signature</u>	<u>Date</u>

3M/TSI 1 HOUR INTERFACE FIRE TEST E119
3M CHEM 63 FT#86-73

LINE 1	LINE 2	LINE 3	LINE 4	LINE 5
FURNACE	3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8
GROUP 0	GROUP 4	GROUP 5	GROUP 6	GROUP 9

GROUP: 0 FURNACE TC's: 0 1 2 3 4 5 6 7 8

GROUP: 1 3M O.D. TC's: 9 10

GROUP: 2 TSI O.D. TC's: 11 12

GROUP: 3 3M/TSI OD, TC's: 13 14 15 16 17

GROUP: 4 3M 7c/12 TC's: 18 19 20

GROUP: 5 TSI 7c/12 TC's: 21 22 23

GROUP: 6 3M/TSI 7c TC's: 24 25 26 27 28

GROUP: 7 3M B#8 TC's: 29 30 31

GROUP: 8 TSI B#8 TC's: 32 33

GROUP: 9 3M/TSI B#8 TC's: 34 35 36 37

12 Minutes		Furnace: 1349			
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8
0	1302 F	18 75 F	21 96 F	24 73 F	35 71 F
1	1326 F	19 74 F	22 97 F	25 76 F	36 76 F
2	1372 F	20 73 F	23 97 F	26 94 F	37 79 F
3	1363 F			27 84 F	38 74 F
4	1362 F			28 73 F	39 72 F
5	1335 F				
6	1329 F				
7	1375 F				
8	1378 F				
	=====	=====	=====	=====	=====
	1349 F	74 F	97 F	80 F	74 F

13 Minutes		Furnace: 1416			
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8
0	1367 F	18 75 F	21 101 F	24 73 F	35 72 F
1	1393 F	19 75 F	22 101 F	25 77 F	36 78 F
2	1435 F	20 73 F	23 102 F	26 98 F	37 81 F
3	1430 F			27 87 F	38 76 F
4	1437 F			28 74 F	39 73 F
5	1451 F				
6	1390 F				
7	1451 F				
8	1391 F				
	=====	=====	=====	=====	=====
	1416 F	74 F	101 F	82 F	76 F

14 Minutes		Furnace: 1420			
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8
0	1380 F	18 76 F	21 105 F	24 74 F	35 73 F
1	1393 F	19 75 F	22 107 F	25 78 F	36 80 F
2	1444 F	20 74 F	23 107 F	26 101 F	37 84 F
3	1433 F			27 90 F	38 77 F
4	1436 F			28 75 F	39 75 F
5	1452 F				
6	1396 F				
7	1452 F				
8	1395 F				
	=====	=====	=====	=====	=====
	1420 F	75 F	106 F	84 F	78 F

15 Minutes		Furnace: 1416		E119: 1400	
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8
0	1390 F	18 77 F	21 110 F	24 75 F	35 74 F
1	1395 F	19 76 F	22 112 F	25 80 F	36 82 F
2	1448 F	20 75 F	23 113 F	26 105 F	37 87 F
3	1429 F			27 92 F	38 80 F
4	1423 F			28 76 F	39 76 F
5	1443 F				
6	1397 F				
7	1431 F				
8	1392 F				
	=====	=====	=====	=====	=====
	1416 F	76 F	112 F	86 F	80 F

16 Minutes		Furnace: 1343			
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8
0	1331 F	18 78 F	21 115 F	24 76 F	35 76 F
1	1317 F	19 77 F	22 118 F	25 82 F	36 85 F
2	1373 F	20 76 F	23 118 F	26 108 F	37 91 F
3	1352 F			27 95 F	38 82 F
4	1340 F			28 77 F	39 78 F
5	1366 F				
6	1331 F				
7	1355 F				
8	1323 F				
	=====	=====	=====	=====	=====

16 Minutes		Furnace: 1343			
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8
0	1331 F	18 78 F	21 115 F	24 76 F	35 76 F
1	1317 F	19 77 F	22 118 F	25 82 F	36 85 F
2	1373 F	20 76 F	23 118 F	26 108 F	37 91 F
3	1352 F			27 95 F	38 82 F
4	1340 F			28 77 F	39 78 F
5	1365 F				
6	1331 F				
7	1755 F				
8	1323 F				
	=====	=====	=====	=====	=====
	1343 F	77 F	117 F	88 F	82 F

17 Minutes		Furnace: 1430			
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8
0	1397 F	18 80 F	21 120 F	24 77 F	35 78 F
1	1407 F	19 78 F	22 124 F	25 84 F	36 88 F
2	1446 F	20 78 F	23 124 F	26 112 F	37 94 F
3	1446 F			27 99 F	38 85 F
4	1448 F			28 79 F	39 81 F
5	1456 F				
6	1406 F				
7	1462 F				
8	1406 F				
	=====	=====	=====	=====	=====
	1430 F	79 F	123 F	90 F	85 F

18 Minutes		Furnace: 1370			
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8
0	1360 F	18 81 F	21 126 F	24 78 F	35 80 F
1	1353 F	19 79 F	22 130 F	25 86 F	36 91 F
2	1398 F	20 79 F	23 130 F	26 116 F	37 98 F
3	1383 F			27 102 F	38 88 F
4	1364 F			28 80 F	39 84 F
5	1392 F				
6	1358 F				
7	1374 F				
8	1348 F				
	=====	=====	=====	=====	=====
	1370 F	80 F	129 F	92 F	88 F

19 Minutes		Furnace: 1304			
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8
0	1298 F	18 83 F	21 131 F	24 79 F	35 82 F
1	1279 F	19 81 F	22 136 F	25 89 F	36 95 F
2	1326 F	20 81 F	23 135 F	26 120 F	37 102 F
3	1315 F			27 105 F	38 92 F
4	1294 F			28 82 F	39 86 F
5	1325 F				
6	1294 F				
7	1319 F				
8	1289 F				
	=====	=====	=====	=====	=====
	1304 F	82 F	134 F	95 F	91 F

20 Minutes		Furnace: 1484		E119: 1460	
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8
0	1429 F	18 84 F	21 137 F	24 81 F	35 84 F
1	1461 F	19 83 F	22 142 F	25 92 F	36 99 F
2	1476 F	20 83 F	23 142 F	26 124 F	37 106 F
3	1507 F			27 109 F	38 95 F
4	1520 F			28 84 F	39 89 F
5	1510 F				
6	1455 F				
7	1532 F				
8	1464 F				

28 Minutes		Furnace: 1572			
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8
0	1561 F	18 104 F	21 175 F	24 98 F	35 110 F
1	1560 F	19 104 F	22 182 F	25 121 F	36 140 F
2	1595 F	20 106 F	23 185 F	26 159 F	37 148 F
3	1581 F			27 143 F	38 130 F
4	1572 F			28 107 F	39 120 F
5	1589 F				
6	1558 F				
7	1581 F				
8	1551 F				
	=====	=====	=====	=====	=====
	1572 F	105 F	181 F	126 F	130 F

29 Minutes		Furnace: 1570			
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8
0	1556 F	18 108 F	21 179 F	24 101 F	35 114 F
1	1557 F	19 108 F	22 186 F	25 126 F	36 146 F
2	1591 F	20 110 F	23 188 F	26 162 F	37 153 F
3	1582 F			27 148 F	38 136 F
4	1572 F			28 111 F	39 124 F
5	1585 F				
6	1555 F				
7	1583 F				
8	1551 F				
	=====	=====	=====	=====	=====
	1570 F	109 F	184 F	130 F	135 F

30 Minutes		Furnace: 1587		E119: 1550	
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8
0	1572 F	18 111 F	21 182 F	24 104 F	35 119 F
1	1574 F	19 112 F	22 189 F	25 131 F	36 152 F
2	1609 F	20 114 F	23 191 F	26 165 F	37 158 F
3	1599 F			27 151 F	38 141 F
4	1589 F			28 115 F	39 129 F
5	1602 F				
6	1570 F				
7	1596 F				
8	1569 F				
	=====	=====	=====	=====	=====
	1587 F	112 F	187 F	133 F	140 F

31 Minutes		Furnace: 1597			
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8
0	1580 F	18 114 F	21 186 F	24 107 F	35 124 F
1	1584 F	19 116 F	22 193 F	25 136 F	36 156 F
2	1615 F	20 118 F	23 194 F	26 168 F	37 163 F
3	1609 F			27 155 F	38 147 F
4	1600 F			28 119 F	39 134 F
5	1612 F				
6	1582 F				
7	1609 F				
8	1579 F				
	=====	=====	=====	=====	=====
	1597 F	116 F	191 F	137 F	145 F

32 Minutes		Furnace: 1580			
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8
0	1571 F	18 119 F	21 189 F	24 110 F	35 129 F
1	1568 F	19 120 F	22 196 F	25 142 F	36 161 F
2	1600 F	20 123 F	23 197 F	26 171 F	37 168 F
3	1589 F			27 158 F	38 153 F
4	1577 F			28 123 F	39 140 F
5	1593 F				
6	1568 F				
7	1586 F				
8	1565 F				

32 Minutes		Furnace: 1580			
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8
0	1571 F	18 119 F	21 189 F	24 110 F	35 129 F
1	1568 F	19 120 F	22 196 F	25 142 F	36 161 F
2	1600 F	20 123 F	23 197 F	26 171 F	37 166 F
3	1589 F			27 158 F	38 153 F
4	1577 F			28 123 F	39 140 F
5	1597 F				
6	1568 F				
7	1586 F				
8	1565 F				
	=====	=====	=====	=====	=====
	1580 F	121 F	194 F	141 F	150 F

33 Minutes		Furnace: 1607			
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8
0	1594 F	18 123 F	21 192 F	24 114 F	35 134 F
1	1597 F	19 125 F	22 199 F	25 148 F	36 165 F
2	1626 F	20 128 F	23 200 F	26 175 F	37 173 F
3	1619 F			27 162 F	38 159 F
4	1608 F			28 128 F	39 146 F
5	1622 F				
6	1594 F				
7	1615 F				
8	1588 F				
	=====	=====	=====	=====	=====
	1607 F	125 F	197 F	145 F	155 F

34 Minutes		Furnace: 1595			
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8
0	1584 F	18 127 F	21 196 F	24 118 F	35 140 F
1	1584 F	19 130 F	22 203 F	25 154 F	36 169 F
2	1613 F	20 134 F	23 203 F	26 178 F	37 177 F
3	1607 F			27 166 F	38 165 F
4	1594 F			28 133 F	39 152 F
5	1608 F				
6	1583 F				
7	1605 F				
8	1580 F				
	=====	=====	=====	=====	=====
	1595 F	130 F	201 F	150 F	161 F

35 Minutes		Furnace: 1611		E119: 1580	
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8
0	1600 F	18 132 F	21 199 F	24 122 F	35 146 F
1	1602 F	19 136 F	22 206 F	25 159 F	36 173 F
2	1630 F	20 139 F	23 206 F	26 182 F	37 182 F
3	1622 F			27 170 F	38 170 F
4	1611 F			28 138 F	39 158 F
5	1624 F				
6	1599 F				
7	1614 F				
8	1593 F				
	=====	=====	=====	=====	=====
	1611 F	136 F	204 F	154 F	166 F

36 Minutes		Furnace: 1631			
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8
0	1614 F	18 137 F	21 202 F	24 127 F	35 152 F
1	1619 F	19 141 F	22 209 F	25 163 F	36 178 F
2	1647 F	20 144 F	23 209 F	26 186 F	37 187 F
3	1644 F			27 174 F	38 175 F
4	1633 F			28 143 F	39 165 F
5	1644 F				
6	1618 F				
7	1642 F				
8	1614 F				

40 Minutes		Furnace: 1642			E119: 1610	
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8	
0	1633 F	18 159 F	21 215 F	24 149 F	35	176 F
1	1635 F	19 161 F	22 223 F	25 178 F	36	193 F
2	1660 F	20 164 F	23 223 F	26 202 F	37	203 F
3	1654 F			27 190 F	38	192 F
4	1641 F			28 162 F	39	186 F
5	1655 F					
6	1631 F					
7	1646 F					
8	1625 F					
	=====	=====	=====	=====	=====	=====
	1642 F	161 F	220 F	176 F		190 F

41 Minutes		Furnace: 1660				
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8	
0	1646 F	18 165 F	21 218 F	24 154 F	35 181 F	
1	1650 F	19 165 F	22 228 F	25 182 F	36 196 F	
2	1674 F	20 169 F	23 227 F	26 208 F	37 208 F	
3	1674 F			27 194 F	38 195 F	
4	1662 F			28 166 F	39 190 F	
5	1674 F					
6	1646 F					
7	1669 F					
8	1643 F					
	=====	=====	=====	=====	=====	
	1660 F	166 F	224 F	181 F		194 F

42 Minutes		Furnace: 1643				
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8	
0	1634 F	18 170 F	21 223 F	24 159 F	35 185 F	
1	1633 F	19 168 F	22 232 F	25 185 F	36 199 F	
2	1660 F	20 173 F	23 231 F	26 213 F	37 211 F	
3	1654 F			27 198 F	38 198 F	
4	1642 F			28 170 F	39 192 F	
5	1656 F					
6	1632 F					
7	1650 F					
8	1629 F					
	=====	=====	=====	=====	=====	
	1643 F	170 F	229 F	185 F		197 F

43 Minutes		Furnace: 1666				
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8	
0	1657 F	18 174 F	21 227 F	24 163 F	35 189 F	
1	1659 F	19 172 F	22 237 F	25 189 F	36 203 F	
2	1683 F	20 177 F	23 236 F	26 219 F	37 215 F	
3	1676 F			27 202 F	38 201 F	
4	1665 F			28 174 F	39 195 F	
5	1677 F					
6	1654 F					
7	1670 F					
8	1649 F					
	=====	=====	=====	=====	=====	
	1666 F	174 F	233 F	189 F		201 F

44 Minutes		Furnace: 1652				
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8	
0	1639 F	18 177 F	21 231 F	24 167 F	35 193 F	
1	1637 F	19 175 F	22 242 F	25 192 F	36 206 F	
2	1671 F	20 180 F	23 241 F	26 224 F	37 219 F	
3	1666 F			27 205 F	38 204 F	
4	1651 F			28 177 F	39 197 F	
5	1667 F					
6	1643 F					
7	1660 F					
8	1638 F					

44 Minutes		Furnace: 1652			
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M TSI B#8
0	1639 F	18 177 F	21 231 F	24 167 F	35 193 F
1	1637 F	19 175 F	22 242 F	25 192 F	36 206 F
2	1671 F	20 180 F	23 241 F	26 224 F	37 219 F
3	1666 F			27 205 F	38 204 F
4	1651 F			28 177 F	39 197 F
5	1667 F				
6	1647 F				
7	1667 F				
8	1638 F				
	=====	=====	=====	=====	=====
	1652 F	177 F	238 F	193 F	204 F

45 Minutes		Furnace: 1672		E119: 1640	
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8
0	1664 F	18 181 F	21 236 F	24 171 F	35 195 F
1	1665 F	19 178 F	22 248 F	25 196 F	36 209 F
2	1688 F	20 184 F	23 246 F	26 230 F	37 223 F
3	1683 F			27 209 F	38 207 F
4	1671 F			28 180 F	39 199 F
5	1684 F				
6	1661 F				
7	1675 F				
8	1655 F				
	=====	=====	=====	=====	=====
	1672 F	181 F	243 F	197 F	207 F

46 Minutes		Furnace: 1685			
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8
0	1674 F	18 184 F	21 240 F	24 175 F	35 198 F
1	1676 F	19 181 F	22 254 F	25 200 F	36 213 F
2	1697 F	20 188 F	23 252 F	26 235 F	37 227 F
3	1700 F			27 213 F	38 210 F
4	1686 F			28 183 F	39 201 F
5	1697 F				
6	1673 F				
7	1693 F				
8	1667 F				
	=====	=====	=====	=====	=====
	1685 F	184 F	249 F	201 F	210 F

47 Minutes		Furnace: 1647			
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8
0	1646 F	18 187 F	21 245 F	24 178 F	35 201 F
1	1639 F	19 184 F	22 260 F	25 204 F	36 216 F
2	1666 F	20 192 F	23 258 F	26 241 F	37 232 F
3	1656 F			27 217 F	38 214 F
4	1636 F			28 187 F	39 204 F
5	1658 F				
6	1636 F				
7	1647 F				
8	1635 F				
	=====	=====	=====	=====	=====
	1647 F	188 F	254 F	205 F	213 F

48 Minutes		Furnace: 1676			
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8
0	1663 F	18 190 F	21 250 F	24 181 F	35 204 F
1	1665 F	19 187 F	22 266 F	25 208 F	36 220 F
2	1690 F	20 195 F	23 265 F	26 246 F	37 237 F
3	1691 F			27 221 F	38 217 F
4	1678 F			28 190 F	39 206 F
5	1689 F				
6	1665 F				
7	1685 F				
8	1661 F				
	=====	=====	=====	=====	=====

56 Minutes		Furnace: 1722				
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M TSI B#8	
0	1716 F	18 217 F	21 303 F	24 207 F	35 232 F	
1	1719 F	19 216 F	22 326 F	25 242 F	36 258 F	
2	1735 F	20 229 F	23 325 F	26 295 F	37 281 F	
3	1734 F			27 258 F	38 255 F	
4	1722 F			28 220 F	39 236 F	
5	1733 F					
6	1710 F					
7	1725 F					
8	1707 F					
	=====	=====	=====	=====	=====	
	1722 F	221 F	318 F	244 F	252 F	

57 Minutes		Furnace: 1713				
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8	
0	1709 F	18 221 F	21 310 F	24 210 F	35 237 F	
1	1705 F	19 219 F	22 333 F	25 247 F	36 264 F	
2	1720 F	20 233 F	23 332 F	26 302 F	37 288 F	
3	1725 F			27 265 F	38 260 F	
4	1711 F			28 224 F	39 240 F	
5	1724 F					
6	1703 F					
7	1718 F					
8	1700 F					
	=====	=====	=====	=====	=====	
	1713 F	224 F	325 F	250 F	258 F	

58 Minutes		Furnace: 1722				
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8	
0	1716 F	18 225 F	21 316 F	24 214 F	35 241 F	
1	1713 F	19 224 F	22 341 F	25 253 F	36 271 F	
2	1739 F	20 239 F	23 338 F	26 309 F	37 295 F	
3	1734 F			27 272 F	38 267 F	
4	1718 F			28 228 F	39 245 F	
5	1731 F					
6	1712 F					
7	1724 F					
8	1707 F					
	=====	=====	=====	=====	=====	
	1722 F	229 F	332 F	255 F	264 F	

59 Minutes		Furnace: 1723				
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8	
0	1719 F	18 229 F	21 323 F	24 217 F	35 246 F	
1	1716 F	19 228 F	22 348 F	25 259 F	36 277 F	
2	1734 F	20 245 F	23 344 F	26 316 F	37 301 F	
3	1737 F			27 278 F	38 273 F	
4	1720 F			28 233 F	39 250 F	
5	1733 F					
6	1712 F					
7	1730 F					
8	1710 F					
	=====	=====	=====	=====	=====	
	1723 F	234 F	338 F	261 F	269 F	

60 Minutes		Furnace: 1730			E119: 1700	
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8	
0	1722 F	18 232 F	21 330 F	24 221 F	35 250 F	
1	1721 F	19 232 F	22 352 F	25 261 F	36 280 F	
2	1734 F	20 245 F	23 344 F	26 316 F	37 301 F	
3	1737 F			27 278 F	38 273 F	
4	1720 F			28 233 F	39 250 F	
5	1733 F					
6	1712 F					
7	1730 F					
8	1710 F					
	=====	=====	=====	=====	=====	
	1722 F	232 F	330 F	221 F	250 F	

50 Minutes Furnace: 1730 E119: 1700

FURNACE	3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8	
0	1722 F	18 232 F	21 330 F	24 321 F	35 250 F
1	1721 F	19 232 F	22 356 F	25 266 F	36 284 F
2	1748 F	20 251 F	23 350 F	26 324 F	37 308 F
3	1743 F			27 285 F	38 279 F
4	1738 F			28 237 F	39 255 F
5	1740 F				
6	1720 F				
7	1733 F				
8	1715 F				
=====	=====	=====	=====	=====	
1730 F	238 F	345 F	324 F	281 F	

61 Minutes Furnace: 1744

FURNACE	3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8	
0	1737 F	18 236 F	21 337 F	24 324 F	35 255 F
1	1737 F	19 237 F	22 365 F	25 272 F	36 290 F
2	1760 F	20 258 F	23 355 F	26 330 F	37 315 F
3	1759 F			27 292 F	38 286 F
4	1743 F			28 242 F	39 260 F
5	1754 F				
6	1734 F				
7	1750 F				
8	1724 F				
=====	=====	=====	=====	=====	
1744 F	244 F	352 F	272 F	281 F	

62 Minutes Furnace: 1731

FURNACE	3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8	
0	1727 F	18 242 F	21 343 F	24 227 F	35 259 F
1	1723 F	19 242 F	22 374 F	25 279 F	36 297 F
2	1743 F	20 264 F	23 361 F	26 337 F	37 322 F
3	1740 F			27 299 F	38 293 F
4	1726 F			28 248 F	39 265 F
5	1742 F				
6	1722 F				
7	1733 F				
8	1720 F				
=====	=====	=====	=====	=====	
1731 F	249 F	359 F	278 F	287 F	

63 Minutes Furnace: 1746

FURNACE	3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8	
0	1738 F	18 248 F	21 348 F	24 231 F	35 264 F
1	1738 F	19 248 F	22 381 F	25 285 F	36 304 F
2	1758 F	20 271 F	23 367 F	26 345 F	37 330 F
3	1760 F			27 306 F	38 299 F
4	1744 F			28 254 F	39 271 F
5	1757 F				
6	1736 F				
7	1752 F				
8	1732 F				
=====	=====	=====	=====	=====	
1746 F	256 F	365 F	284 F	294 F	

64 Minutes Furnace: 1737

FURNACE	3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8	
0	1733 F	18 254 F	21 354 F	24 234 F	35 269 F
1	1730 F	19 255 F	22 388 F	25 291 F	36 311 F
2	1757 F	20 277 F	23 372 F	26 352 F	37 337 F
3	1749 F			27 314 F	38 306 F
4	1731 F			28 260 F	39 276 F
5	1746 F				
6	1726 F				
7	1740 F				
8	1723 F				
=====	=====	=====	=====	=====	

64 Minutes		Furnace: 1737			
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8
0	1733 F	18 254 F	21 354 F	24 234 F	35 267 F
1	1730 F	19 255 F	22 388 F	25 291 F	36 311 F
2	1757 F	20 277 F	23 372 F	26 352 F	37 357 F
3	1749 F			27 314 F	38 306 F
4	1731 F			28 260 F	39 276 F
5	1746 F				
6	1726 F				
7	1740 F				
8	1727 F				
	=====	=====	=====	=====	=====
	1737 F	262 F	371 F	290 F	300 F

65 Minutes		Furnace: 1747		E119: 1718	
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8
0	1741 F	18 259 F	21 360 F	24 238 F	35 274 F
1	1779 F	19 261 F	22 394 F	25 298 F	36 310 F
2	1762 F	20 284 F	23 378 F	26 358 F	37 344 F
3	1760 F			27 322 F	38 313 F
4	1741 F			28 267 F	39 281 F
5	1757 F				
6	1736 F				
7	1752 F				
8	1732 F				
	=====	=====	=====	=====	=====
	1747 F	268 F	377 F	297 F	306 F

66 Minutes		Furnace: 1747			
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8
0	1741 F	18 265 F	21 366 F	24 243 F	35 279 F
1	1741 F	19 268 F	22 400 F	25 304 F	36 324 F
2	1759 F	20 290 F	23 383 F	26 365 F	37 352 F
3	1760 F			27 330 F	38 320 F
4	1742 F			28 273 F	39 286 F
5	1757 F				
6	1738 F				
7	1750 F				
8	1734 F				
	=====	=====	=====	=====	=====
	1747 F	274 F	383 F	303 F	312 F

67 Minutes		Furnace: 1740			
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8
0	1735 F	18 271 F	21 371 F	24 248 F	35 283 F
1	1731 F	19 275 F	22 408 F	25 311 F	36 331 F
2	1757 F	20 296 F	23 390 F	26 372 F	37 359 F
3	1750 F			27 341 F	38 326 F
4	1732 F			28 279 F	39 292 F
5	1749 F				
6	1731 F				
7	1743 F				
8	1728 F				
	=====	=====	=====	=====	=====
	1740 F	281 F	390 F	310 F	318 F

68 Minutes		Furnace: 1761			
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8
0	1758 F	18 276 F	21 377 F	24 253 F	35 288 F
1	1757 F	19 281 F	22 415 F	25 318 F	36 337 F
2	1771 F	20 302 F	23 396 F	26 379 F	37 367 F
3	1773 F			27 352 F	38 333 F
4	1756 F			28 286 F	39 297 F
5	1771 F				
6	1751 F				
7	1764 F				
8	1747 F				

68 Minutes		Furnace: 1761			
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8
0	1758 F	18 276 F	21 377 F	24 253 F	35 268 F
1	1757 F	19 281 F	22 415 F	25 318 F	36 337 F
2	1771 F	20 302 F	23 396 F	26 379 F	37 367 F
3	1773 F			27 352 F	38 333 F
4	1756 F			28 286 F	39 291 F
5	1771 F				
6	1751 F				
7	1764 F				
8	1747 F				
	=====	=====	=====	=====	=====
	1761 F	286 F	396 F	318 F	341 F

69 Minutes		Furnace: 1758			
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8
0	1751 F	18 282 F	21 384 F	24 352 F	35 321 F
1	1749 F	19 289 F	22 423 F	25 324 F	36 344 F
2	1768 F	20 308 F	23 402 F	26 387 F	37 374 F
3	1773 F			27 365 F	38 339 F
4	1756 F			28 292 F	39 303 F
5	1769 F				
6	1749 F				
7	1764 F				
8	1746 F				
	=====	=====	=====	=====	=====
	1758 F	293 F	403 F	325 F	331 F

70 Minutes		Furnace: 1750		E119: 1735	
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8
0	1752 F	18 287 F	21 393 F	24 262 F	35 297 F
1	1748 F	19 295 F	22 432 F	25 331 F	36 351 F
2	1767 F	20 315 F	23 409 F	26 396 F	37 381 F
3	1760 F			27 373 F	38 346 F
4	1741 F			28 299 F	39 308 F
5	1757 F				
6	1737 F				
7	1750 F				
8	1736 F				
	=====	=====	=====	=====	=====
	1750 F	299 F	411 F	332 F	337 F

71 Minutes		Furnace: 1772			
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8
0	1769 F	18 293 F	21 403 F	24 266 F	35 302 F
1	1769 F	19 301 F	22 441 F	25 338 F	36 358 F
2	1785 F	20 321 F	23 416 F	26 404 F	37 388 F
3	1785 F			27 381 F	38 353 F
4	1768 F			28 305 F	39 313 F
5	1780 F				
6	1762 F				
7	1774 F				
8	1758 F				
	=====	=====	=====	=====	=====
	1772 F	305 F	420 F	339 F	343 F

72 Minutes		Furnace: 1767			
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8
0	1760 F	18 298 F	21 413 F	24 271 F	35 307 F
1	1758 F	19 308 F	22 450 F	25 345 F	36 365 F
2	1781 F	20 327 F	23 424 F	26 413 F	37 396 F
3	1783 F			27 388 F	38 359 F
4	1762 F			28 312 F	39 319 F
5	1777 F				
6	1758 F				
7	1773 F				
8	1755 F				

76 Minutes		Furnace: 1797			
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8
0	1790 F	18 320 F	21 456 F	24 289 F	35 325 F
1	1795 F	19 333 F	22 487 F	25 368 F	36 392 F
2	1806 F	20 350 F	23 458 F	26 450 F	37 430 F
3	1810 F			27 408 F	38 337 F
4	1794 F			28 339 F	39 340 F
5	1805 F				
6	1791 F				
7	1798 F				
8	1784 F				
	=====	=====	=====	=====	=====
	1797 F	334 F	467 F	371 F	375 F

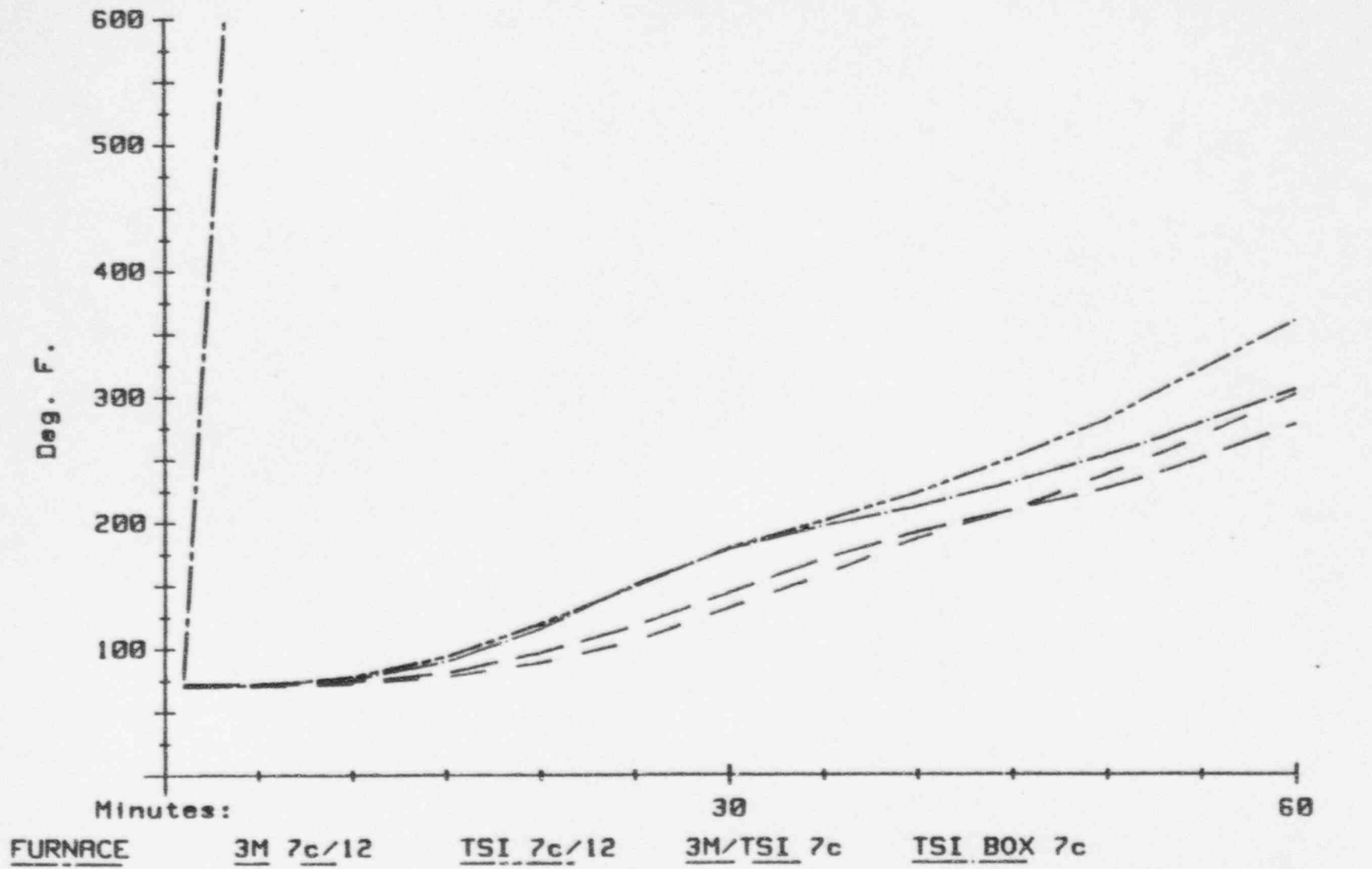
77 Minutes		Furnace: 1785			
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8
0	1784 F	18 326 F	21 469 F	24 294 F	35 329 F
1	1780 F	19 339 F	22 497 F	25 373 F	36 399 F
2	1792 F	20 356 F	23 469 F	26 467 F	37 439 F
3	1799 F			27 407 F	38 395 F
4	1778 F			28 345 F	39 345 F
5	1793 F				
6	1777 F				
7	1786 F				
8	1775 F				
	=====	=====	=====	=====	=====
	1785 F	340 F	478 F	377 F	381 F

78 Minutes		Furnace: 1797			
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8
0	1795 F	18 331 F	21 479 F	24 298 F	35 335 F
1	1793 F	19 346 F	22 508 F	25 379 F	36 406 F
2	1805 F	20 362 F	23 481 F	26 481 F	37 449 F
3	1809 F			27 413 F	38 403 F
4	1793 F			28 352 F	39 351 F
5	1803 F				
6	1787 F				
7	1802 F				
8	1787 F				
	=====	=====	=====	=====	=====
	1797 F	346 F	489 F	385 F	389 F

79 Minutes		Furnace: 1793			
FURNACE		3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8
0	1791 F	18 336 F	21 489 F	24 303 F	35 339 F
1	1789 F	19 352 F	22 520 F	25 385 F	36 413 F
2	1806 F	20 367 F	23 494 F	26 492 F	37 459 F
3	1803 F			27 424 F	38 410 F
4	1786 F			28 358 F	39 357 F
5	1801 F				
6	1786 F				
7	1794 F				
8	1782 F				
	=====	=====	=====	=====	=====
	1793 F	352 F	501 F	392 F	396 F

*** Printer Off - not enough time to print.
 *** Serial Timeout

3M/TSI INTERFACE TEST-5 in STEEL CNDT



3M CHEM 63 FT#86-102 9/17/86

3M/TSI INTERFACE TEST-5in STEEL CNDT

3M CHEM 63 FT#86-102 9/17/86

LINE 1 FURNACE GROUP	LINE 2 3M 7c/12 GROUP 5	LINE 3 TSI 7c/12 GROUP 6	LINE 4 3M/TSI 7c GROUP 7	LINE 5 TSI BOX 7c GROUP 8
----------------------------	-------------------------------	--------------------------------	--------------------------------	---------------------------------

GROUP: 0	FURNACE	TC's: 0	1	2	3	4	5	6	7	8
GROUP: 1	3M O.D.	TC's: 9	10							
GROUP: 2	TSI O.D.	TC's: 11	12							
GROUP: 3	3M/TSI OD	TC's: 14	15	17						
GROUP: 4	TSI BOX OD	TC's: 18	19							
GROUP: 5	3M 7c/12	TC's: 20	21	22						
GROUP: 6	TSI 7c/12	TC's: 23	24	25						
GROUP: 7	3M/TSI 7c	TC's: 26	27	28	29	30				
GROUP: 8	TSI BOX 7c	TC's: 31	32	33						
GROUP: 9	3M B#8	TC's: 34								
GROUP: 10	TSI B#8	TC's: 35								
GROUP: 11	3M/TSI B#8	TC's: 36	37	38						
GROUP: 12	TSI EX B#8	TC's: 39								
GROUP: 13	DUMMY	TC's: 13	16							

10 MINUTES

GROUP 0
FURNACE

0	1328
1	1328
2	1326
3	1323
4	1281
5	1249
6	1211
7	1211
8	1200
9	1200

GROUP 1
IM O.D.

9	71 F
10	75 F

GROUP 2
TSI O.D.

11	74 F
12	90 F

GROUP 3
IM/TSI OD

14	76 F
15	81 F
16	82 F

GROUP 4
TSI BOX OD

18	77 F
19	81 F

GROUP 5
IM 7c/12

20	73 F
21	72 F
22	72 F

GROUP 6
TSI 7c/12

23	76 F
24	81 F
25	76 F

GROUP 7
IM/TSI 7c

26	71 F
27	75 F
28	78 F
29	73 F
30	73 F

GROUP 8
TSI BOX 7c

31	75 F
32	78 F
33	77 F

GROUP 9
IM B#8

34	77
----	----

GROUP 10
TSI B#8

35	78 F
----	------

GROUP 11
IM/TSI B#8

36	73 F
37	0 F
38	75 F

GROUP 12
TSI BX B#8

39	74 F
----	------

GROUP 13
DUMMY

13	61 F
16	99 F

15 MINUTES
GROUP 0
FURNACE

0	1438 F
1	1447 F
2	1384 F
3	1385 F
4	1387 F
5	1384 F
6	1437 F
7	1421 F
8	1424 F
9	1412 F

GROUP 1
IM O.D.

9	92 F
10	97 F

GROUP 2
TSI O.D.

11	129 F
12	142 F

GROUP 3
IM/TSI OD

14	113 F
15	107 F
17	71 F

GROUP 4
TSI BOX OD

18	130 F
19	133 F

GROUP 5
IM 7c/12

20	80 F
21	76 F
22	77 F

GROUP 6
TSI 7c/12

23	90 F
24	104 F
25	89 F

GROUP 7
IM/TSI 7c

26	76 F
27	86 F
28	88 F
29	81 F
30	76 F

GROUP 8
TSI BOX 7c

31	87 F
32	91 F
33	91 F

GROUP 9
IM B#8

34	79 F
----	------

GROUP 10
TSI B#8

35	97 F
----	------

GROUP 11
IM/TSI B#8

36	81 F
37	92 F
38	85 F

GROUP 12
TSI BX B#8

39	86 F
----	------

GROUP 13
DUMMY

13	61 F
16	0 F

GROUP 0	GROUP 1	GROUP 2	GROUP 3	GROUP 4
CM O.D.	TSI O.D.	TSI O.D.	CM/TSI OD	TSI BOX OD
0 1505 F	9 121 F	11 186 F	14 187 F	18 275 F
1 1507 F	10 133 F	12 200 F	15 141 F	19 241 F
2 1450 F			17 90 F	
3 1450 F				
4 1450 F				
5 1450 F				
6 1450 F				
7 1450 F				
8 1450 F				
=====	=====	=====	=====	=====
	122 F	181 F	139 F	121 F

GROUP 5	GROUP 6	GROUP 7	GROUP 8	GROUP 9
CM B#8	TSI 7c/12	CM/TSI 7c	TSI BOX 7c	CM B#8
20 81 F	23 110 F	26 86 F	31 110 F	34 75 F
21 82 F	24 135 F	27 105 F	32 118 F	
22 86 F	25 111 F	28 107 F	33 117 F	
		29 97 F		
		30 87 F		
=====	=====	=====	=====	=====
89 F	120 F	97 F	116 F	

GROUP 10	GROUP 11	GROUP 12	GROUP 13
TSI B#8	CM/TSI B#8	TSI BX B#8	DUMMY
35 124 F	36 98 F	39 111 F	13 62 F
	37 115 F		16 0 F
	38 103 F		
=====	=====	=====	=====
124 F	105 F	111 F	62 F

25 MINUTES

GROUP 0	GROUP 1	GROUP 2	GROUP 3	GROUP 4
FURNACE	CM O.D.	TSI O.D.	CM/TSI OD	TSI BOX OD
0 1528 F	9 157 F	11 196 F	14 298 F	18 449 F
1 1529 F	10 149 F	12 231 F	15 190 F	19 417 F
2 1479 F			17 118 F	
3 1477 F				
4 1485 F				
5 1492 F				
6 1529 F				
7 1496 F				
8 1517 F				
=====	=====	=====	=====	=====
1504 F	153 F	214 F	202 F	433 F

GROUP 5	GROUP 6	GROUP 7	GROUP 8	GROUP 9
CM 7c/12	TSI 7c/12	CM/TSI 7c	TSI BOX 7c	CM B#8
20 112 F	23 140 F	26 111 F	31 145 F	34 115 F
21 107 F	24 168 F	27 129 F	32 154 F	
22 100 F	25 140 F	28 132 F	33 154 F	
		29 119 F		
		30 100 F		
=====	=====	=====	=====	=====
106 F	149 F	118 F	151 F	115 F

GROUP 10	GROUP 11	GROUP 12	GROUP 13
TSI B#8	CM/TSI B#8	TSI BX B#8	DUMMY
35 157 F	36 121 F	39 148 F	13 64 F
	37 145 F		16 0 F
	38 127 F		
=====	=====	=====	=====
157 F	130 F	148 F	64 F

30 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 TSI BOX OD
0 1555°F	9 209°F	11 252°F	14 261°F	17 262°F
1 1557°F	10 176°F	12 210°F	15 261°F	18 262°F
2 1512°F			16 198°F	
3 1511°F				
4 1512°F				
5 1512°F				
6 1581°F				
7 1512°F				
8 1512°F				
=====	=====	=====	=====	=====
1555°F	140°F	281°F	218°F	465°F

GROUP 5 3M 7c/12	GROUP 6 TSI 7c/12	GROUP 7 3M/TSI 7c	GROUP 8 TSI BOX 7c	GROUP 9 3M B#8
20 132°F	23 173°F	26 138°F	31 167°F	34 141°F
21 142°F	24 201°F	27 155°F	32 137°F	
22 120°F	25 167°F	28 159°F	33 104°F	
		29 149°F		
		30 120°F		
=====	=====	=====	=====	=====
102°F	180°F	144°F	179°F	145°F

GROUP 10 TSI B#8	GROUP 11 3M/TSI B#8	GROUP 12 TSI BX B#8	GROUP 13 DUMMY
35 192°F	36 150°F	39 185°F	13 65°F
	37 173°F		16 0°F
	38 156°F		
=====	=====	=====	=====
192°F	160°F	185°F	65°F

35 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 TSI BOX OD
0 1590°F	9 241°F	11 314°F	14 812°F	18 425°F
1 1592°F	10 215°F	12 268°F	15 281°F	19 526°F
2 1553°F			17 275°F	
3 1550°F				
4 1559°F				
5 1565°F				
6 1599°F				
7 1560°F				
8 1584°F				
=====	=====	=====	=====	=====
1572°F	228°F	291°F	456°F	475°F

GROUP 5 3M 7c/12	GROUP 6 TSI 7c/12	GROUP 7 3M/TSI 7c	GROUP 8 TSI BOX 7c	GROUP 9 3M B#8
20 157°F	23 197°F	26 166°F	31 189°F	34 182°F
21 171°F	24 215°F	27 184°F	32 202°F	
22 146°F	25 190°F	28 182°F	33 201°F	
		29 175°F		
		30 147°F		
=====	=====	=====	=====	=====
158°F	201°F	171°F	197°F	182°F

GROUP 10 TSI B#8	GROUP 11 3M/TSI B#8	GROUP 12 TSI BX B#8	GROUP 13 DUMMY
35 215°F	36 181°F	39 210°F	13 69°F
	37 203°F		16 10°F
	38 188°F		
=====	=====	=====	=====
215°F	191°F	210°F	69°F

40 MINUTES

GROUP 0
FURNACE

0 1604 F
1 1620 F
2 1637 F
3 1653 F
4 1706 F
5 1671 F
6 1671 F
7 1674 F
8 1670 F

=====

1604 F

GROUP 1
3M O.D.

9 267 F
10 249 F

=====

258 F

GROUP 2
TSI O.D.

11 302 F
12 368 F

=====

375 F

GROUP 3
3M/TSI OD

14 308 F
15 253 F
17 219 F

=====

276 F

GROUP 4
TSI BOX OD

16 301 F
18 304 F

=====

283 F

GROUP 5
3M 7c/12

20 196 F
21 189 F
22 175 F

=====

187 F

GROUP 6
TSI 7c/12

23 217 F
24 239 F
25 214 F

=====

223 F

GROUP 7
3M/TSI 7c

26 188 F
27 201 F
28 204 F
29 194 F
30 175 F

=====

192 F

GROUP 8
TSI BOX 7c

31 205 F
32 213 F
33 214 F

=====

212 F

GROUP 9
3M B#8

34 210 F

=====

210 F

GROUP 10
TSI B#8

35 237 F

=====

237 F

GROUP 11
3M/TSI B#8

36 204 F
37 224 F
38 211 F

=====

213 F

GROUP 12
TSI BX B#8

39 222 F

=====

222 F

GROUP 13
DUMMY

13 68 F
16 0 F

=====

68 F

45 MINUTES

GROUP 0
FURNACE

0 1655 F
1 1652 F
2 1617 F
3 1615 F
4 1626 F
5 1631 F
6 1665 F
7 1620 F
8 1651 F

=====

1637 F

GROUP 1
3M O.D.

9 292 F
10 279 F

=====

286 F

GROUP 2
TSI O.D.

11 686 F
12 375 F

=====

531 F

GROUP 3
3M/TSI OD

14 245 F
15 283 F
17 213 F

=====

247 F

GROUP 4
TSI BOX OD

18 340 F
19 344 F

=====

342 F

GROUP 5
3M 7c/12

20 213 F
21 207 F
22 206 F

=====

209 F

GROUP 6
TSI 7c/12

23 240 F
24 270 F
25 241 F

=====

250 F

GROUP 7
3M/TSI 7c

26 204 F
27 211 F
28 227 F
29 210 F
30 193 F

=====

209 F

GROUP 8
TSI BOX 7c

31 221 F
32 239 F
33 234 F

=====

231 F

GROUP 9
3M B#8

34 233 F

=====

233 F

GROUP 10
TSI B#8

35 264 F

=====

264 F

GROUP 11
3M/TSI B#8

36 220 F
37 244 F
38 229 F

=====

231 F

GROUP 12
TSI BX B#8

39 240 F

=====

240 F

GROUP 13
DUMMY

13 68 F
16 0 F

=====

68 F

50 MINUTES

GROUP 0
FURNACE

0	1680 F
1	1673 F
2	1641 F
3	1641 F
4	1650 F
5	1681 F
6	1671 F
7	1671 F
8	1699 F
=====	
	1685 F

GROUP 1
3M O.D.

9	318 F
10	311 F
=====	
	312 F

GROUP 2
TSI O.D.

11	548 F
12	348 F
=====	
	445 F

GROUP 3
3M/TSI OD

14	311 F
15	311 F
17	310 F
=====	
	301 F

GROUP 4
TSI BOX OD

18	348 F
19	309 F
=====	
	301 F

GROUP 5
3M 7c/12

20	245 F
21	231 F
22	230 F
=====	
	237 F

GROUP 6
TSI 7c/12

23	268 F
24	306 F
25	267 F
=====	
	280 F

GROUP 7
3M/TSI 7c

26	217 F
27	225 F
28	251 F
29	228 F
30	209 F
=====	
	226 F

GROUP 8
TSI BOX 7c

31	250 F
32	261 F
33	257 F
=====	
	252 F

GROUP 9
3M B#8

34	277 F
=====	
	277 F

GROUP 10
TSI B#8

35	297 F
=====	
	297 F

GROUP 11
3M/TSI B#8

36	233 F
37	267 F
38	249 F
=====	
	250 F

GROUP 12
TSI BX B#8

39	263 F
=====	
	263 F

GROUP 13
DUMMY

13	69 F
16	0 F
=====	
	69 F

50 MINUTES

GROUP 0
FURNACE

0	1702 F
1	1701 F
2	1667 F
3	1666 F
4	1679 F
5	1684 F
6	1705 F
7	1671 F
8	1699 F
=====	
	1685 F

GROUP 1
3M O.D.

9	336 F
10	330 F
=====	
	333 F

GROUP 2
TSI O.D.

11	516 F
12	382 F
=====	
	449 F

GROUP 3
3M/TSI OD

14	339 F
15	338 F
17	223 F
=====	
	267 F

GROUP 4
TSI BOX OD

18	348 F
19	309 F
=====	
	344 F

GROUP 5
3M 7c/12

20	263 F
21	246 F
22	254 F
=====	
	254 F

GROUP 6
TSI 7c/12

23	291 F
24	332 F
25	288 F
=====	
	304 F

GROUP 7
3M/TSI 7c

26	225 F
27	238 F
28	270 F
29	242 F
30	221 F
=====	
	239 F

GROUP 8
TSI BOX 7c

31	250 F
32	279 F
33	270 F
=====	
	266 F

GROUP 9
3M B#8

34	277 F
=====	
	277 F

GROUP 10
TSI B#8

35	319 F
=====	
	319 F

GROUP 11
3M/TSI B#8

36	244 F
37	283 F
38	264 F
=====	
	264 F

GROUP 12
TSI BX B#8

39	278 F
=====	
	278 F

GROUP 13
DUMMY

13	70 F
16	10 F
=====	
	70 F

50 MINUTES

GROUP 0
FURNACE

0 1710 F
1 1700 F
2 1690 F
3 1680 F
4 1670 F
5 1660 F
6 1650 F
7 1640 F
8 1630 F
9 1620 F
10 1610 F
11 1600 F
12 1590 F
13 1580 F
14 1570 F
15 1560 F
16 1550 F
17 1540 F
18 1530 F
19 1520 F
20 1510 F
21 1500 F
22 1490 F
23 1480 F
24 1470 F
25 1460 F
26 1450 F
27 1440 F
28 1430 F
29 1420 F
30 1410 F
31 1400 F
32 1390 F
33 1380 F
34 1370 F
35 1360 F
36 1350 F
37 1340 F
38 1330 F
39 1320 F
40 1310 F
41 1300 F
42 1290 F
43 1280 F
44 1270 F
45 1260 F
46 1250 F
47 1240 F
48 1230 F
49 1220 F
50 1210 F
51 1200 F
52 1190 F
53 1180 F
54 1170 F
55 1160 F
56 1150 F
57 1140 F
58 1130 F
59 1120 F
60 1110 F
61 1100 F
62 1090 F
63 1080 F
64 1070 F
65 1060 F
66 1050 F
67 1040 F
68 1030 F
69 1020 F
70 1010 F
71 1000 F
72 990 F
73 980 F
74 970 F
75 960 F
76 950 F
77 940 F
78 930 F
79 920 F
80 910 F
81 900 F
82 890 F
83 880 F
84 870 F
85 860 F
86 850 F
87 840 F
88 830 F
89 820 F
90 810 F
91 800 F
92 790 F
93 780 F
94 770 F
95 760 F
96 750 F
97 740 F
98 730 F
99 720 F
100 710 F
101 700 F
102 690 F
103 680 F
104 670 F
105 660 F
106 650 F
107 640 F
108 630 F
109 620 F
110 610 F
111 600 F
112 590 F
113 580 F
114 570 F
115 560 F
116 550 F
117 540 F
118 530 F
119 520 F
120 510 F
121 500 F
122 490 F
123 480 F
124 470 F
125 460 F
126 450 F
127 440 F
128 430 F
129 420 F
130 410 F
131 400 F
132 390 F
133 380 F
134 370 F
135 360 F
136 350 F
137 340 F
138 330 F
139 320 F
140 310 F
141 300 F
142 290 F
143 280 F
144 270 F
145 260 F
146 250 F
147 240 F
148 230 F
149 220 F
150 210 F
151 200 F
152 190 F
153 180 F
154 170 F
155 160 F
156 150 F
157 140 F
158 130 F
159 120 F
160 110 F
161 100 F
162 90 F
163 80 F
164 70 F
165 60 F
166 50 F
167 40 F
168 30 F
169 20 F
170 10 F
171 0 F

GROUP 1
3M O.D.

9 348 F
10 347 F

GROUP 2
TSI O.D.

11 358 F
12 358 F

GROUP 3
3M/TSI OD

14 360 F
15 358 F
16 356 F

GROUP 4
TSI BOX OD

18 360 F
19 358 F

GROUP 5
3M 7c/12

20 303 F
21 291 F
22 305 F

GROUP 6
TSI 7c/12

23 353 F
24 385 F
25 336 F

GROUP 7
3M/TSI 7c

26 246 F
27 271 F
28 325 F
29 385 F
30 254 F

GROUP 8
TSI BOX 7c

31 289 F
32 322 F
33 302 F

GROUP 9
3M B#8

34 323 F

GROUP 10
TSI B#8

35 336 F

GROUP 11
3M/TSI B#8

36 282 F
37 294 F
38 275 F

GROUP 12
TSI BX B#8

39 290 F

GROUP 13
DUMMY

13 71 F
16 0 F

60 MINUTES

GROUP 0
FURNACE

0 1699 F
1 1695 F
2 1670 F
3 1669 F
4 1664 F
5 1689 F
6 1705 F
7 1670 F
8 1698 F
9 1687 F

GROUP 1
3M O.D.

9 380 F
10 374 F
11 377 F

GROUP 2
TSI O.D.

11 419 F
12 441 F
13 430 F

GROUP 3
3M/TSI OD

14 306 F
15 394 F
16 290 F
17 330 F

GROUP 4
TSI BOX OD

18 415 F
19 391 F
20 400 F

GROUP 5
3M 7c/12

20 303 F
21 291 F
22 305 F
23 300 F

GROUP 6
TSI 7c/12

23 353 F
24 385 F
25 336 F
26 358 F

GROUP 7
3M/TSI 7c

26 246 F
27 271 F
28 325 F
29 385 F
30 254 F
31 276 F

GROUP 8
TSI BOX 7c

31 289 F
32 322 F
33 302 F
34 304 F

GROUP 9
3M B#8

34 323 F
35 320 F

GROUP 10
TSI B#8

35 377 F

GROUP 11
3M/TSI B#8

36 276 F
37 326 F
38 0 F
39 301 F

GROUP 12
TSI BX B#8

39 322 F
40 322 F

GROUP 13
DUMMY

13 72 F
16 0 F
17 72 F

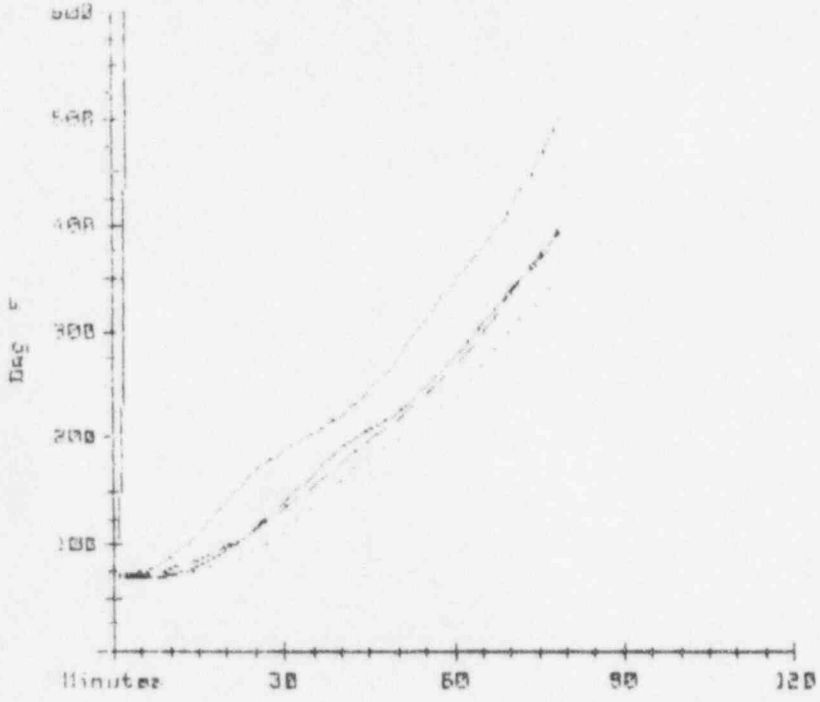
3M/TSI 1 HOUR INTERFACE FIRE TEST E119

3M CHEM 63 FT#86-73

LINE 1	LINE 2	LINE 3	LINE 4	LINE 5						
3M/TSI	3M 7c/12	TSI 7c/12	3M/TSI 7c	3M/TSI B#8						
GROUP 1	GROUP 4	GROUP 5	GROUP 6	GROUP 7						
GROUP: 0	3M/TSI E	TC's: 0	1	2	3	4	5	6	7	8
GROUP: 1	3M B.D.	TC's: 9	10							
GROUP: 2	TSI B.D.	TC's: 11	12							
GROUP: 3	3M/TSI B.D.	TC's: 13	14	15	16	17				
GROUP: 4	3M 7c/12	TC's: 18	19	20						
GROUP: 5	TSI 7c/12	TC's: 21	22	23						
GROUP: 6	3M/TSI 7c	TC's: 24	25	26	27	28				
GROUP: 7	3M B#8	TC's: 29	30	31						
GROUP: 8	TSI B#8	TC's: 32	33	34						
GROUP: 9	3M/TSI B#8	TC's: 35	36	37	38	39				

11. 151. 1 HOUR INTERFACE FIRE TEST E119

CONNECT _____
10 10 12
151 20 12
50 151 20
21 151 248



1 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 3M 7c/12
0	9	11	13	18
1	10	12	14	19
2			15	20
3			16	
4			17	
5				
6				
7				
8				
=====	=====	=====	=====	=====
108 F	73 F	75 F	74 F	72 F

GROUP 5 TSI 7c/12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21	24	29	32	35
22	25	30	33	36
23	26	31	34	37
	27			38
	28			39
=====	=====	=====	=====	=====
73 F	72 F	70 F	69 F	69 F

2 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 3M 7c/12
0	9	11	13	18
1	10	12	14	19
2			15	20
3			16	
4			17	
5				
6				
7				
8				
=====	=====	=====	=====	=====
269 F	73 F	76 F	74 F	72 F

GROUP 5 TSI 7c/12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21	24	29	32	35
22	25	30	33	36
23	26	31	34	37
	27			38
	28			39
=====	=====	=====	=====	=====
73 F	72 F	70 F	69 F	69 F

3 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 3M 7c/12
1 806 F	9 72 F	11 72 F	13 75 F	18 73 F
2 812 F	10 73 F	12 75 F	14 75 F	19 73 F
3 828 F			15 75 F	20 71 F
4 831 F			16 74 F	
5 835 F			17 73 F	
6 894 F				
7 877 F				
8 891 F				
=====	=====	=====	=====	=====
895 F	73 F	76 F	74 F	72 F

GROUP 5 TSI 7c/12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21 74 F	24 72 F	29 72 F	32 70 F	35 69 F
22 73 F	25 73 F	30 68 F	33 70 F	36 69 F
23 74 F	26 73 F	31 69 F	34 69 F	37 69 F
	27 73 F			38 69 F
	28 71 F			39 68 F
=====	=====	=====	=====	=====
73 F	72 F	70 F	70 F	69 F

4 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 3M 7c/12
0 767 F	9 72 F	11 80 F	13 75 F	18 73 F
1 1044 F	10 73 F	12 77 F	14 75 F	19 73 F
2 881 F			15 76 F	20 71 F
3 1119 F			16 74 F	
4 1221 F			17 73 F	
5 1070 F				
6 972 F				
7 1122 F				
8 899 F				
=====	=====	=====	=====	=====
1022 F	73 F	79 F	75 F	72 F

GROUP 5 TSI 7c/12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21 74 F	24 72 F	29 72 F	32 70 F	35 69 F
22 73 F	25 73 F	30 68 F	33 70 F	36 69 F
23 73 F	26 73 F	31 69 F	34 69 F	37 69 F
	27 73 F			38 69 F
	28 71 F			39 68 F
=====	=====	=====	=====	=====
73 F	72 F	70 F	70 F	69 F

5 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 3M 7c/12
0 890 F	9 72 F	11 84 F	13 75 F	18 73 F
1 1063 F	10 73 F	12 81 F	14 75 F	19 72 F
2 997 F			15 79 F	20 71 F
3 1106 F			16 74 F	
4 1153 F			17 73 F	
5 1083 F				
6 1030 F				
7 1066 F				
8 1058 F				
=====	=====	=====	=====	=====
1047 F	73 F	83 F	75 F	72 F

GROUP 5 TSI 7c/12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21 75 F	24 72 F	29 72 F	32 76 F	35 69 F
22 74 F	25 73 F	30 68 F	33 70 F	36 69 F
23 74 F	26 74 F	31 69 F	34 70 F	37 69 F
	27 73 F			38 69 F
	28 71 F			39 68 F
=====	=====	=====	=====	=====
74 F	73 F	70 F	70 F	69 F

6 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 3M 7c/12
0 921 F	9 72 F	11 89 F	13 75 F	18 73 F
1 1036 F	10 73 F	12 87 F	14 76 F	19 73 F
2 1002 F			15 84 F	20 72 F
3 1077 F			16 75 F	
4 1122 F			17 73 F	
5 1068 F				
6 1030 F				
7 1051 F				
8 1035 F				
=====	=====	=====	=====	=====
1038 F	73 F	88 F	77 F	73 F

GROUP 5 TSI 7c/12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21 77 F	24 72 F	29 72 F	32 71 F	35 69 F
22 76 F	25 73 F	30 68 F	33 71 F	36 69 F
23 76 F	26 76 F	31 69 F	34 70 F	37 70 F
	27 73 F			38 69 F
	28 72 F			39 68 F
=====	=====	=====	=====	=====
76 F	73 F	70 F	71 F	69 F

7 MINUTES

GROUP 0 FURNACE	GROUP 1 3M U.D.	GROUP 2 TSI U.D.	GROUP 3 3M TSI UD	GROUP 4 3M 7c 12
0 1064 F	9 73 F	11 96 F	13 76 F	18 73 F
1 1179 F	10 74 F	12 93 F	14 77 F	19 73 F
2 1142 F			15 89 F	20 73 F
3 1218 F			16 76 F	
4 1271 F			17 74 F	
5 1214 F				
6 1121 F				
7 1103 F				
8 1169 F				
=====	=====	=====	=====	=====
1120 F	74 F	95 F	78 F	72 F

GROUP 5 TSI 7c 12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21 77 F	24 72 F	29 72 F	32 73 F	35 69 F
22 70 F	25 73 F	30 68 F	33 73 F	36 69 F
23 78 F	26 78 F	31 69 F	34 71 F	37 71 F
	27 75 F			38 69 F
	28 71 F			39 68 F
=====	=====	=====	=====	=====
78 F	74 F	70 F	72 F	69 F

8 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 3M 7c/12
0 1074 F	9 73 F	11 103 F	13 77 F	18 73 F
1 1145 F	10 75 F	12 100 F	14 79 F	19 73 F
2 1149 F			15 96 F	20 72 F
3 1180 F			16 78 F	
4 1203 F			17 75 F	
5 1186 F				
6 1149 F				
7 1169 F				
8 1144 F				
=====	=====	=====	=====	=====
1155 F	74 F	102 F	81 F	73 F

GROUP 5 TSI 7c/12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21 82 F	24 72 F	29 72 F	32 75 F	35 69 F
22 80 F	25 73 F	30 69 F	33 75 F	36 70 F
23 81 F	26 81 F	31 69 F	34 73 F	37 72 F
	27 76 F			38 69 F
	28 72 F			39 68 F
=====	=====	=====	=====	=====
81 F	75 F	70 F	74 F	70 F

7 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 3M 7c/12
9 1192 F	9 74 F	11 111 F	13 78 F	16 75 F
1 1276 F	10 75 F	12 107 F	14 83 F	19 73 F
2 1259 F			15 107 F	20 72 F
3 1311 F			16 81 F	
4 1353 F			17 75 F	
5 1319 F				
6 1297 F				
7 1335 F				
8 1267 F				
=====	=====	=====	=====	=====
1282 F	75 F	109 F	84 F	75 F

GROUP 5 TSI 7c/12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21 85 F	24 72 F	29 72 F	32 77 F	35 69 F
22 84 F	25 73 F	30 69 F	33 78 F	36 71 F
23 84 F	26 64 F	31 69 F	34 75 F	37 73 F
	27 78 F			38 70 F
	28 72 F			39 69 F
=====	=====	=====	=====	=====
84 F	76 F	70 F	77 F	70 F

10 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 3M 7c/12
0 1233 F	9 74 F	11 118 F	13 80 F	18 74 F
1 1291 F	10 77 F	12 114 F	14 86 F	19 73 F
2 1316 F			15 109 F	20 72 F
3 1330 F			16 84 F	
4 1340 F			17 77 F	
5 1345 F				
6 1279 F				
7 1345 F				
8 1282 F				
=====	=====	=====	=====	=====
1307 F	76 F	116 F	87 F	73 F

GROUP 5 TSI 7c/12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21 88 F	24 73 F	29 73 F	32 80 F	35 69 F
22 86 F	25 74 F	30 69 F	33 81 F	36 72 F
23 88 F	26 87 F	31 69 F	34 78 F	37 75 F
	27 80 F			38 71 F
	28 72 F			39 69 F
=====	=====	=====	=====	=====
88 F	77 F	70 F	80 F	71 F

11 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 3M 7c/12
0 1310 F	9 76 F	11 126 F	13 82 F	18 74 F
1 1367 F	10 79 F	12 127 F	14 90 F	19 74 F
2 1396 F			15 116 F	20 73 F
3 1410 F			16 88 F	
4 1425 F			17 79 F	
5 1430 F				
6 1450 F				
7 1411 F				
8 1360 F				
=====	=====	=====	=====	=====
1387 F	78 F	124 F	91 F	74 F

GROUP 5 TSI 7c/12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21 92 F	24 73 F	29 73 F	32 84 F	35 70 F
22 92 F	25 75 F	30 69 F	33 85 F	36 74 F
23 97 F	26 91 F	31 70 F	34 82 F	37 77 F
	27 82 F			38 72 F
	28 73 F			39 70 F
=====	=====	=====	=====	=====
92 F	79 F	71 F	84 F	73 F

12 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 3M 7c/12
0 1302 F	9 77 F	11 133 F	13 84 F	18 75 F
1 1326 F	10 81 F	12 130 F	14 95 F	19 74 F
2 1372 F			15 123 F	20 73 F
3 1363 F			16 92 F	
4 1362 F			17 81 F	
5 1385 F				
6 1329 F				
7 1375 F				
8 1328 F				
=====	=====	=====	=====	=====
1349 F	79 F	132 F	95 F	74 F

GROUP 5 TSI 7c/12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21 96 F	24 73 F	29 74 F	32 87 F	35 71 F
22 97 F	25 76 F	30 70 F	33 90 F	36 76 F
23 97 F	26 94 F	31 71 F	34 86 F	37 79 F
	27 84 F			38 74 F
	28 73 F			39 72 F
=====	=====	=====	=====	=====
97 F	80 F	72 F	88 F	74 F

13 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 3M 7c/12
0 1367 F	9 79 F	11 138 F	13 87 F	18 75 F
1 1393 F	10 83 F	12 137 F	14 100 F	19 75 F
2 1435 F			15 130 F	20 75 F
3 1433 F			16 97 F	
4 1437 F			17 84 F	
5 1451 F				
6 1490 F				
7 1451 F				
8 1391 F				
=====	=====	=====	=====	=====
1416 F	81 F	138 F	100 F	75 F

GROUP 5 TSI 7c/12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21 101 F	24 73 F	29 76 F	32 92 F	35 72 F
22 101 F	25 77 F	30 72 F	33 95 F	36 78 F
23 102 F	26 98 F	31 72 F	34 90 F	37 81 F
	27 87 F			38 76 F
	28 74 F			39 73 F
=====	=====	=====	=====	=====
101 F	82 F	73 F	92 F	76 F

14 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 3M 7c/12
0 1380 F	9 82 F	11 145 F	13 90 F	18 76 F
1 1393 F	10 86 F	12 144 F	14 105 F	19 75 F
2 1444 F			15 137 F	20 74 F
3 1433 F			16 101 F	
4 1436 F			17 86 F	
5 1452 F				
6 1396 F				
7 1452 F				
8 1395 F				
=====	=====	=====	=====	=====
1420 F	84 F	145 F	104 F	75 F

GROUP 5 TSI 7c/12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21 105 F	24 74 F	29 77 F	32 96 F	35 73 F
22 107 F	25 78 F	30 73 F	33 100 F	36 80 F
23 107 F	26 101 F	31 73 F	34 94 F	37 84 F
	27 90 F			38 77 F
	28 75 F			39 75 F
=====	=====	=====	=====	=====
106 F	84 F	74 F	97 F	78 F

15 MINUTES

GROUP 0
FURNACE

0 1390 F
1 1395 F
2 1410 F
3 1418 F
4 1420 F
5 1440 F
6 1397 F
7 1431 F
8 1392 F
=====

GROUP 1
3M O.D.

9 85 F
10 89 F
=====

GROUP 2
TSI O.D.

11 149 F
12 152 F
=====

GROUP 3
3M/TSI OD

13 94 F
14 110 F
15 144 F
16 106 F
17 90 F
=====

GROUP 4
3M 7c/12

18 77 F
19 76 F
20 75 F
=====

GROUP 5
TSI 7c/12

21 110 F
22 112 F
23 113 F
=====

GROUP 6
3M/TSI 7c

24 75 F
25 80 F
26 105 F
27 92 F
28 76 F
=====

GROUP 7
3M B#8

29 79 F
30 74 F
31 75 F
=====

GROUP 8
TSI B#8

32 101 F
33 106 F
34 99 F
=====

GROUP 9
3M/TSI B#8

35 74 F
36 82 F
37 87 F
38 80 F
39 76 F
=====

112 F

86 F

76 F

102 F

80 F

16 MINUTES

GROUP 0
FURNACE

0 1331 F
1 1317 F
2 1373 F
3 1352 F
4 1340 F
5 1366 F
6 1331 F
7 1355 F
8 1323 F
=====

GROUP 1
3M O.D.

9 87 F
10 92 F
=====

GROUP 2
TSI O.D.

11 164 F
12 159 F
=====

GROUP 3
3M/TSI OD

13 97 F
14 115 F
15 151 F
16 111 F
17 93 F
=====

GROUP 4
3M 7c/12

18 78 F
19 77 F
20 76 F
=====

1343 F

90 F

162 F

113 F

77 F

GROUP 5
TSI 7c/12

21 115 F
22 118 F
23 118 F
=====

GROUP 6
3M/TSI 7c

24 76 F
25 82 F
26 108 F
27 95 F
28 77 F
=====

GROUP 7
3M B#8

29 81 F
30 77 F
31 76 F
=====

GROUP 8
TSI B#8

32 106 F
33 112 F
34 105 F
=====

GROUP 9
3M/TSI B#8

35 76 F
36 85 F
37 91 F
38 82 F
39 78 F
=====

117 F

88 F

78 F

108 F

82 F

17 MINUTES

GROUP 0
FURNACE

0 1397 F
1 1407 F
2 1446 F
3 1446 F
4 1448 F
5 1455 F
6 1406 F
7 1467 F
8 1460 F

1430 F

GROUP 1
3M O.D.

9 90 F
10 96 F

93 F

GROUP 2
TSI O.D.

11 170 F
12 167 F

169 F

GROUP 3
3M/TSI OD

13 97 F
14 119 F
15 157 F
16 115 F
17 97 F

117 F

GROUP 4
3M 7c/12

18 60 F
19 78 F
20 78 F

75 F

GROUP 5
TSI 7c/12

21 120 F
22 124 F
23 124 F

123 F

GROUP 6
3M/TSI 7c

24 77 F
25 84 F
26 112 F
27 99 F
28 79 F

90 F

GROUP 7
3M B#8

29 83 F
30 79 F
31 78 F

80 F

GROUP 8
TSI B#8

32 111 F
33 119 F
34 110 F

113 F

GROUP 9
3M/TSI B#8

35 78 F
36 88 F
37 94 F
38 85 F
39 81 F

85 F

18 MINUTES

GROUP 0
FURNACE

0 1360 F
1 1353 F
2 1398 F
3 1383 F
4 1364 F
5 1392 F
6 1358 F
7 1374 F
8 1348 F

1370 F

GROUP 1
3M O.D.

9 94 F
10 99 F

97 F

GROUP 2
TSI O.D.

11 178 F
12 175 F

177 F

GROUP 3
3M/TSI OD

13 93 F
14 121 F
15 164 F
16 121 F
17 101 F

120 F

GROUP 4
3M 7c/12

18 81 F
19 79 F
20 79 F

80 F

GROUP 5
TSI 7c/12

21 126 F
22 130 F
23 130 F

129 F

GROUP 6
3M/TSI 7c

24 78 F
25 86 F
26 116 F
27 102 F
28 80 F

92 F

GROUP 7
3M B#8

29 85 F
30 81 F
31 81 F

82 F

GROUP 8
TSI B#8

32 117 F
33 125 F
34 115 F

119 F

GROUP 9
3M/TSI B#8

35 80 F
36 91 F
37 98 F
38 88 F
39 84 F

88 F

10 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 3M 7c/12
0 1298 F	9 98 F	11 186 F	13 110 F	18 85 F
1 1279 F	10 103 F	12 184 F	14 131 F	19 81 F
2 1326 F			15 171 F	20 80 F
3 1315 F			16 135 F	
4 1294 F			17 105 F	
5 1305 F				
6 1294 F				
7 1319 F				
8 1289 F				
=====	=====	=====	=====	=====
1304 F	101 F	185 F	129 F	82 F

GROUP 5 TSI 7c/12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21 131 F	24 79 F	29 87 F	32 122 F	35 82 F
22 136 F	25 89 F	30 84 F	33 132 F	36 95 F
23 135 F	26 120 F	31 83 F	34 121 F	37 102 F
	27 105 F			38 92 F
	28 82 F			39 86 F
=====	=====	=====	=====	=====
134 F	95 F	85 F	125 F	91 F

20 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 3M 7c/12
0 1429 F	9 101 F	11 196 F	13 116 F	18 84 F
1 1461 F	10 106 F	12 193 F	14 137 F	19 83 F
2 1476 F			15 177 F	20 83 F
3 1507 F			16 131 F	
4 1520 F			17 109 F	
5 1510 F				
6 1455 F				
7 1532 F				
8 1464 F				
=====	=====	=====	=====	=====
1484 F	104 F	195 F	134 F	83 F

GROUP 5 TSI 7c/12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21 137 F	24 81 F	29 90 F	32 128 F	35 84 F
22 142 F	25 92 F	30 87 F	33 139 F	36 99 F
23 142 F	26 124 F	31 86 F	34 127 F	37 106 F
	27 109 F			38 95 F
	28 84 F			39 89 F
=====	=====	=====	=====	=====
140 F	98 F	88 F	131 F	95 F

21 MINUTES

GROUP 0
FURNACE

0 1531 F
1 1566 F
2 1579 F
3 1591 F
4 1590 F
5 1596 F
6 1547 F
7 1508 F
8 1547 F
=====

GROUP 1
3M O.D.

9 105 F
10 111 F
=====

GROUP 2
TSI O.D.

11 208 F
12 200 F
=====

GROUP 3
3M/TSI OD

13 124 F
14 144 F
15 124 F
16 136 F
17 113 F
=====

GROUP 4
3M 7c/12

18 86 F
19 85 F
20 85 F
=====

GROUP 5
TSI 7c/12

21 142 F
22 148 F
23 148 F
=====

GROUP 6
3M/TSI 7c

24 82 F
25 94 F
26 127 F
27 113 F
28 86 F
=====

GROUP 7
3M B#8

29 93 F
30 90 F
31 89 F
=====

GROUP 8
TSI B#8

32 134 F
33 145 F
34 133 F
=====

GROUP 9
3M/TSI B#8

35 87 F
36 104 F
37 111 F
38 99 F
39 93 F
=====

146 F

100 F

91 F

137 F

99 F

22 MINUTES

GROUP 0
FURNACE

0 1515 F
1 1525 F
2 1562 F
3 1561 F
4 1553 F
5 1569 F
6 1523 F
7 1568 F
8 1525 F
=====

GROUP 1
3M O.D.

9 109 F
10 115 F
=====

GROUP 2
TSI O.D.

11 222 F
12 206 F
=====

GROUP 3
3M/TSI OD

13 132 F
14 152 F
15 191 F
16 143 F
17 117 F
=====

GROUP 4
3M 7c/12

18 88 F
19 87 F
20 87 F
=====

1545 F

112 F

214 F

147 F

87 F

GROUP 5
TSI 7c/12

21 148 F
22 154 F
23 155 F
=====

GROUP 6
3M/TSI 7c

24 84 F
25 98 F
26 131 F
27 117 F
28 89 F
=====

GROUP 7
3M B#8

29 96 F
30 94 F
31 92 F
=====

GROUP 8
TSI B#8

32 140 F
33 152 F
34 139 F
=====

GROUP 9
3M/TSI B#8

35 90 F
36 109 F
37 116 F
38 103 F
39 96 F
=====

152 F

104 F

94 F

144 F

103 F

23 MINUTES

GROUP 0

FURNACE

0 1522 F
 1 1526 F
 2 1565 F
 3 1549 F
 4 1540 F
 5 1560 F
 6 1520 F
 7 1550 F
 8 1516 F

=====
 1539 F

GROUP 1

3M O.D.

9 118 F
 10 119 F

=====
 119 F

GROUP 2

TSI O.D.

11 243 F
 12 210 F

=====
 227 F

GROUP 3

3M/TSI OD

13 156 F
 14 157 F
 15 199 F
 16 151 F
 17 122 F

=====
 159 F

GROUP 4

3M 7c/12

18 91 F
 19 89 F
 20 90 F

=====
 90 F

GROUP 5

TSI 7c/12

21 153 F
 22 161 F
 23 161 F

=====
 158 F

GROUP 6

3M/TSI 7c

24 86 F
 25 101 F
 26 136 F
 27 121 F
 28 91 F

=====
 107 F

GROUP 7

3M B#8

29 99 F
 30 98 F
 31 95 F

=====
 97 F

GROUP 8

TSI B#8

32 147 F
 33 159 F
 34 146 F

=====
 151 F

GROUP 9

3M/TSI B#8

35 92 F
 36 113 F
 37 121 F
 38 107 F
 39 99 F

=====
 106 F

24 MINUTES

GROUP 0

FURNACE

0 1531 F
 1 1537 F
 2 1576 F
 3 1563 F
 4 1555 F
 5 1568 F
 6 1530 F
 7 1567 F
 8 1528 F

=====
 1551 F

GROUP 1

3M O.D.

9 119 F
 10 124 F

=====
 122 F

GROUP 2

TSI O.D.

11 272 F
 12 213 F

=====
 243 F

GROUP 3

3M/TSI OD

13 188 F
 14 183 F
 15 209 F
 16 158 F
 17 126 F

=====
 173 F

GROUP 4

3M 7c/12

18 93 F
 19 92 F
 20 92 F

=====
 92 F

GROUP 5

TSI 7c/12

21 158 F
 22 166 F
 23 168 F

=====
 164 F

GROUP 6

3M/TSI 7c

24 88 F
 25 105 F
 26 140 F
 27 125 F
 28 94 F

=====
 110 F

GROUP 7

3M B#8

29 102 F
 30 102 F
 31 99 F

=====
 101 F

GROUP 8

TSI B#8

32 153 F
 33 166 F
 34 152 F

=====
 157 F

GROUP 9

3M/TSI B#8

35 95 F
 36 118 F
 37 126 F
 38 111 F
 39 103 F

=====
 111 F

5 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 3M 7c/12
0 1525 F	9 129 F	11 212 F	13 198 F	18 95 F
1 1521 F	10 128 F	12 214 F	14 200 F	19 94 F
2 1528 F			15 218 F	20 96 F
3 1550 F			16 165 F	
4 1543 F			17 131 F	
5 1521 F				
6 1523 F				
7 1554 F				
8 1522 F				
=====	=====	=====	=====	=====
1541 F	129 F	263 F	182 F	95 F

GROUP 5 TSI 7c/12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21 163 F	24 90 F	29 106 F	32 161 F	35 99 F
22 172 F	25 109 F	30 107 F	33 173 F	36 123 F
23 173 F	26 145 F	31 102 F	34 158 F	37 131 F
	27 129 F			38 115 F
	28 97 F			39 107 F
=====	=====	=====	=====	=====
169 F	114 F	105 F	164 F	115 F

25 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 3M 7c/12
0 1553 F	9 130 F	11 335 F	13 200 F	18 98 F
1 1556 F	10 133 F	12 215 F	14 210 F	19 97 F
2 1596 F			15 225 F	20 99 F
3 1580 F			16 172 F	
4 1576 F			17 136 F	
5 1583 F				
6 1552 F				
7 1581 F				
8 1548 F				
=====	=====	=====	=====	=====
1570 F	132 F	275 F	189 F	98 F

GROUP 5 TSI 7c/12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21 168 F	24 92 F	29 109 F	32 168 F	35 102 F
22 176 F	25 112 F	30 113 F	33 179 F	36 128 F
23 177 F	26 150 F	31 107 F	34 163 F	37 137 F
	27 134 F			38 120 F
	28 100 F			39 111 F
=====	=====	=====	=====	=====
174 F	118 F	110 F	170 F	120 F

7 MINUTES

GROUP 0
FURNACE

0 1546 F
1 1547 F
2 1557 F
3 1572 F
4 1589 F
5 1580 F
6 1547 F
7 1550 F
8 1544 F
=====

1564 F

GROUP 1
3M O.D.

9 139 F
10 138 F

=====

139 F

GROUP 2
TSI O.D.

11 265 F
12 218 F

=====

291 F

GROUP 3
3M/TSI OD

13 208 F
14 220 F
15 227 F
16 179 F
17 140 F

=====

195 F

GROUP 4
3M 7c/12

18 101 F
19 101 F
20 102 F

=====

101 F

GROUP 5
TSI 7c/12

21 172 F
22 179 F
23 181 F

=====

177 F

GROUP 6
3M/TSI 7c

24 95 F
25 117 F
26 155 F
27 139 F
28 103 F

=====

122 F

GROUP 7
3M B#8

29 113 F
30 120 F
31 111 F

=====

115 F

GROUP 8
TSI B#8

32 174 F
33 184 F
34 168 F

=====

175 F

GROUP 9
3M/TSI B#8

35 106 F
36 134 F
37 142 F
38 125 F
39 115 F

=====

124 F

28 MINUTES

GROUP 0
FURNACE

0 1561 F
1 1560 F
2 1595 F
3 1581 F
4 1572 F
5 1589 F
6 1558 F
7 1581 F
8 1551 F

=====

1572 F

GROUP 1
3M O.D.

9 148 F
10 143 F

=====

146 F

GROUP 2
TSI O.D.

11 398 F
12 218 F

=====

308 F

GROUP 3
3M/TSI OD

13 225 F
14 235 F
15 233 F
16 186 F
17 146 F

=====

205 F

GROUP 4
3M 7c/12

18 104 F
19 104 F
20 106 F

=====

105 F

GROUP 5
TSI 7c/12

21 175 F
22 182 F
23 185 F

=====

181 F

GROUP 6
3M/TSI 7c

24 98 F
25 121 F
26 159 F
27 143 F
28 107 F

=====

126 F

GROUP 7
3M B#8

29 117 F
30 127 F
31 116 F

=====

120 F

GROUP 8
TSI B#8

32 180 F
33 188 F
34 174 F

=====

181 F

GROUP 9
3M/TSI B#8

35 110 F
36 140 F
37 148 F
38 130 F
39 120 F

=====

130 F

5 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 3M 7c/12
0 1506 F	9 157 F	11 410 F	13 221 F	18 102 F
1 1557 F	10 147 F	12 221 F	14 235 F	19 106 F
2 1591 F			15 235 F	20 110 F
3 1582 F			16 192 F	
4 1572 F			17 152 F	
5 1535 F				
6 1555 F				
7 1581 F				
8 1051 F				
=====	=====	=====	=====	=====
1570 F	152 F	316 F	207 F	109 F

GROUP 5 TSI 7c/12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21 175 F	24 101 F	29 121 F	32 185 F	35 114 F
22 186 F	25 126 F	30 135 F	33 192 F	36 146 F
23 188 F	26 162 F	31 120 F	34 178 F	37 153 F
	27 148 F			38 136 F
	28 111 F			39 124 F
=====	=====	=====	=====	=====
184 F	130 F	125 F	185 F	135 F

30 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 3M 7c/12
0 1572 F	9 166 F	11 406 F	13 222 F	18 111 F
1 1574 F	10 152 F	12 225 F	14 236 F	19 112 F
2 1609 F			15 232 F	20 114 F
3 1599 F			16 196 F	
4 1589 F			17 159 F	
5 1602 F				
6 1570 F				
7 1596 F				
8 1569 F				
=====	=====	=====	=====	=====
1587 F	159 F	316 F	209 F	112 F

GROUP 5 TSI 7c/12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21 182 F	24 104 F	29 126 F	32 189 F	35 119 F
22 189 F	25 131 F	30 143 F	33 195 F	36 152 F
23 191 F	26 165 F	31 126 F	34 182 F	37 158 F
	27 151 F			38 141 F
	28 115 F			39 129 F
=====	=====	=====	=====	=====
187 F	133 F	132 F	189 F	140 F

31 MINUTES

GROUP 0
FURNACE

0 1580 F
1 1584 F
2 1615 F
3 1609 F
4 1600 F
5 1610 F
6 1522 F
7 1609 F
8 1579 F
=====

GROUP 1
3M O.D.

9 173 F
10 157 F
=====

GROUP 2
TSI O.D.

11 389 F
12 230 F
=====

GROUP 3
3M/TSI OD

13 216 F
14 233 F
15 232 F
16 200 F
17 167 F
=====

GROUP 4
3M 7c/12

18 114 F
19 116 F
20 112 F
=====

GROUP 5
3M 7c/12

21 186 F
22 193 F
23 194 F
=====

GROUP 6
3M/TSI 7c

24 107 F
25 136 F
26 168 F
27 153 F
28 119 F
=====

GROUP 7
3M B#8

29 130 F
30 150 F
31 131 F
=====

GROUP 8
TSI B#8

32 192 F
33 198 F
34 186 F
=====

GROUP 9
3M/TSI B#8

35 124 F
36 156 F
37 167 F
38 147 F
39 134 F
=====

191 F

137 F

137 F

192 F

145 F

32 MINUTES

GROUP 0
FURNACE

0 1571 F
1 1568 F
2 1600 F
3 1589 F
4 1577 F
5 1593 F
6 1568 F
7 1586 F
8 1565 F
=====

GROUP 1
3M O.D.

9 183 F
10 161 F
=====

GROUP 2
TSI O.D.

11 384 F
12 235 F
=====

GROUP 3
3M/TSI OD

13 217 F
14 232 F
15 235 F
16 204 F
17 178 F
=====

GROUP 4
3M 7c/12

18 119 F
19 120 F
20 123 F
=====

1580 F

172 F

310 F

213 F

121 F

GROUP 5
3M 7c/12

21 189 F
22 196 F
23 197 F
=====

GROUP 6
3M/TSI 7c

24 110 F
25 142 F
26 171 F
27 158 F
28 123 F
=====

GROUP 7
3M B#8

29 136 F
30 157 F
31 136 F
=====

GROUP 8
TSI B#8

32 195 F
33 201 F
34 189 F
=====

GROUP 9
3M/TSI B#8

35 129 F
36 161 F
37 168 F
38 153 F
39 140 F
=====

194 F

141 F

143 F

195 F

150 F

33 MINUTES

GROUP 0
FURNACE

0 1594 F
1 1597 F
2 1626 F
3 1619 F
4 1608 F
5 1622 F
6 1594 F
7 1615 F
8 1588 F
=====

GROUP 1
3M O.D.

9 188 F
10 168 F

=====

GROUP 2
TSI O.D.

11 378 F
12 238 F

=====

GROUP 3
3M/TSI OD

13 217 F
14 229 F
15 237 F
16 206 F
17 187 F

=====

GROUP 4
3M 7c/12

18 123 F
19 125 F
20 128 F

=====

GROUP 5
TSI 7c/12

21 192 F
22 199 F
23 200 F

=====

GROUP 6
3M/TSI 7c

24 114 F
25 148 F
26 175 F
27 162 F
28 128 F

=====

GROUP 7
3M B#8

29 142 F
30 163 F
31 142 F

=====

GROUP 8
TSI B#8

32 198 F
33 204 F
34 193 F

=====

GROUP 9
3M/TSI B#8

35 134 F
36 165 F
37 173 F
38 159 F
39 146 F

=====

197 F

145 F

149 F

198 F

155 F

34 MINUTES

GROUP 0
FURNACE

0 1584 F
1 1584 F
2 1613 F
3 1607 F
4 1594 F
5 1608 F
6 1583 F
7 1605 F
8 1580 F
=====

GROUP 1
3M O.D.

9 193 F
10 173 F

=====

GROUP 2
TSI O.D.

11 373 F
12 242 F

=====

GROUP 3
3M/TSI OD

13 218 F
14 227 F
15 240 F
16 208 F
17 196 F

=====

GROUP 4
3M 7c/12

18 127 F
19 130 F
20 134 F

=====

1595 F

183 F

308 F

218 F

130 F

GROUP 5
TSI 7c/12

21 196 F
22 203 F
23 203 F

=====

GROUP 6
3M/TSI 7c

24 118 F
25 154 F
26 178 F
27 166 F
28 133 F

=====

GROUP 7
3M B#8

29 149 F
30 168 F
31 148 F

=====

GROUP 8
TSI B#8

32 201 F
33 206 F
34 196 F

=====

GROUP 9
3M/TSI B#8

35 140 F
36 169 F
37 177 F
38 165 F
39 152 F

=====

201 F

150 F

155 F

201 F

161 F

35 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 3M 7c/12
0 1600 F	9 199 F	11 375 F	13 211 F	18 132 F
1 1602 F	10 180 F	12 246 F	14 221 F	19 136 F
2 1630 F			15 241 F	20 139 F
3 1622 F			16 209 F	
4 1611 F			17 199 F	
5 1604 F				
6 1590 F				
7 1614 F				
8 1593 F				
=====	=====	=====	=====	=====
1611 F	190 F	311 F	216 F	136 F

GROUP 5 TSI 7c/12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21 199 F	24 122 F	29 155 F	32 203 F	35 146 F
22 206 F	25 159 F	30 174 F	33 209 F	36 173 F
23 206 F	26 182 F	31 155 F	34 199 F	37 182 F
	27 170 F			38 170 F
	28 138 F			39 158 F
=====	=====	=====	=====	=====
204 F	154 F	161 F	204 F	156 F

35 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 3M 7c/12
0 1614 F	9 203 F	11 378 F	13 221 F	18 137 F
1 1619 F	10 187 F	12 251 F	14 226 F	19 141 F
2 1647 F			15 251 F	20 144 F
3 1644 F			16 211 F	
4 1633 F			17 208 F	
5 1644 F				
6 1618 F				
7 1642 F				
8 1614 F				
=====	=====	=====	=====	=====
1631 F	195 F	315 F	223 F	141 F

GROUP 5 TSI 7c/12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21 202 F	24 127 F	29 162 F	32 206 F	35 152 F
22 209 F	25 163 F	30 178 F	33 212 F	36 178 F
23 209 F	26 186 F	31 161 F	34 202 F	37 187 F
	27 174 F			38 175 F
	28 143 F			39 165 F
=====	=====	=====	=====	=====
207 F	159 F	167 F	207 F	171 F

37 MINUTES

GROUP 0
FURNACE

0 1607 F
1 1600 F
2 1628 F
3 1618 F
4 1606 F
5 1611 F
6 1594 F
7 1612 F
8 1595 F
=====
1609 F

GROUP 1
3M O.D.

9 206 F
10 193 F
=====
200 F

GROUP 2
TSI O.D.

11 265 F
12 257 F
=====
311 F

GROUP 3
3M/TSI OD

13 234 F
14 229 F
15 265 F
16 218 F
17 212 F
=====
232 F

GROUP 4
3M 7c/12

18 143 F
19 146 F
20 149 F
=====
146 F

GROUP 5
TSI 7c/12

21 205 F
22 212 F
23 212 F
=====
210 F

GROUP 6
3M/TSI 7c

24 132 F
25 167 F
26 189 F
27 178 F
28 148 F
=====
163 F

GROUP 7
3M B#8

29 169 F
30 183 F
31 168 F
=====
173 F

GROUP 8
TSI B#8

32 208 F
33 215 F
34 205 F
=====
209 F

GROUP 9
3M/TSI B#8

35 159 F
36 181 F
37 192 F
38 180 F
39 171 F
=====
177 F

38 MINUTES

GROUP 0
FURNACE

0 1626 F
1 1627 F
2 1654 F
3 1648 F
4 1637 F
5 1649 F
6 1624 F
7 1640 F
8 1619 F
=====
1636 F

GROUP 1
3M O.D.

9 206 F
10 199 F
=====
203 F

GROUP 2
TSI O.D.

11 359 F
12 262 F
=====
311 F

GROUP 3
3M/TSI OD

13 258 F
14 232 F
15 268 F
16 226 F
17 215 F
=====
240 F

GROUP 4
3M 7c/12

18 148 F
19 151 F
20 154 F
=====
151 F

GROUP 5
TSI 7c/12

21 208 F
22 216 F
23 215 F
=====
213 F

GROUP 6
3M/TSI 7c

24 138 F
25 171 F
26 194 F
27 182 F
28 153 F
=====
168 F

GROUP 7
3M B#8

29 176 F
30 187 F
31 173 F
=====
179 F

GROUP 8
TSI B#8

32 211 F
33 217 F
34 208 F
=====
212 F

GROUP 9
3M/TSI B#8

35 165 F
36 185 F
37 195 F
38 185 F
39 177 F
=====
181 F

30 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 3M 7c/12
0 1615 F	9 207 F	11 356 F	13 247 F	18 154 F
1 1614 F	10 205 F	12 269 F	14 226 F	19 156 F
2 1642 F			15 269 F	20 160 F
3 1635 F			16 228 F	
4 1621 F			17 217 F	
5 1636 F				
6 1613 F				
7 1629 F				
8 1609 F				
=====	=====	=====	=====	=====
1624 F	206 F	313 F	237 F	157 F

GROUP 5 TSI 7c/12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21 211 F	24 144 F	29 182 F	32 214 F	35 171 F
22 219 F	25 175 F	30 190 F	33 220 F	36 189 F
23 219 F	26 198 F	31 179 F	34 212 F	37 199 F
	27 186 F			38 189 F
	28 158 F			39 182 F
=====	=====	=====	=====	=====
216 F	172 F	184 F	215 F	186 F

40 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 3M 7c/12
0 1633 F	9 209 F	11 357 F	13 229 F	18 159 F
1 1635 F	10 212 F	12 275 F	14 221 F	19 161 F
2 1660 F			15 269 F	20 164 F
3 1654 F			16 222 F	
4 1641 F			17 217 F	
5 1655 F				
6 1631 F				
7 1646 F				
8 1625 F				
=====	=====	=====	=====	=====
1642 F	211 F	316 F	232 F	161 F

GROUP 5 TSI 7c/12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21 215 F	24 149 F	29 188 F	32 217 F	35 176 F
22 223 F	25 178 F	30 193 F	33 224 F	36 193 F
23 223 F	26 202 F	31 184 F	34 215 F	37 203 F
	27 190 F			38 192 F
	28 162 F			39 186 F
=====	=====	=====	=====	=====
220 F	176 F	188 F	219 F	190 F

41 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 3M 7c/12
0 1646 F	9 212 F	11 352 F	13 219 F	18 165 F
1 1650 F	10 214 F	12 261 F	14 220 F	19 165 F
2 1674 F			15 271 F	20 169 F
3 1674 F			16 223 F	
4 1652 F			17 218 F	
5 1674 F				
6 1646 F				
7 1669 F				
8 1643 F				
=====	=====	=====	=====	=====
1630 F	213 F	318 F	230 F	166 F

GROUP 5 TSI 7c/12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21 218 F	24 154 F	29 193 F	32 221 F	35 181 F
22 228 F	25 182 F	30 196 F	33 228 F	36 196 F
23 227 F	26 208 F	31 188 F	34 218 F	37 208 F
	27 194 F			38 195 F
	28 166 F			39 190 F
=====	=====	=====	=====	=====
224 F	181 F	192 F	222 F	194 F

42 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 3M 7c/12
0 1634 F	9 212 F	11 360 F	13 211 F	18 170 F
1 1633 F	10 215 F	12 291 F	14 218 F	19 168 F
2 1660 F			15 275 F	20 173 F
3 1654 F			16 223 F	
4 1642 F			17 217 F	
5 1656 F				
6 1632 F				
7 1650 F				
8 1629 F				
=====	=====	=====	=====	=====
1643 F	214 F	326 F	229 F	170 F

GROUP 5 TSI 7c/12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21 223 F	24 159 F	29 197 F	32 225 F	35 185 F
22 232 F	25 185 F	30 198 F	33 232 F	36 199 F
23 231 F	26 213 F	31 192 F	34 222 F	37 211 F
	27 198 F			38 198 F
	28 170 F			39 192 F
=====	=====	=====	=====	=====
229 F	185 F	196 F	226 F	197 F

MINUTES					
GROUP 0	GROUP 1	GROUP 2	GROUP 3	GROUP 4	
FURNACE	3M O.D.	TSI O.D.	3M/TSI OD	3M 7c/12	
0 1657 F	9 213 F	11 352 F	13 208 F	18 174 F	
1 1639 F	10 215 F	12 327 F	14 221 F	19 172 F	
2 1680 F			15 280 F	20 177 F	
3 1676 F			16 223 F		
4 1645 F			17 217 F		
5 1650 F					
6 1654 F					
7 1670 F					
8 1649 F					
=====	=====	=====	=====	=====	
1666 F	214 F	325 F	230 F	174 F	

GROUP 5	GROUP 6	GROUP 7	GROUP 8	GROUP 9
TSI 7c/12	3M/TSI 7c	3M B#8	TSI B#8	3M/TSI B#8
21 227 F	24 163 F	29 200 F	32 229 F	35 189 F
22 237 F	25 189 F	30 199 F	33 237 F	36 203 F
23 236 F	26 219 F	31 195 F	34 226 F	37 215 F
	27 202 F			38 201 F
	28 174 F			39 195 F
=====	=====	=====	=====	=====
233 F	189 F	198 F	231 F	201 F

44 MINUTES					
GROUP 0	GROUP 1	GROUP 2	GROUP 3	GROUP 4	
FURNACE	3M O.D.	TSI O.D.	3M/TSI OD	3M 7c/12	
0 1639 F	9 216 F	11 352 F	13 207 F	18 177 F	
1 1637 F	10 215 F	12 304 F	14 223 F	19 175 F	
2 1671 F			15 283 F	20 180 F	
3 1666 F			16 224 F		
4 1651 F			17 216 F		
5 1667 F					
6 1643 F					
7 1660 F					
8 1638 F					
=====	=====	=====	=====	=====	
1652 F	216 F	328 F	231 F	177 F	

GROUP 5	GROUP 6	GROUP 7	GROUP 8	GROUP 9
TSI 7c/12	3M/TSI 7c	3M B#8	TSI B#8	3M/TSI B#8
21 231 F	24 167 F	29 202 F	32 234 F	35 193 F
22 242 F	25 192 F	30 201 F	33 243 F	36 206 F
23 241 F	26 224 F	31 198 F	34 231 F	37 219 F
	27 205 F			38 204 F
	28 177 F			39 197 F
=====	=====	=====	=====	=====
238 F	193 F	200 F	236 F	204 F

45 MINUTES

GROUP 0
FURNACE

0 1664 F
1 1665 F
2 1688 F
3 1683 F
4 1671 F
5 1684 F
6 1661 F
7 1675 F
8 1655 F

=====
1672 F

GROUP 1
3M O.D.

9 219 F
10 218 F

=====
219 F

GROUP 2
TSI O.D.

11 353 F
12 310 F

=====
332 F

GROUP 3
3M/TSI OD

13 205 F
14 223 F
15 267 F
16 225 F
17 216 F

=====
231 F

GROUP 4
3M 7c/12

18 181 F
19 178 F
20 184 F

=====
181 F

GROUP 5
TSI 7c/12

21 236 F
22 248 F
23 246 F

=====
243 F

GROUP 6
3M/TSI 7c

24 171 F
25 196 F
26 230 F
27 209 F
28 180 F

=====
197 F

GROUP 7
3M B#8

29 204 F
30 203 F
31 201 F

=====
203 F

GROUP 8
TSI B#8

32 239 F
33 249 F
34 235 F

=====
241 F

GROUP 9
3M/TSI B#8

35 195 F
36 209 F
37 223 F
38 207 F
39 199 F

=====
207 F

46 MINUTES

GROUP 0
FURNACE

0 1674 F
1 1676 F
2 1697 F
3 1700 F
4 1686 F
5 1697 F
6 1673 F
7 1693 F
8 1667 F

=====
1685 F

GROUP 1
3M O.D.

9 223 F
10 224 F

=====
224 F

GROUP 2
TSI O.D.

11 353 F
12 318 F

=====
336 F

GROUP 3
3M/TSI OD

13 203 F
14 222 F
15 294 F
16 227 F
17 215 F

=====
232 F

GROUP 4
3M 7c/12

18 184 F
19 181 F
20 188 F

=====
184 F

GROUP 5
TSI 7c/12

21 240 F
22 254 F
23 252 F

=====
249 F

GROUP 6
3M/TSI 7c

24 175 F
25 200 F
26 235 F
27 213 F
28 183 F

=====
201 F

GROUP 7
3M B#8

29 205 F
30 204 F
31 204 F

=====
204 F

GROUP 8
TSI B#8

32 244 F
33 256 F
34 240 F

=====
247 F

GROUP 9
3M/TSI B#8

35 198 F
36 213 F
37 227 F
38 210 F
39 201 F

=====
210 F

47 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 3M 7c/12
0 1646 F	9 229 F	11 353 F	13 204 F	18 187 F
1 1639 F	10 233 F	12 327 F	14 222 F	19 184 F
2 1666 F			15 301 F	20 182 F
3 1656 F			16 217 F	
4 1636 F			17 216 F	
5 1658 F				
6 1636 F				
7 1647 F				
8 1635 F				
=====	=====	=====	=====	=====
1647 F	231 F	340 F	234 F	188 F

GROUP 5 TSI 7c/12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21 245 F	24 178 F	29 206 F	32 250 F	35 201 F
22 260 F	25 204 F	30 207 F	33 263 F	36 216 F
23 258 F	26 241 F	31 208 F	34 246 F	37 232 F
	27 217 F			38 214 F
	28 187 F			39 204 F
=====	=====	=====	=====	=====
254 F	205 F	207 F	253 F	213 F

48 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 3M 7c/12
0 1663 F	9 233 F	11 352 F	13 205 F	18 190 F
1 1665 F	10 243 F	12 337 F	14 223 F	19 187 F
2 1690 F			15 309 F	20 195 F
3 1691 F			16 229 F	
4 1678 F			17 217 F	
5 1689 F				
6 1665 F				
7 1685 F				
8 1661 F				
=====	=====	=====	=====	=====
1676 F	238 F	345 F	237 F	191 F

GROUP 5 TSI 7c/12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21 250 F	24 181 F	29 208 F	32 256 F	35 204 F
22 266 F	25 208 F	30 209 F	33 270 F	36 220 F
23 265 F	26 246 F	31 211 F	34 252 F	37 237 F
	27 221 F			38 217 F
	28 190 F			39 206 F
=====	=====	=====	=====	=====
260 F	209 F	209 F	259 F	217 F

49 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 3M 7c-12
0 1674 F	9 237 F	11 352 F	13 208 F	18 191 F
1 1675 F	10 250 F	12 343 F	14 228 F	19 196 F
2 1657 F			15 318 F	20 199 F
3 1675 F			16 235 F	
4 1661 F			17 226 F	
5 1695 F				
6 1677 F				
7 1688 F				
8 1667 F				
=====	=====	=====	=====	=====
1683 F	244 F	348 F	243 F	194 F

GROUP 5 TSI 7c/12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21 256 F	24 185 F	29 210 F	32 262 F	35 206 F
22 273 F	25 212 F	30 212 F	33 277 F	36 234 F
23 273 F	26 251 F	31 215 F	34 258 F	37 242 F
	27 225 F			38 221 F
	28 193 F			39 209 F
=====	=====	=====	=====	=====
267 F	213 F	212 F	266 F	220 F

50 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 3M 7c/12
0 1672 F	9 241 F	11 355 F	13 215 F	18 196 F
1 1670 F	10 257 F	12 351 F	14 237 F	19 193 F
2 1696 F			15 327 F	20 204 F
3 1696 F			16 237 F	
4 1681 F			17 235 F	
5 1694 F				
6 1672 F				
7 1690 F				
8 1668 F				
=====	=====	=====	=====	=====
1682 F	249 F	353 F	250 F	198 F

GROUP 5 TSI 7c/12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21 262 F	24 188 F	29 213 F	32 268 F	35 209 F
22 281 F	25 216 F	30 215 F	33 284 F	36 228 F
23 280 F	26 257 F	31 219 F	34 265 F	37 247 F
	27 229 F			38 225 F
	28 197 F			39 212 F
=====	=====	=====	=====	=====
274 F	217 F	216 F	272 F	224 F

MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 3M 7c/12
0 1687 F	9 247 F	11 357 F	13 218 F	18 199 F
1 1687 F	10 263 F	12 356 F	14 245 F	19 197 F
2 1711 F			15 335 F	20 208 F
3 1705 F			16 241 F	
4 1693 F			17 242 F	
5 1706 F				
6 1684 F				
7 1697 F				
8 1679 F				
=====	=====	=====	=====	=====
1694 F	255 F	357 F	256 F	201 F

GROUP 5 TSI 7c/12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21 269 F	24 191 F	29 216 F	32 275 F	35 213 F
22 288 F	25 220 F	30 218 F	33 292 F	36 233 F
23 288 F	26 263 F	31 223 F	34 271 F	37 252 F
	27 233 F			38 229 F
	28 200 F			39 215 F
=====	=====	=====	=====	=====
282 F	221 F	219 F	279 F	228 F

52 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 3M 7c/12
0 1694 F	9 252 F	11 361 F	13 229 F	18 203 F
1 1696 F	10 269 F	12 362 F	14 254 F	19 200 F
2 1719 F			15 344 F	20 212 F
3 1721 F			16 247 F	
4 1708 F			17 249 F	
5 1719 F				
6 1696 F				
7 1714 F				
8 1692 F				
=====	=====	=====	=====	=====
1707 F	261 F	362 F	265 F	205 F

GROUP 5 TSI 7c/12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21 275 F	24 194 F	29 220 F	32 283 F	35 216 F
22 295 F	25 224 F	30 222 F	33 300 F	36 238 F
23 295 F	26 270 F	31 228 F	34 278 F	37 258 F
	27 237 F			38 233 F
	28 204 F			39 219 F
=====	=====	=====	=====	=====
288 F	226 F	223 F	287 F	233 F

52 MINUTES

GROUP 0
FURNACE

0 1688 F
1 1686 F
2 1708 F
3 1704 F
4 1690 F
5 1703 F
6 1683 F
7 1694 F
8 1678 F

=====
1692 F

GROUP 1
3M O.D.

9 256 F
10 276 F

=====
266 F

GROUP 2
TSI O.D.

11 365 F
12 370 F

=====
368 F

GROUP 3
3M/TSI OD

13 246 F
14 262 F
15 352 F
16 253 F
17 256 F

=====
274 F

GROUP 4
3M 7c/12

18 206 F
19 204 F
20 216 F

=====
209 F

GROUP 5
TSI 7c/12

21 282 F
22 303 F
23 303 F

=====
296 F

GROUP 6
3M/TSI 7c

24 197 F
25 229 F
26 276 F
27 242 F
28 208 F

=====
230 F

GROUP 7
3M B#8

29 225 F
30 227 F
31 232 F

=====
228 F

GROUP 8
TSI B#8

32 290 F
33 308 F
34 285 F

=====
294 F

GROUP 9
3M/TSI B#8

35 220 F
36 242 F
37 264 F
38 239 F
39 223 F

=====
238 F

54 MINUTES

GROUP 0
FURNACE

0 1706 F
1 1707 F
2 1729 F
3 1728 F
4 1715 F
5 1727 F
6 1703 F
7 1718 F
8 1699 F

=====
1715 F

GROUP 1
3M O.D.

9 264 F
10 283 F

=====
274 F

GROUP 2
TSI O.D.

11 366 F
12 379 F

=====
373 F

GROUP 3
3M/TSI OD

13 257 F
14 270 F
15 360 F
16 259 F
17 262 F

=====
282 F

GROUP 4
3M 7c/12

18 210 F
19 207 F
20 220 F

=====
212 F

GROUP 5
TSI 7c/12

21 289 F
22 310 F
23 310 F

=====
303 F

GROUP 6
3M/TSI 7c

24 201 F
25 233 F
26 282 F
27 247 F
28 212 F

=====
235 F

GROUP 7
3M B#8

29 230 F
30 231 F
31 237 F

=====
233 F

GROUP 8
TSI B#8

32 298 F
33 315 F
34 292 F

=====
302 F

GROUP 9
3M/TSI B#8

35 224 F
36 248 F
37 270 F
38 244 F
39 227 F

=====
243 F

55 MINUTES

GROUP 0
FURNACE

0 1696 F
 1 1693 F
 2 1717 F
 3 1715 F
 4 1701 F
 5 1710 F
 6 1693 F
 7 1708 F
 8 1692 F
 =====
 1703 F

GROUP 1
3M O.D.

9 269 F
 10 289 F
 =====
 279 F

GROUP 2
TSI O.D.

11 365 F
 12 386 F
 =====
 376 F

GROUP 3
3M/TSI OD

13 260 F
 14 278 F
 15 372 F
 16 266 F
 17 269 F
 =====
 289 F

GROUP 4
3M 7c/12

18 214 F
 19 211 F
 20 225 F
 =====
 217 F

GROUP 5
TSI 7c/12

21 296 F
 22 318 F
 23 317 F
 =====
 310 F

GROUP 6
3M/TSI 7c

24 204 F
 25 237 F
 26 289 F
 27 252 F
 28 216 F
 =====
 240 F

GROUP 7
3M B#8

29 236 F
 30 236 F
 31 241 F
 =====
 238 F

GROUP 8
TSI B#8

32 305 F
 33 324 F
 34 299 F
 =====
 309 F

GROUP 9
3M/TSI B#8

35 228 F
 36 253 F
 37 275 F
 38 249 F
 39 231 F
 =====
 247 F

56 MINUTES

GROUP 0
FURNACE

0 1716 F
 1 1719 F
 2 1735 F
 3 1734 F
 4 1722 F
 5 1733 F
 6 1710 F
 7 1725 F
 8 1707 F
 =====
 1722 F

GROUP 1
3M O.D.

9 275 F
 10 296 F
 =====
 286 F

GROUP 2
TSI O.D.

11 362 F
 12 394 F
 =====
 378 F

GROUP 3
3M/TSI OD

13 265 F
 14 285 F
 15 379 F
 16 273 F
 17 276 F
 =====
 296 F

GROUP 4
3M 7c/12

18 217 F
 19 216 F
 20 229 F
 =====
 221 F

GROUP 5
TSI 7c/12

21 303 F
 22 326 F
 23 325 F
 =====
 318 F

GROUP 6
3M/TSI 7c

24 207 F
 25 242 F
 26 295 F
 27 258 F
 28 220 F
 =====
 244 F

GROUP 7
3M B#8

29 241 F
 30 241 F
 31 246 F
 =====
 243 F

GROUP 8
TSI B#8

32 313 F
 33 331 F
 34 307 F
 =====
 317 F

GROUP 9
3M/TSI B#8

35 232 F
 36 258 F
 37 281 F
 38 255 F
 39 236 F
 =====
 252 F

57 MINUTES

GROUP 0
FURNACE

0 1709 F
1 1705 F
2 1720 F
3 1725 F
4 1711 F
5 1724 F
6 1703 F
7 1718 F
8 1700 F

=====
1713 F

GROUP 1
3M O.D.

9 284 F
10 302 F

=====
293 F

GROUP 2
TSI O.D.

11 356 F
12 400 F

=====
378 F

GROUP 3
3M/TSI OD

13 272 F
14 292 F
15 386 F
16 331 F
17 283 F

=====
303 F

GROUP 4
3M 7c/12

18 221 F
19 219 F
20 233 F

=====
224 F

GROUP 5
TSI 7c/12

21 310 F
22 333 F
23 332 F

=====
325 F

GROUP 6
3M/TSI 7c

24 210 F
25 247 F
26 302 F
27 265 F
28 224 F

=====
250 F

GROUP 7
3M B#8

29 247 F
30 246 F
31 251 F

=====
248 F

GROUP 8
TSI B#8

32 320 F
33 339 F
34 314 F

=====
324 F

GROUP 9
3M/TSI B#8

35 237 F
36 264 F
37 288 F
38 360 F
39 240 F

=====
258 F

58 MINUTES

GROUP 0
FURNACE

0 1716 F
1 1713 F
2 1739 F
3 1734 F
4 1718 F
5 1701 F
6 1712 F
7 1724 F
8 1707 F

=====
1722 F

GROUP 1
3M O.D.

9 288 F
10 309 F

=====
299 F

GROUP 2
TSI O.D.

11 352 F
12 407 F

=====
380 F

GROUP 3
3M/TSI OD

13 279 F
14 301 F
15 392 F
16 290 F
17 289 F

=====
310 F

GROUP 4
3M 7c/12

18 225 F
19 224 F
20 239 F

=====
229 F

GROUP 5
TSI 7c/12

21 316 F
22 341 F
23 338 F

=====
332 F

GROUP 6
3M/TSI 7c

24 214 F
25 253 F
26 309 F
27 272 F
28 228 F

=====
255 F

GROUP 7
3M B#8

29 254 F
30 252 F
31 256 F

=====
254 F

GROUP 8
TSI B#8

32 328 F
33 346 F
34 321 F

=====
332 F

GROUP 9
3M/TSI B#8

35 241 F
36 271 F
37 295 F
38 267 F
39 245 F

=====
264 F

30 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 3M 7c/12
0 1719 F	9 299 F	11 346 F	13 282 F	10 229 F
1 1716 F	10 315 F	12 414 F	14 308 F	19 228 F
2 1734 F			15 399 F	20 245 F
3 1737 F			16 298 F	
4 1720 F			17 296 F	
5 1733 F				
6 1711 F				
7 1730 F				
8 1710 F				
=====	=====	=====	=====	=====
1723 F	307 F	381 F	317 F	234 F

GROUP 5 TSI 7c/12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21 323 F	24 217 F	29 260 F	32 335 F	35 246 F
22 348 F	25 259 F	30 258 F	33 354 F	36 277 F
23 344 F	26 316 F	31 260 F	34 329 F	37 301 F
	27 278 F			38 273 F
	28 233 F			39 250 F
=====	=====	=====	=====	=====
338 F	261 F	259 F	339 F	269 F

60 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 3M 7c/12
0 1722 F	9 305 F	11 346 F	13 284 F	18 232 F
1 1721 F	10 321 F	12 421 F	14 315 F	19 232 F
2 1748 F			15 408 F	20 251 F
3 1743 F			16 308 F	
4 1729 F			17 302 F	
5 1740 F				
6 1720 F				
7 1733 F				
8 1715 F				
=====	=====	=====	=====	=====
1730 F	313 F	384 F	323 F	238 F

GROUP 5 TSI 7c/12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21 330 F	24 221 F	29 266 F	32 343 F	35 250 F
22 356 F	25 266 F	30 264 F	33 361 F	36 284 F
23 350 F	26 324 F	31 265 F	34 336 F	37 308 F
	27 285 F			38 279 F
	28 237 F			39 255 F
=====	=====	=====	=====	=====
345 F	267 F	265 F	347 F	275 F

61 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 15I O.D.	GROUP 3 3M TSI OD	GROUP 4 3M 7c/12
0 1737 F	9 312 F	11 345 F	13 285 F	18 256 F
1 1737 F	10 327 F	12 427 F	14 320 F	19 237 F
2 1760 F			15 417 F	20 258 F
3 1759 F			16 316 F	
4 1743 F			17 309 F	
5 1754 F				
6 1734 F				
7 1750 F				
8 1724 F				
=====	=====	=====	=====	=====
1744 F	320 F	386 F	329 F	244 F

GROUP 5 15I 7c/12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21 337 F	24 224 F	29 272 F	32 351 F	35 255 F
22 365 F	25 272 F	30 271 F	33 368 F	36 290 F
23 355 F	26 330 F	31 270 F	34 344 F	37 315 F
	27 292 F			38 286 F
	28 242 F			39 260 F
=====	=====	=====	=====	=====
352 F	272 F	271 F	354 F	281 F

62 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 3M 7c/12
0 1727 F	9 317 F	11 345 F	13 283 F	18 242 F
1 1723 F	10 333 F	12 430 F	14 324 F	19 242 F
2 1743 F			15 429 F	20 264 F
3 1740 F			16 323 F	
4 1726 F			17 315 F	
5 1742 F				
6 1722 F				
7 1733 F				
8 1720 F				
=====	=====	=====	=====	=====
1731 F	325 F	388 F	335 F	249 F

GROUP 5 TSI 7c/12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21 343 F	24 227 F	29 279 F	32 359 F	35 259 F
22 374 F	25 279 F	30 277 F	33 375 F	36 297 F
23 361 F	26 337 F	31 275 F	34 351 F	37 322 F
	27 299 F			38 293 F
	28 248 F			39 265 F
=====	=====	=====	=====	=====
359 F	278 F	277 F	362 F	287 F

57 MINUTES

GROUP 0
FURNACE

0 1738 F
1 1738 F
2 1756 F
3 1760 F
4 1744 F
5 1757 F
6 1775 F
7 1757 F
8 1732 F

=====
1746 F

GROUP 1
3M O.D.

9 323 F
10 339 F

=====
331 F

GROUP 2
TSI O.D.

11 346 F
12 435 F

=====
391 F

GROUP 3
3M TSI OD

13 285 F
14 329 F
15 441 F
16 330 F
17 321 F

=====
341 F

GROUP 4
3M 7c/12

18 245 F
19 243 F
20 271 F

=====
256 F

GROUP 5
TSI 7c/12

21 348 F
22 381 F
23 367 F

=====
365 F

GROUP 6
3M/TSI 7c

24 231 F
25 265 F
26 345 F
27 306 F
28 254 F

=====
284 F

GROUP 7
3M B#8

29 286 F
30 284 F
31 280 F

=====
283 F

GROUP 8
TSI B#8

32 365 F
33 382 F
34 358 F

=====
368 F

GROUP 9
3M/TSI B#8

35 264 F
36 304 F
37 330 F
38 299 F
39 271 F

=====
294 F

64 MINUTES

GROUP 0
FURNACE

0 1733 F
1 1730 F
2 1757 F
3 1749 F
4 1731 F
5 1746 F
6 1726 F
7 1740 F
8 1723 F

=====
1737 F

GROUP 1
3M O.D.

9 331 F
10 345 F

=====
338 F

GROUP 2
TSI O.D.

11 349 F
12 440 F

=====
395 F

GROUP 3
3M/TSI OD

13 286 F
14 336 F
15 449 F
16 338 F
17 328 F

=====
347 F

GROUP 4
3M 7c/12

18 254 F
19 255 F
20 277 F

=====
262 F

GROUP 5
TSI 7c/12

21 394 F
22 388 F
23 372 F

=====
371 F

GROUP 6
3M/TSI 7c

24 234 F
25 291 F
26 352 F
27 314 F
28 260 F

=====
290 F

GROUP 7
3M B#8

29 293 F
30 290 F
31 285 F

=====
289 F

GROUP 8
TSI B#8

32 371 F
33 389 F
34 366 F

=====
375 F

GROUP 9
3M/TSI B#8

35 269 F
36 311 F
37 337 F
38 306 F
39 276 F

=====
300 F

65 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 3M 7c/12
0 1741°F	9 336°F	11 352°F	13 386°F	18 259°F
1 1739°F	10 350°F	12 446°F	14 340°F	19 261°F
2 1752°F			15 460°F	20 284°F
3 1760°F			16 345°F	
4 1741°F			17 333°F	
5 1757°F				
6 1736°F				
7 1752°F				
8 1732°F				
=====	=====	=====	=====	=====
1747°F	343°F	399°F	353°F	268°F

GROUP 5 TSI 7c/12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21 360°F	24 238°F	29 303°F	32 378°F	35 274°F
22 394°F	25 298°F	30 297°F	33 396°F	36 318°F
23 378°F	26 358°F	31 290°F	34 373°F	37 344°F
	27 322°F			38 313°F
	28 267°F			39 281°F
=====	=====	=====	=====	=====
377°F	297°F	297°F	382°F	306°F

66 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 3M 7c/12
0 1741°F	9 341°F	11 359°F	13 287°F	18 265°F
1 1741°F	10 356°F	12 452°F	14 347°F	19 268°F
2 1759°F			15 471°F	20 290°F
3 1760°F			16 352°F	
4 1742°F			17 339°F	
5 1757°F				
6 1738°F				
7 1750°F				
8 1734°F				
=====	=====	=====	=====	=====
1747°F	349°F	406°F	359°F	274°F

GROUP 5 TSI 7c/12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21 366°F	24 243°F	29 309°F	32 385°F	35 279°F
22 400°F	25 304°F	30 303°F	33 403°F	36 324°F
23 383°F	26 365°F	31 295°F	34 381°F	37 352°F
	27 330°F			38 320°F
	28 273°F			39 286°F
=====	=====	=====	=====	=====
383°F	303°F	302°F	390°F	312°F

67 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 3M 7c/12
0 1735 F	9 348 F	11 368 F	13 291 F	18 271 F
1 1731 F	10 362 F	12 459 F	14 352 F	19 275 F
2 1757 F			15 480 F	20 296 F
3 1750 F			16 360 F	
4 1732 F			17 345 F	
5 1742 F				
6 1731 F				
7 1743 F				
8 1728 F				
=====	=====	=====	=====	=====
1740 F	355 F	414 F	366 F	231 F

GROUP 5 TSI 7c/12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21 371 F	24 248 F	29 315 F	32 391 F	35 283 F
22 408 F	25 311 F	30 309 F	33 410 F	36 331 F
23 390 F	26 372 F	31 299 F	34 388 F	37 359 F
	27 341 F			38 326 F
	28 279 F			39 292 F
=====	=====	=====	=====	=====
390 F	310 F	308 F	396 F	318 F

68 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 3M 7c/12
0 1758 F	9 353 F	11 380 F	13 296 F	18 276 F
1 1757 F	10 367 F	12 465 F	14 357 F	19 281 F
2 1771 F			15 488 F	20 302 F
3 1773 F			16 367 F	
4 1756 F			17 351 F	
5 1771 F				
6 1751 F				
7 1764 F				
8 1747 F				
=====	=====	=====	=====	=====
1761 F	360 F	423 F	372 F	286 F

GROUP 5 TSI 7c/12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21 377 F	24 253 F	29 321 F	32 398 F	35 288 F
22 415 F	25 318 F	30 316 F	33 417 F	36 337 F
23 396 F	26 379 F	31 305 F	34 396 F	37 367 F
	27 352 F			38 333 F
	28 286 F			39 297 F
=====	=====	=====	=====	=====
396 F	318 F	314 F	404 F	324 F

69 MINUTES

GROUP 0
FURNACE

0 1751 F
1 1749 F
2 1768 F
3 1753 F
4 1756 F
5 1759 F
6 1749 F
7 1764 F
8 1746 F
=====
1756 F

GROUP 1
3M O.D.

9 360 F
10 372 F
=====
366 F

GROUP 2
TSI O.D.

11 393 F
12 470 F
=====
432 F

GROUP 3
3M TSI OD

13 307 F
14 367 F
15 496 F
16 375 F
17 356 F
=====
380 F

GROUP 4
3M 7c/12

18 282 F
19 288 F
20 308 F
=====
293 F

GROUP 5
TSI 7c/12

21 384 F
22 423 F
23 402 F
=====
403 F

GROUP 6
3M/TSI 7c

24 257 F
25 324 F
26 387 F
27 365 F
28 292 F
=====
325 F

GROUP 7
3M B#8

29 326 F
30 322 F
31 311 F
=====
320 F

GROUP 8
TSI B#8

32 405 F
33 425 F
34 404 F
=====
411 F

GROUP 9
3M/TSI B#8

35 293 F
36 344 F
37 374 F
38 339 F
39 303 F
=====
331 F

70 MINUTES

GROUP 0
FURNACE

0 1752 F
1 1748 F
2 1767 F
3 1760 F
4 1741 F
5 1757 F
6 1737 F
7 1750 F
8 1736 F
=====
1750 F

GROUP 1
3M O.D.

9 366 F
10 378 F
=====
372 F

GROUP 2
TSI O.D.

11 409 F
12 481 F
=====
445 F

GROUP 3
3M/TSI OD

13 318 F
14 376 F
15 505 F
16 381 F
17 361 F
=====
388 F

GROUP 4
3M 7c/12

18 287 F
19 295 F
20 315 F
=====
299 F

GROUP 5
TSI 7c/12

21 393 F
22 432 F
23 409 F
=====
411 F

GROUP 6
3M/TSI 7c

24 262 F
25 331 F
26 396 F
27 373 F
28 299 F
=====
332 F

GROUP 7
3M B#8

29 331 F
30 328 F
31 316 F
=====
325 F

GROUP 8
TSI B#8

32 413 F
33 433 F
34 412 F
=====
419 F

GROUP 9
3M/TSI B#8

35 297 F
36 351 F
37 381 F
38 346 F
39 308 F
=====
337 F

71 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 3M 7c/12
0 1769 F	9 372 F	11 425 F	13 327 F	18 293 F
1 1769 F	10 383 F	12 497 F	14 384 F	19 301 F
2 1795 F			15 513 F	20 321 F
3 1765 F			16 380 F	
4 1768 F			17 367 F	
5 1780 F				
6 1767 F				
7 1774 F				
8 1758 F				
=====	=====	=====	=====	=====
1772 F	378 F	461 F	396 F	305 F

GROUP 5 TSI 7c/12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21 403 F	24 266 F	29 338 F	32 422 F	35 302 F
22 441 F	25 338 F	30 334 F	33 441 F	36 358 F
23 416 F	26 404 F	31 321 F	34 421 F	37 388 F
	27 381 F			38 353 F
	28 305 F			39 313 F
=====	=====	=====	=====	=====
420 F	339 F	331 F	428 F	343 F

72 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 3M 7c/12
0 1760 F	9 377 F	11 440 F	13 336 F	18 298 F
1 1758 F	10 388 F	12 513 F	14 393 F	19 308 F
2 1781 F			15 523 F	20 327 F
3 1783 F			16 394 F	
4 1762 F			17 372 F	
5 1777 F				
6 1758 F				
7 1773 F				
8 1755 F				
=====	=====	=====	=====	=====
1767 F	383 F	477 F	404 F	311 F

GROUP 5 TSI 7c/12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21 413 F	24 271 F	29 344 F	32 431 F	35 307 F
22 450 F	25 345 F	30 341 F	33 450 F	36 365 F
23 424 F	26 413 F	31 326 F	34 430 F	37 396 F
	27 388 F			38 359 F
	28 312 F			39 319 F
=====	=====	=====	=====	=====
429 F	346 F	337 F	437 F	349 F

73 MINUTES

GROUP 0

FURNACE

0 1757°F
 1 1758°F
 2 1778°F
 3 1773°F
 4 1754°F
 5 1770°F
 6 1753°F
 7 1762°F
 8 1749°F

=====
 1762°F

GROUP 1

3M O.D.

9 383°F
 10 392°F

=====
 388°F

GROUP 2

TSI O.D.

11 456°F
 12 528°F

=====
 492°F

GROUP 3

3M TSI OD

13 346°F
 14 401°F
 15 533°F
 16 400°F
 17 377°F

=====
 411°F

GROUP 4

3M c 1

18 304°F
 19 314°F
 20 333°F

=====
 317°F

GROUP 5

TSI 7c/12

21 424°F
 22 460°F
 23 432°F

=====
 439°F

GROUP 6

3M/TSI 7c

24 275°F
 25 351°F
 26 421°F
 27 398°F
 28 318°F

=====
 353°F

GROUP 7

3M B#8

29 351°F
 30 347°F
 31 331°F

=====
 343°F

GROUP 8

TSI B#8

32 441°F
 33 460°F
 34 440°F

=====
 447°F

GROUP 9

3M/TSI B#6

35 312°F
 36 372°F
 37 404°F
 38 366°F
 39 324°F

=====
 356°F

74 MINUTES

GROUP 0

FURNACE

0 1773°F
 1 1775°F
 2 1788°F
 3 1791°F
 4 1774°F
 5 1783°F
 6 1770°F
 7 1780°F
 8 1763°F

=====
 1777°F

GROUP 1

3M O.D.

9 390°F
 10 397°F

=====
 394°F

GROUP 2

TSI O.D.

11 471°F
 12 546°F

=====
 509°F

GROUP 3

3M/TSI OD

13 347°F
 14 406°F
 15 547°F
 16 405°F
 17 382°F

=====
 417°F

GROUP 4

3M 7c/12

18 309°F
 19 320°F
 20 338°F

=====
 322°F

GROUP 5

TSI 7c/12

21 434°F
 22 470°F
 23 440°F

=====
 448°F

GROUP 6

3M/TSI 7c

24 280°F
 25 356°F
 26 430°F
 27 403°F
 28 325°F

=====
 359°F

GROUP 7

3M B#8

29 356°F
 30 353°F
 31 336°F

=====
 348°F

GROUP 8

TSI B#8

32 451°F
 33 470°F
 34 449°F

=====
 457°F

GROUP 9

3M/TSI B#6

35 316°F
 36 379°F
 37 412°F
 38 373°F
 39 329°F

=====
 362°F

75 MINUTES

GROUP 0
FURNACE

0 1764 F
1 1768 F
2 1781 F
3 1787 F
4 1753 F
5 1778 F
6 1764 F
7 1776 F
8 1760 F

=====

1772 F

GROUP 1
3M O.D.

9 399 F
10 402 F

=====

401 F

GROUP 2
TSI O.D.

11 520 F
12 503 F

=====

542 F

GROUP 3
3M/TSI OD

13 358 F
14 417 F
15 561 F
16 411 F
17 366 F

=====

426 F

GROUP 4
3M 7c/12

18 315 F
19 327 F
20 344 F

=====

329 F

GROUP 5
TSI 7c/12

21 445 F
22 472 F
23 449 F

=====

457 F

GROUP 6
3M/TSI 7c

24 284 F
25 362 F
26 440 F
27 405 F
28 332 F

=====

365 F

GROUP 7
3M B#8

29 362 F
30 359 F
31 341 F

=====

354 F

GROUP 8
TSI B#8

32 464 F
33 481 F
34 461 F

=====

469 F

GROUP 9
3M/TSI B#8

35 320 F
36 386 F
37 471 F
38 380 F
39 334 F

=====

368 F

76 MINUTES

GROUP 0
FURNACE

0 1790 F
1 1795 F
2 1806 F
3 1810 F
4 1794 F
5 1905 F
6 1787 F
7 1798 F
8 1784 F

=====

1797 F

GROUP 1
3M O.D.

9 401 F
10 406 F

=====

404 F

GROUP 2
TSI O.D.

11 533 F
12 576 F

=====

555 F

GROUP 3
3M/TSI OD

13 372 F
14 420 F
15 573 F
16 417 F
17 391 F

=====

435 F

GROUP 4
3M 7c/12

18 320 F
19 333 F
20 350 F

=====

334 F

GROUP 5
TSI 7c/12

21 456 F
22 487 F
23 458 F

=====

467 F

GROUP 6
3M/TSI 7c

24 289 F
25 368 F
26 450 F
27 408 F
28 339 F

=====

371 F

GROUP 7
3M B#8

29 368 F
30 365 F
31 346 F

=====

360 F

GROUP 8
TSI B#8

32 479 F
33 492 F
34 473 F

=====

481 F

GROUP 9
3M/TSI B#8

35 325 F
36 392 F
37 430 F
38 387 F
39 340 F

=====

375 F

75 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 3M 7c/12
1 1784 F	9 407 F	11 518 F	13 378 F	18 326 F
2 1780 F	10 410 F	12 596 F	14 426 F	19 373 F
3 1792 F			15 585 F	20 356 F
4 1799 F			16 422 F	
5 1778 F			17 395 F	
6 1793 F				
7 1787 F				
8 1775 F				
=====	=====	=====	=====	=====
1785 F	409 F	557 F	441 F	340 F

GROUP 5 TSI 7c/12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21 469 F	24 294 F	29 374 F	32 493 F	35 329 F
22 497 F	25 373 F	30 371 F	33 507 F	36 399 F
23 469 F	26 467 F	31 382 F	34 486 F	37 439 F
	27 407 F			38 395 F
	28 345 F			39 345 F
=====	=====	=====	=====	=====
478 F	377 F	376 F	495 F	381 F

76 MINUTES

GROUP 0 FURNACE	GROUP 1 3M O.D.	GROUP 2 TSI O.D.	GROUP 3 3M/TSI OD	GROUP 4 3M 7c/12
0 1795 F	9 411 F	11 535 F	13 384 F	18 331 F
1 1793 F	10 415 F	12 617 F	14 432 F	19 346 F
2 1805 F			15 598 F	20 362 F
3 1809 F			16 428 F	
4 1793 F			17 400 F	
5 1803 F				
6 1787 F				
7 1802 F				
8 1787 F				
=====	=====	=====	=====	=====
1797 F	413 F	576 F	448 F	346 F

GROUP 5 TSI 7c/12	GROUP 6 3M/TSI 7c	GROUP 7 3M B#8	GROUP 8 TSI B#8	GROUP 9 3M/TSI B#8
21 479 F	24 298 F	29 379 F	32 506 F	35 335 F
22 508 F	25 379 F	30 377 F	33 526 F	36 406 F
23 481 F	26 481 F	31 391 F	34 502 F	37 449 F
	27 413 F			38 403 F
	28 352 F			39 351 F
=====	=====	=====	=====	=====
489 F	385 F	382 F	511 F	389 F

MINUTES
 GROUP 1
 TSI O.D.
 0 1791 F
 1 1789 F
 2 1800 F
 3 1803 F
 4 1786 F
 5 1801 F
 6 1786 F
 7 1794 F
 8 1782 F
 =====
 1793 F

GROUP 1
 3M O.D.
 9 413 F
 10 420 F
 =====
 417 F

GROUP 2
 TSI O.D.
 11 550 F
 12 635 F
 =====
 593 F

GROUP 3
 3M/TSI OD
 13 388 F
 14 438 F
 15 612 F
 16 434 F
 17 404 F
 =====
 455 F

GROUP 4
 3M 7c/12
 18 336 F
 19 352 F
 20 367 F
 =====
 352 F

GROUP 5
 TSI 7c/12
 21 489 F
 22 520 F
 23 494 F
 =====
 501 F

GROUP 6
 3M/TSI 7c
 24 303 F
 25 385 F
 26 492 F
 27 424 F
 28 358 F
 =====
 392 F

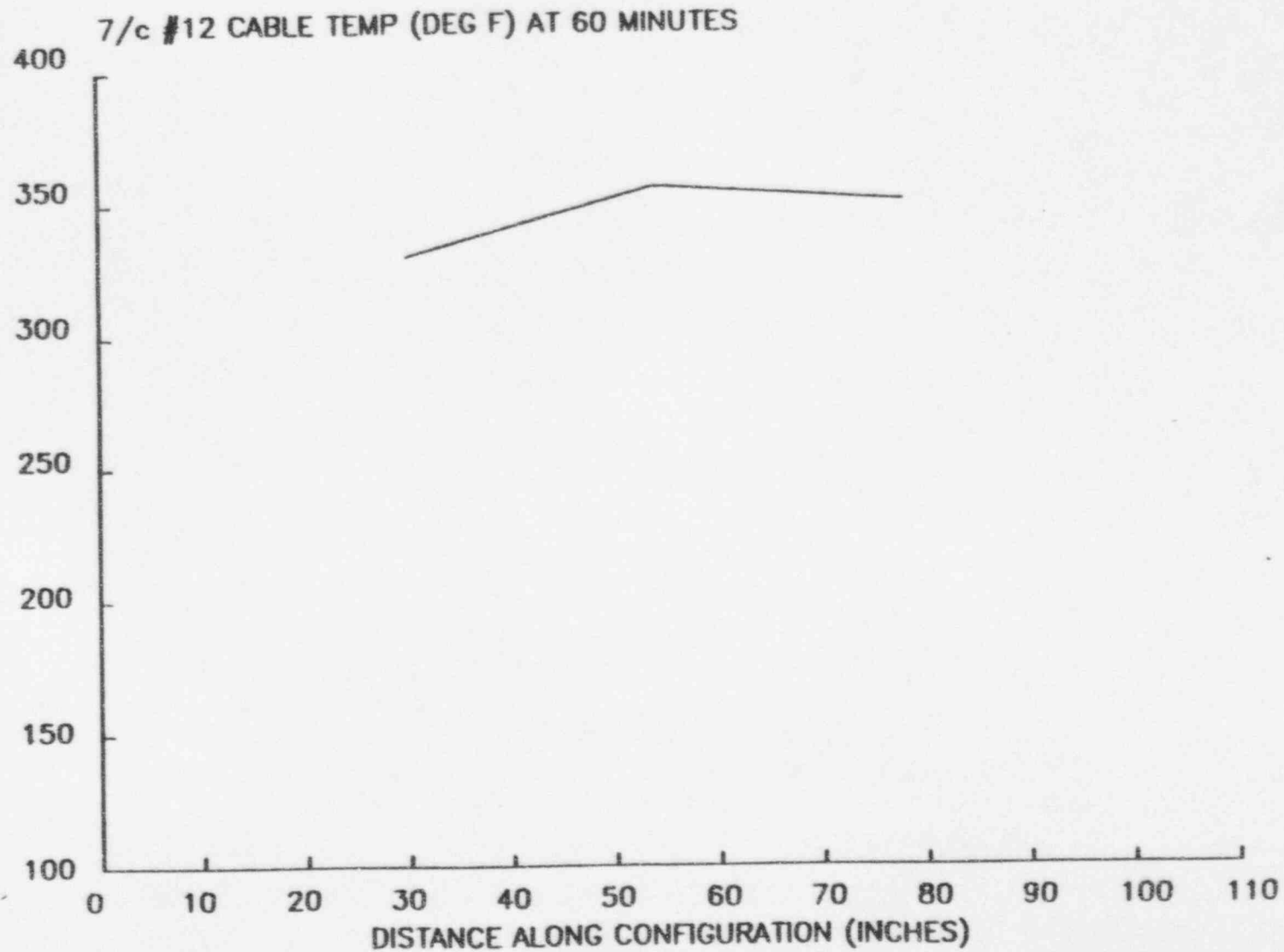
GROUP 7
 3M B#8
 29 386 F
 30 384 F
 31 396 F
 =====
 389 F

GROUP 8
 TSI B#8
 32 520 F
 33 548 F
 34 522 F
 =====
 530 F

GROUP 9
 3M/TSI B#8
 35 339 F
 36 413 F
 37 459 F
 38 410 F
 39 357 F
 =====
 396 F

5" RIGID ALUMINUM CONDUIT FIRE TEST—STRAIGHT

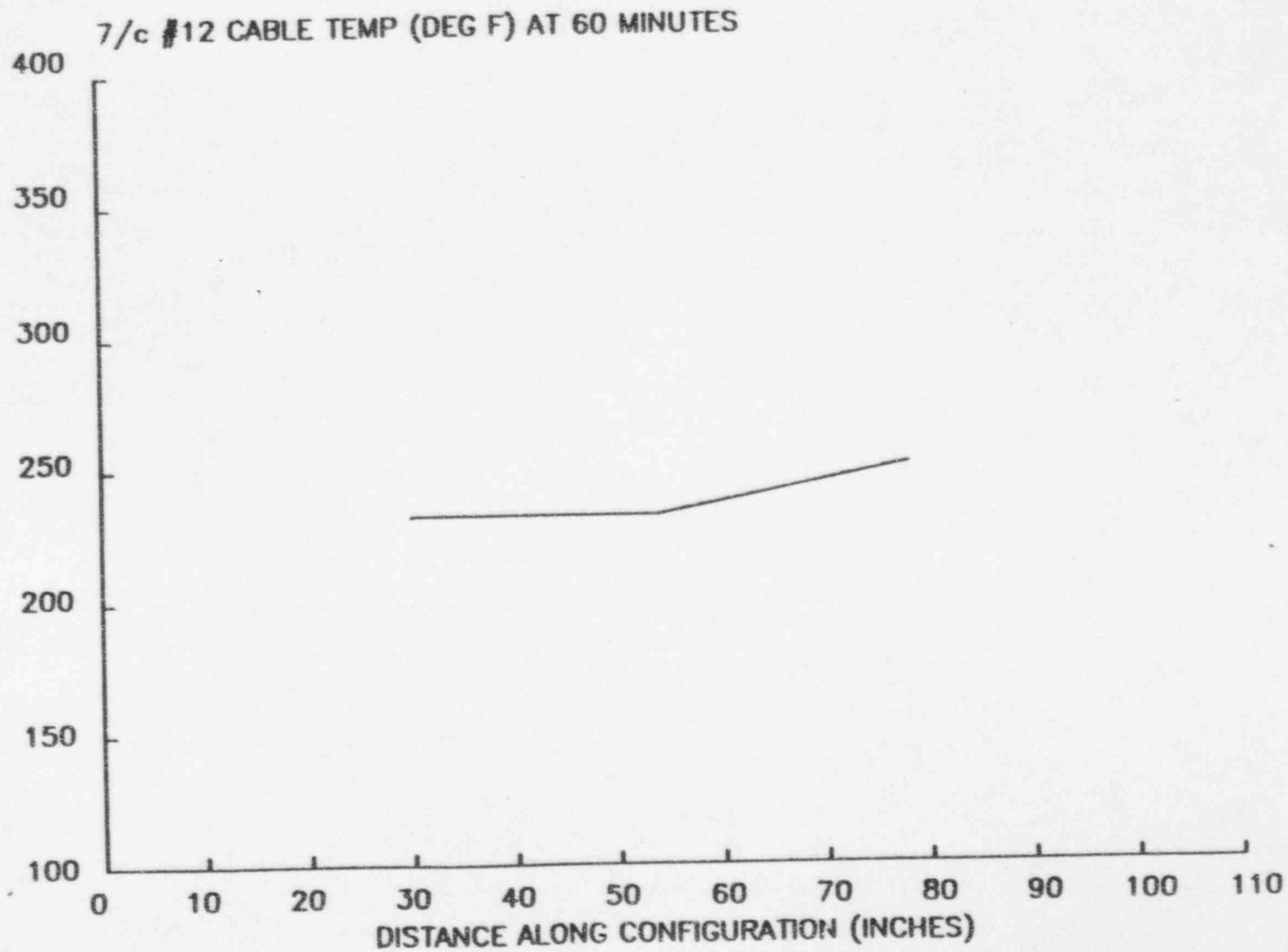
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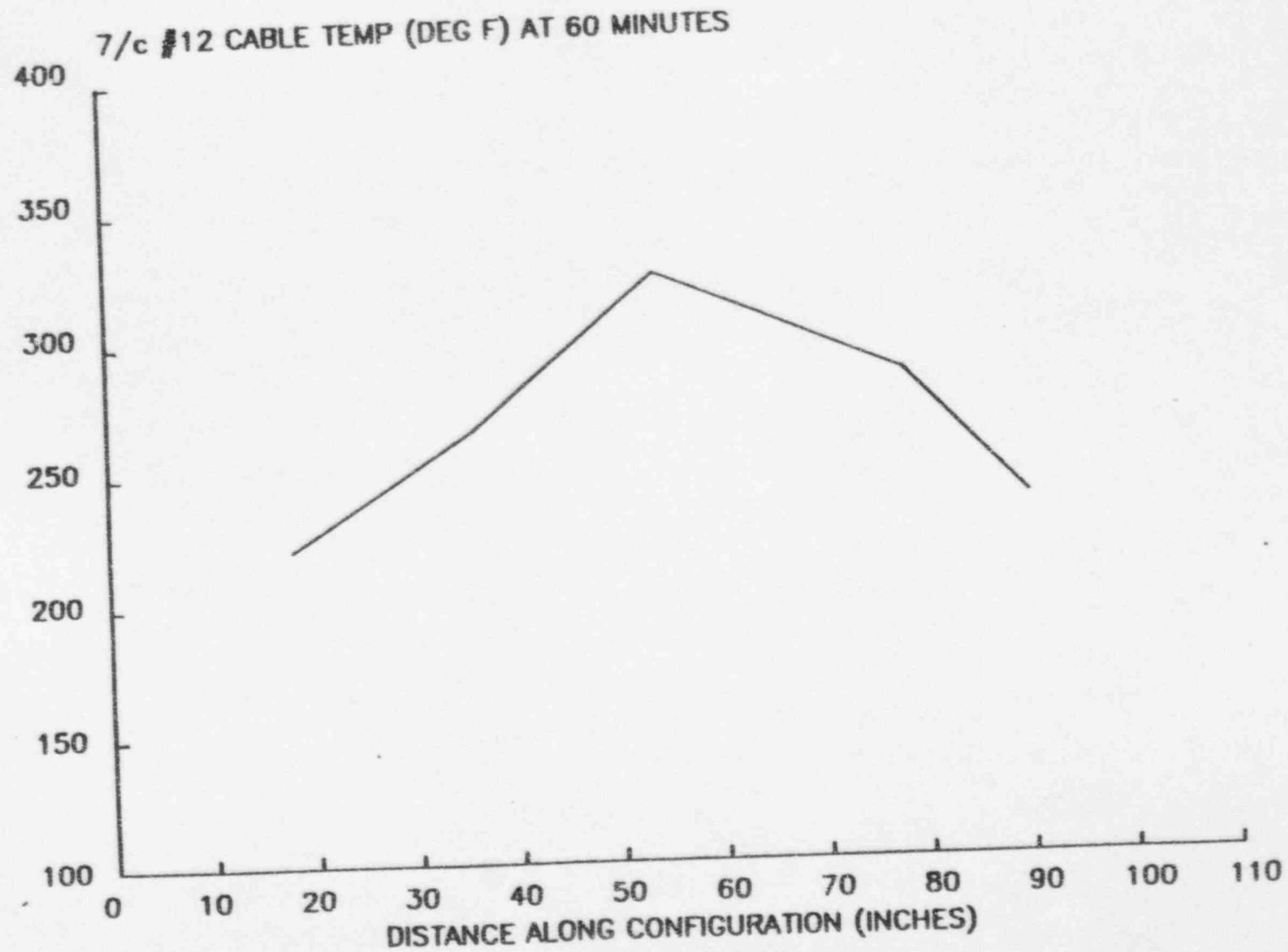
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Dev. Mgr.	A. J. Marlor	<input checked="" type="checkbox"/>					
Dev. Supv.	T. L. Tompkins			<input checked="" type="checkbox"/>			
Quality Manager	M. A. Supina	<input checked="" type="checkbox"/>					
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Q.C. Supv.	W. J. Breitbach						
Q.C. Supv.	S. H. Brewster						
Q.C. Supv.	P. R. Harp						
P.E. Supv.	S. S. Jeschke						
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PROPOSAL FOR A QUALIFICATION FIRE TEST
OF AN ELECTRICAL RACEWAY SYSTEM INTERFACE

104J
FPDCC

PJ-16
3-Hour System

PROPOSED TEST: 3-Hour E-50D Interface to 3-Hour TSI Board
on a 2-1/2" \emptyset Steel Conduit

3M NO: PJ-16

DATE: July 16, 1986

PREPARED BY: R. R. Licht
K. A. Jensen
J. C. Peisert

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ASTM Standard Test E-119

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Furnace Configuration.	Figure 4

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Conduit #1 Surface Thermocouple.	Figure 5
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 - Interam™ T-49 Tape
 - Interam™ CS-195 Composite Sheet
 - Fire Barrier CP-25 Caulk

APPENDIX F - INSTALLATION DRAWINGS

3M Installation Drawings

Conduit or Airdrop Straight Run	6400-C1
Conduit Elbow	6400-C2
Conduit or Airdrop Slab Interface CS-195 Collar/Plate	6400-C3
Materials List.	6400-ML 6400-ML-1 6400-ML-2
Interface to a non-3M Mat Products Seam Detail.	6400-S1

TSI Installation Information

I. OBJECTIVE

To qualify a method of interfacing the 3M Interam[®] E-50D 3-hour wrap system to the 3-hour TSI board system on steel conduit. This test is being run for Washington Public Power Supply Systems. The test specification to be followed is the ASTM Standard E-119. A copy of this specification is provided in Appendix A.

II. TEST EQUIPMENT AND SET-UP

A. Test Slab

A concrete floor slab, 70" x 56" x 8" thick, was cast into 8" steel channel with one layer of 5/8" rebar on nominal 16" centers. Slab dimensions are shown in Figure 2. The concrete slab was cast on February 28, 1986. FS-3000 psi concrete was used on the slab. The slab was air cured for at least one month and then subjected to oven forced air drying to insure low free moisture content.

B. Test Configuration

An overall sketch of the test arrangement is shown in Figure 1.

Test Slab

Conduit #1	2-1/2" Ø steel conduit
Conduit #2	2-1/2" Ø steel conduit

C. Cables

Cables used in this test program are considered to be generic in nature. More specifically, they are copper conductors with cross-linked polyethylene (XLPE) insulation and polyvinyl chloride (PVC) jacketing. Cable descriptions are listed below.

<u>Cable Size</u>	<u>Type</u>	<u>Nominal Size</u>	<u>Identification on Jacket</u>
7/c #12 AWG	Instrumentation C-56 Class	.56" dia.	#12 AWG Type TC, XHHW CDRS, sunlight resistant, 600 volt, AIW Corp., UL direct burial
2/c #14 AWG	Control Cable	.24" x .35"	#14 AWG Type TC, 90°C dry, 75°C wet, sunlight resistant, 600 volt, AIW Corp., UL direct burial
#8 AWG	Bare Conductor	7 strands .15" dia.	No insulation on jacket

Cable loading information is given below.

	<u>Number of Cables</u>		
	<u>7/c #12</u>	<u>2/c #14</u>	<u>Bare #8</u>
Conduit #1	2	2	1
Conduit #2	2	2	1

Figures 5, 6, 7, and 8 in Appendix C show approximate cable lay-out and thermocouple locations.

D. Thermocouple Installation

Prior to seal and fire protection installation, thermocouples will be embedded into cable bundles and on conduits to provide the test engineer with an identification of the conditions during the fire exposure test. Type "K" chromel-alumel, 20-gauge thermocouple wires with glass braid insulation and glass braid jacketing will be used.

All test assemblies will contain one or more strings of thermocouples located inside the assembly along the cables at 12" maximum intervals.

Thermocouples can be attached to cables by taping into position with a fiberglass tape. The thermocouple bead shall maintain contact with the jacket of the cable.

The main furnace thermocouple wells are 1/2" NPT Inconel 601 with dual 14 gauge, Type "K" thermocouple beads located 1/2" from the end of the thermocouple well in accordance with ASTM E-119 Section 4.1. Auxiliary furnace thermocouples will be added to the underside of the fire protected items. These auxiliary furnace thermocouples will be 20 gauge Type "K" chromel-alumel with Nextel® ceramic fiber insulation.

E. Circuit Integrity Monitoring

On the test slab there will be 100% monitoring of all insulated cables in the fire protected conduits. The cables will be energized with 120 VDC, both during the fire test and the entire hose stream test. Any failure of the insulation (i.e. short to any conductor or a short to system ground) will be indicated by a light emitting diode (LED) glowing brightly. The design of the circuit integrity monitoring equipment to be used was based on Underwriter's Laboratories monitoring equipment.

The monitoring of the 7/c #12 and the 2/c #14 cables will be done by looping the same cable back and forth once each through the conduits. Each of the 7/c #12 and the 2/c #14 cables will be hooked to electrical loads on the circuit integrity monitoring equipment.

F. Fire Test Furnace

The furnace to be used for these qualification and classification tests will be 3M's top load, large scale, propane fired furnace located at the 3M Chemolite facility in Cottage Grove, Minnesota. The interior dimensions of this furnace are nominally 61" long x 47" wide x 30" high. A U.L. witnessed fire test was run in this furnace on November 15, 1985 on a test configuration that was previously tested at U.L. Results of this test indicated that at the end of three hours the average temperature on a 7/c #12 cable ran within 16°F of each other with the 3M furnace giving the slightly higher temperature. Additional details of the 3M furnace are shown in Figure 4 in Appendix B.

G. Installation of Fire Protection System

The test assemblies will be covered with 3M Interam™ Fire Protection Products and TSI Board fire protection. The 3M flexible wrap system will be installed by qualified 3M personnel in accordance with drawings and instructions found in Appendices E and F. The TSI Board system will be installed by certified installers under the direction of the WPPSS Engineering Department. During installation, quality checks will be made by Twin Cities Testing Corp. according to the installation inspection plan presented on pages 10 and 11.

III. TEST PROCEDURES

A. Pre-Burn Inspection

Prior to commencement of the fire endurance tests, a thorough check of the entire test assembly and associated equipment will be performed. The test will not be run until the 3M test engineer and a representative from Twin City Testing are satisfied that all pieces of equipment and the test set-up are acceptable. More specifically, the following will be checked before the test begins:

- The furnace controller is properly programmed for a 3-hour ASTM E-119 temperature profile.
- The Monitor Lab's 9350 Datalogger is properly programmed to take temperature readings every one minute and transmit these thermocouple values to the Hewlett Packard 9816S's computer for magnetic disc storage, immediate print-out of five groups of thermocouples, and real-time plotting of the average of these five groups on the computer screen.
- The HP-9816S computer is properly programmed to perform the above-mentioned tasks.
- The circuit integrity monitoring equipment is fully functional. This can be done by randomly shorting separate conductors to each other with a jumper wire and insuring that a light emitting diode (LED) lights up on the monitoring equipment.
- An initial gas reading is taken so that the amount of propane gas consumed during the fire test can be recorded.
- Outside ambient weather conditions are obtained from the 3M Chemolite Security Department.

B. Fire Endurance Test

The fire endurance tests shall be performed in compliance with the following standards and guidelines.

- ASTM E-119 (83)
- 3M Test Procedure #TP-58 for operation of Bldg. 66 large scale top load furnace

The fire exposure test will be conducted under the supervision of a senior engineer designated as the test engineer.

C. Hose Stream Test

At the end of the 3-hour fire endurance test, all thermocouple wires will be cut and the test slab removed from the furnace. As soon as possible, but within five minutes of the time the slab was removed from the furnace, the entire test assembly will be subjected to a water hose stream of 2-1/2 minute duration. The stream will be delivered normal to the bottom face of the slab through a 2-1/2" National Standard playpipe equipped with a 1-1/8" tip. Nozzle pressure will be 30 psi located twenty feet from the test assembly. The hose stream will be directed at the test configuration in slow sweeping motions in both horizontal and vertical paths.

The cables must remain energized and the circuits monitored for the duration of the water hose stream test.

IV. TEST REPORTING

Upon completion of the fire endurance and water hose stream tests, all data will be assembled. Copies of all data will be given to Twin City Testing for final report preparation. The following information shall be included in the final report:

- Details of the fire test as presented in this Project Plan PJ-16
- Quality documentation, including any deviations from this proposed test
- All thermocouple readings taken throughout the test
- List of 3M personnel involved with installation of the system
- List of TSI Board installers
- List of 3M personnel involved with conducting the fire test
- List of WPPSS personnel involved with conducting the fire test
- List of all present who witnessed the fire test

V. QUALITY ASSURANCE

Quality Assurance will be performed by two groups - 3M Ceramic Materials Department Quality Assurance Group, and Twin City Testing Corporation. The Quality Assurance program will be conducted to comply with Nuclear Program 10CFR50, Appendix B.

COPIES OF APPLICABLE TEST STANDARDS

WILL BE INCLUDED IN

FINAL TEST REPORT

A. Installation Inspection Plan

Twin City Testing Corporation will provide the Quality Assurance during installation of the 3M Interam™ fire protection products and TSI board products on the test slab. The following are minimum requirements for inspection of the installation.

1. Prior to installation of fire protection materials:
 - Verify cable size, type, quantity, and location in the conduits.
 - Verify thermocouple locations and methods of securing to the test items.
 - Report thermocouple type and lot number.
 - Examine penetration seal system installation in the concrete slab penetration opening.
2. During installation of the fire protection materials:
 - Installation instructions, drawings, and general guidelines are required for both the 3M and TSI materials.
 - Verify lot number of materials used and review Certificates of Compliance and Certificates of Conformance.
 - Inspections done on the slab just prior to installation of the fire protection systems, after each layer, after all caulking, and after the entire restraining system is installed. Installation techniques must follow drawings provided and general installation guidelines.
3. After installation of the fire protection materials:
 - Verify proper spacing of the restraining bands.
 - Verify proper spacing of the concrete anchors which hold the CS-195 sheets to the underside of the concrete slabs.
 - Verify proper use of CP-25 caulk at interface.
4. Whenever an installation guideline is given, the fire protection materials should be installed in a "worst case" manner for testing purposes. For example, if installation guidelines specify a maximum of 8" spacing between stainless steel restraining bands for actual field installation, the spacing for test purposes should be 8" or more to be worst case situation.

5. Whenever a deviation or non-conforming installation detail is used or discovered, it must be reported by Twin City Testing. After every installation inspection, an installation inspection report must be written immediately and signed and dated by a representative of both Twin City Testing and 3M Company.

B. Quality Assurance During Testing

1. Test standards and equipment operating procedures are required.
2. All equipment must meet calibration requirements.

APPENDIX A

TEST STANDARDS

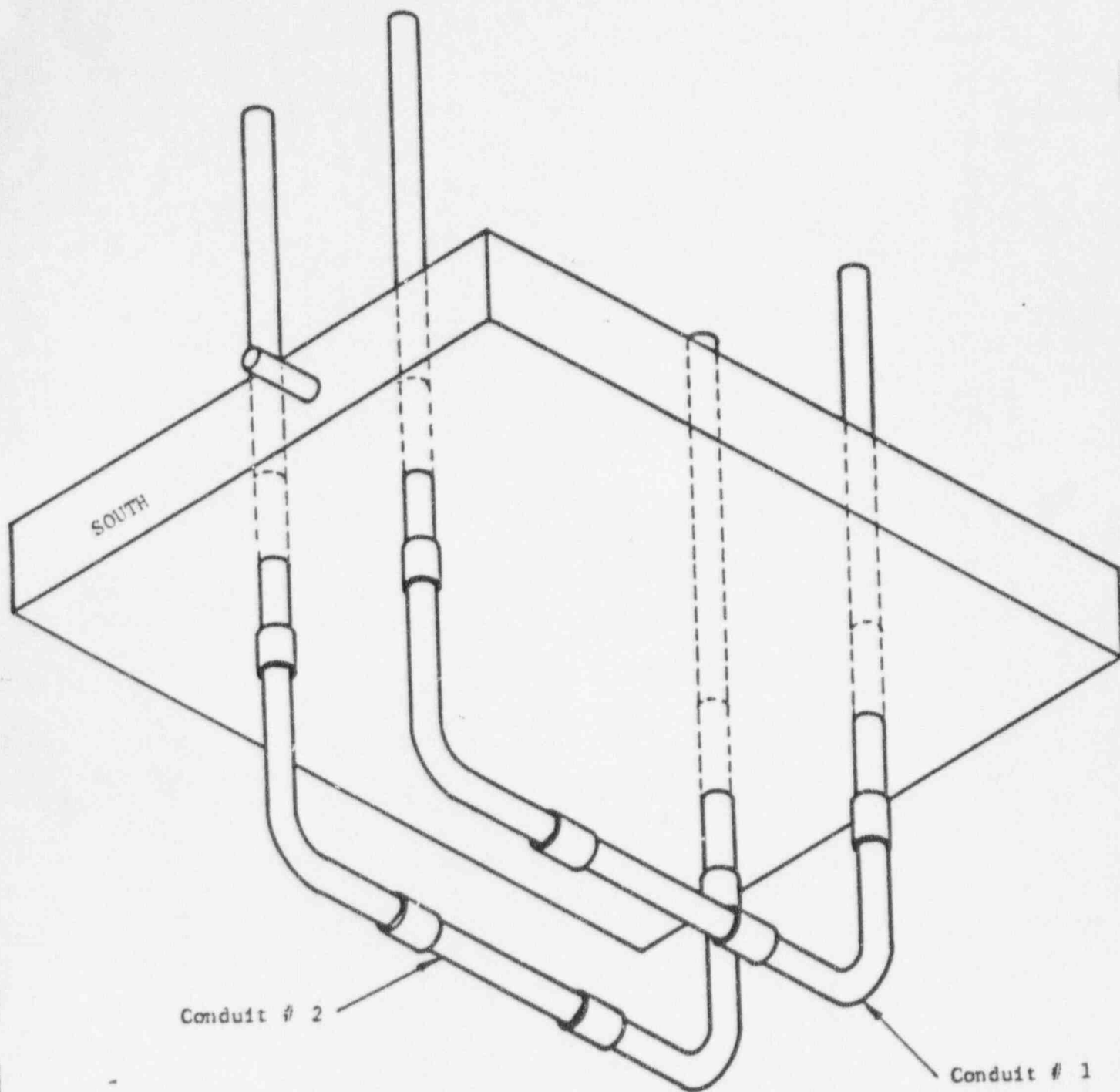
ASTM STANDARD TEST E-119

APPENDIX B

GENERAL LAY-OUT AND DIMENSIONS OF CONCRETE TEST SLAB

Lay-out of Test Slab	Figure 1
2-1/2" Ø Steel Conduit	
Dimensions of Test Slab	Figure 2
3M/TSI Mat Interface for Conduits #1 and #2	Figure 3
Furnace Configuration	Figure 4

FIGURE 1



All statements, technical information and recommendations contained herein are based on tests we believe to be reliable. However, since the conditions of use and application are beyond our control, 3M shall not be liable for any damage direct or consequential, resulting from the use of this material or device. Our only warranty shall be to replace any of our products found to be defective.

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NOT TO SCALE		CH	
DR K.A. Jensen		APP R.R. Licht	

LAY-OUT OF TEST SLAB
2 2-1/2" Ø CONDUITS

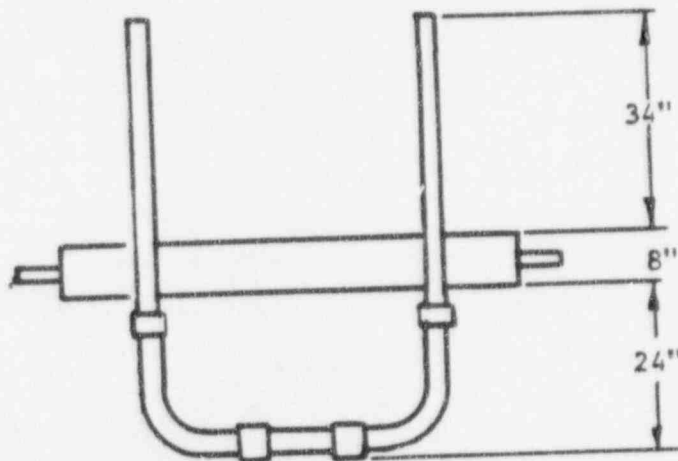
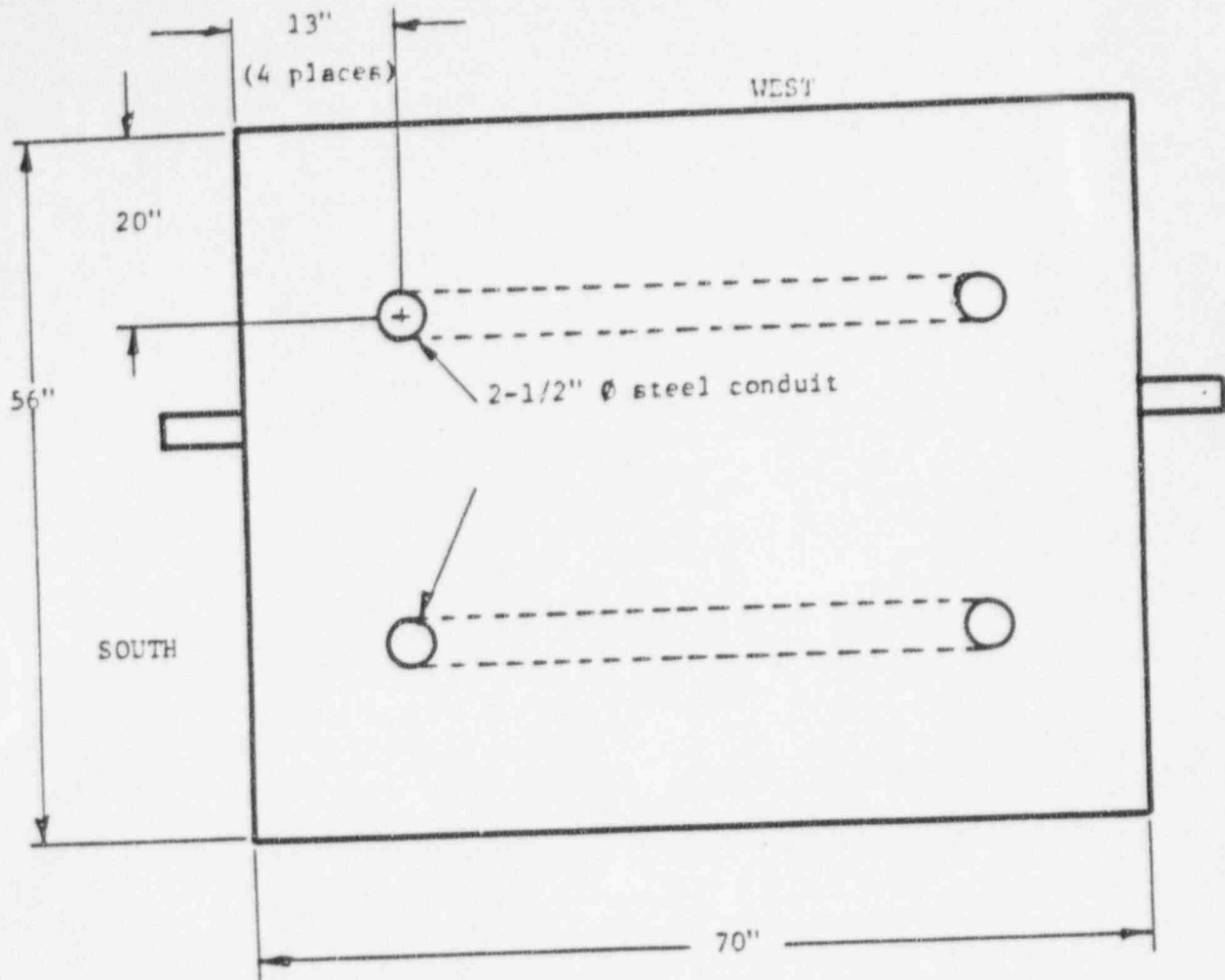
Ceramic Materials
Department/3M



3M/TSI FIRE TEST

3-Hour System

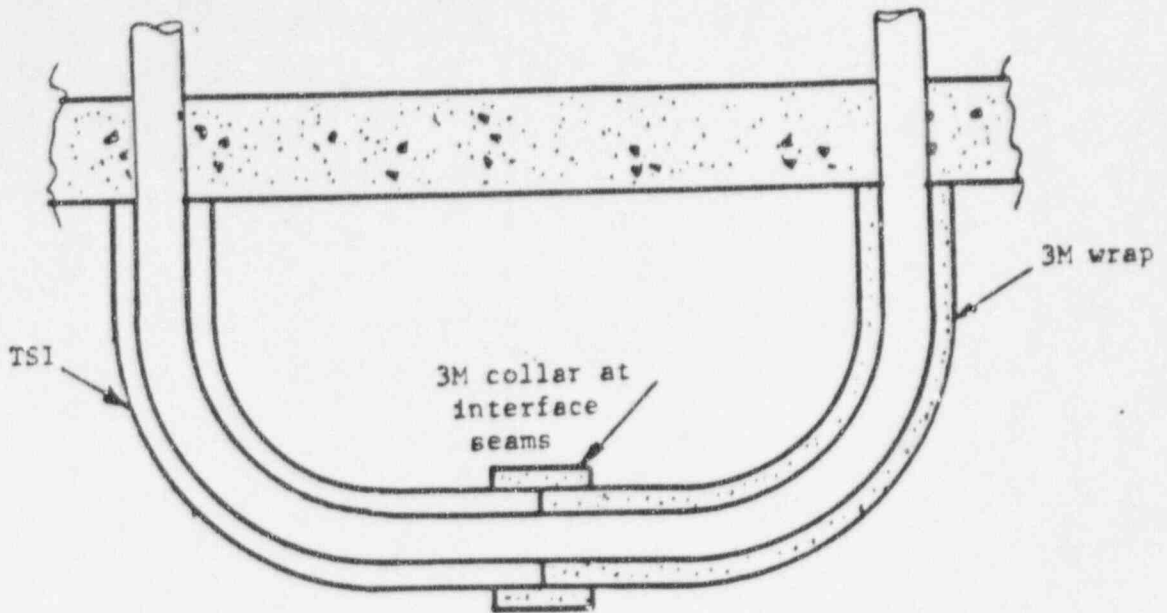
FIGURE 2



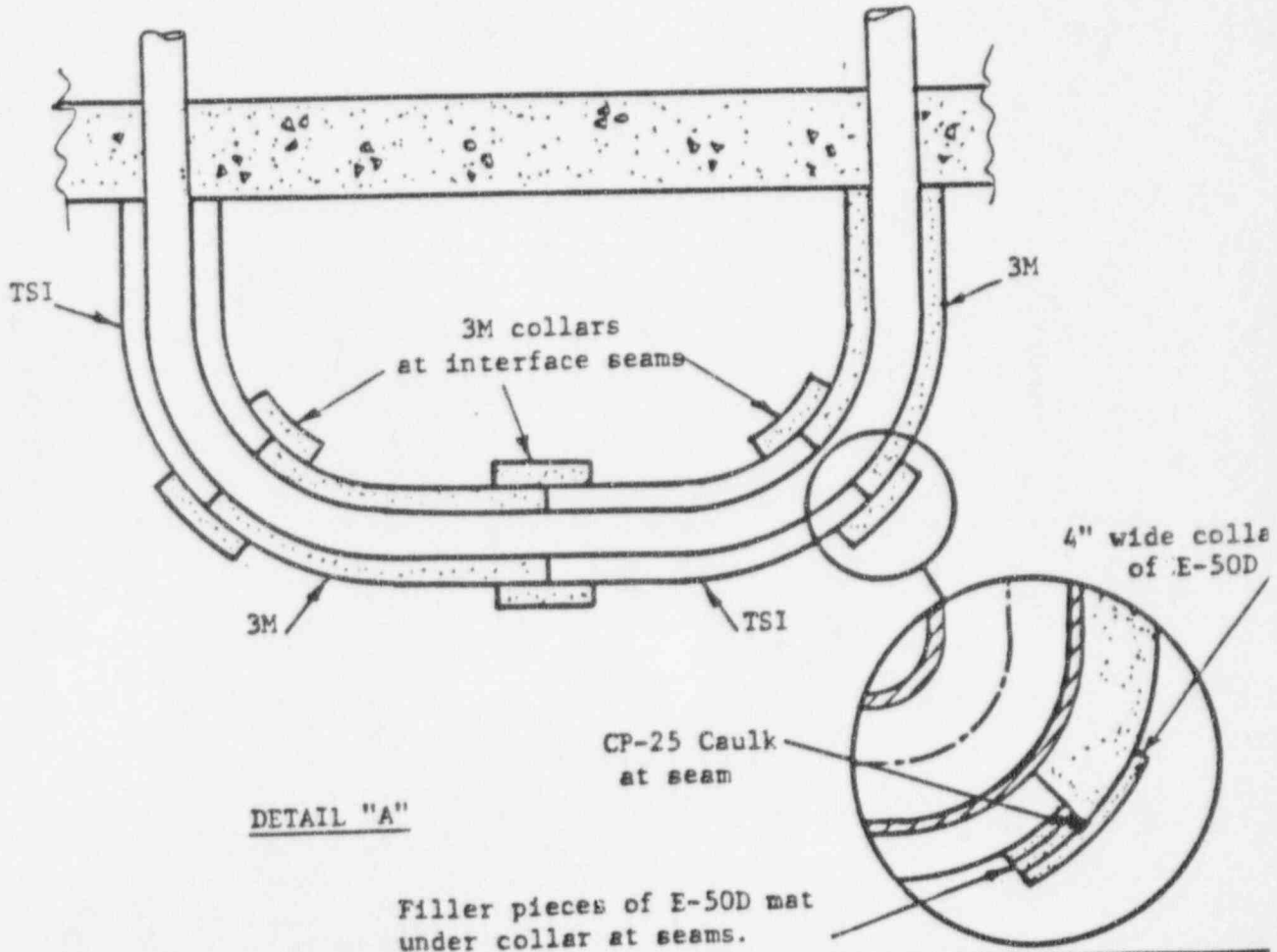
SIDE VIEW OF SLAB

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	<p>NOT TO SCALE</p>		<p>DR</p>		
	<p>BY K.A. Jensen</p>		<p>APR R.R. Licht</p>		
<p>Ceramic Materials Department/3M</p>	<p>3M</p>	<p>3M/TSI FIRE TEST</p>			

CONDUIT #1



CONDUIT #2

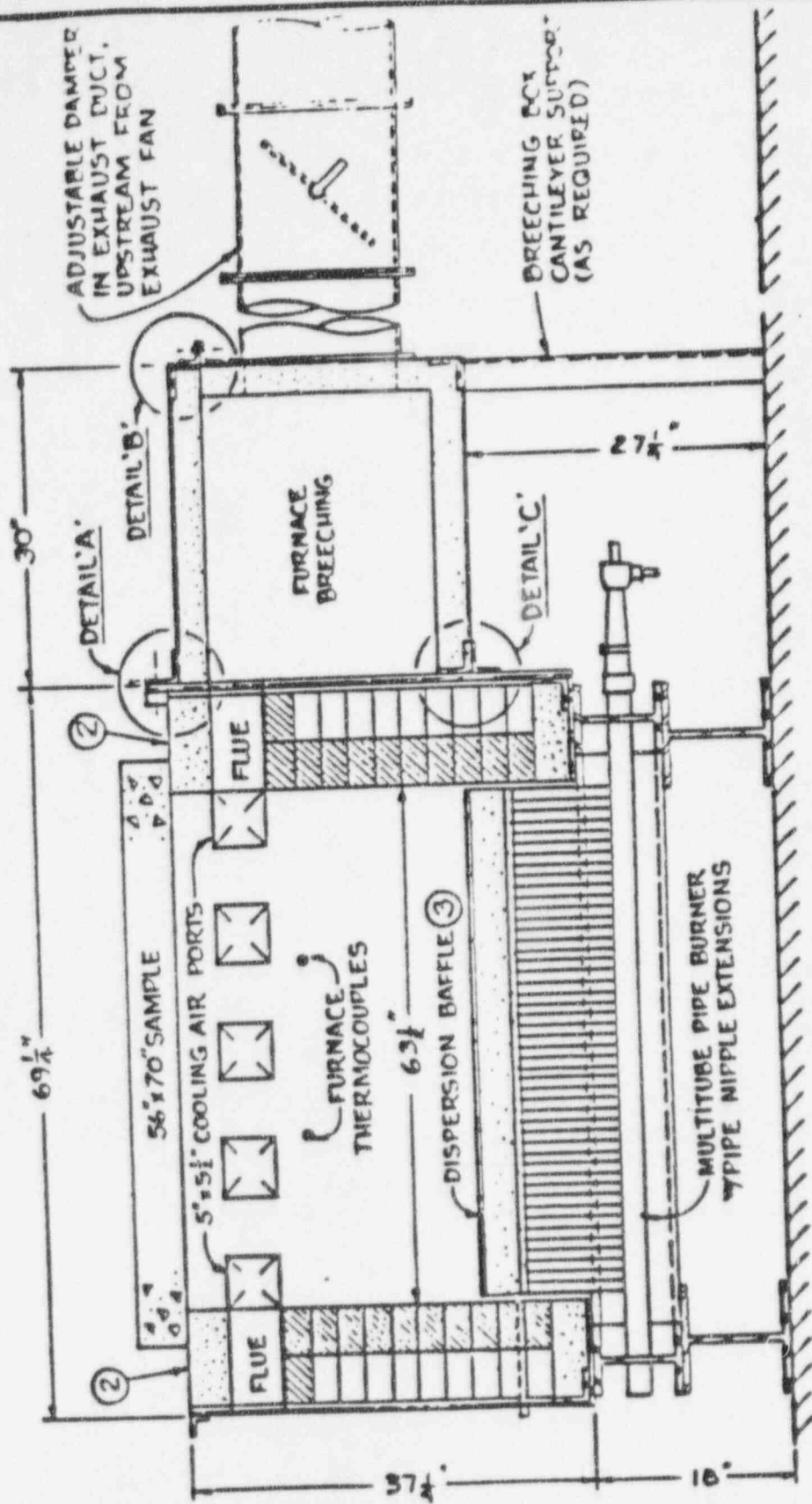


DETAIL "A"

Filler pieces of E-50D mat under collar at seams.

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	NOT TO SCALE		CM.		
	BY K.A. Jensen		AND R.R. Licht		
	Ceramic Materials Department 3M		3M 3M/TSI FIRE TEST		

FIGURE 4



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FURNACE CONFIGURATION
CHEMOLITE BLDG. #66

Ceramic Materials
Department 3M



3M FIRE TEST FURNACE

APPENDIX C

THERMOCOUPLE LOCATIONS

Thermocouple Assignments	Table I
Conduit Surface Thermocouple Placement - Conduit #1.	Figure 5
Conduit Cable Thermocouple Placement - Conduit #1.	Figure 6
Conduit Surface Thermocouple Placement - Conduit #2.	Figure 7
Conduit Cable Thermocouple Placement - Conduit #2.	Figure 8

TABLE I

THERMOCOUPLE ASSIGNMENTS

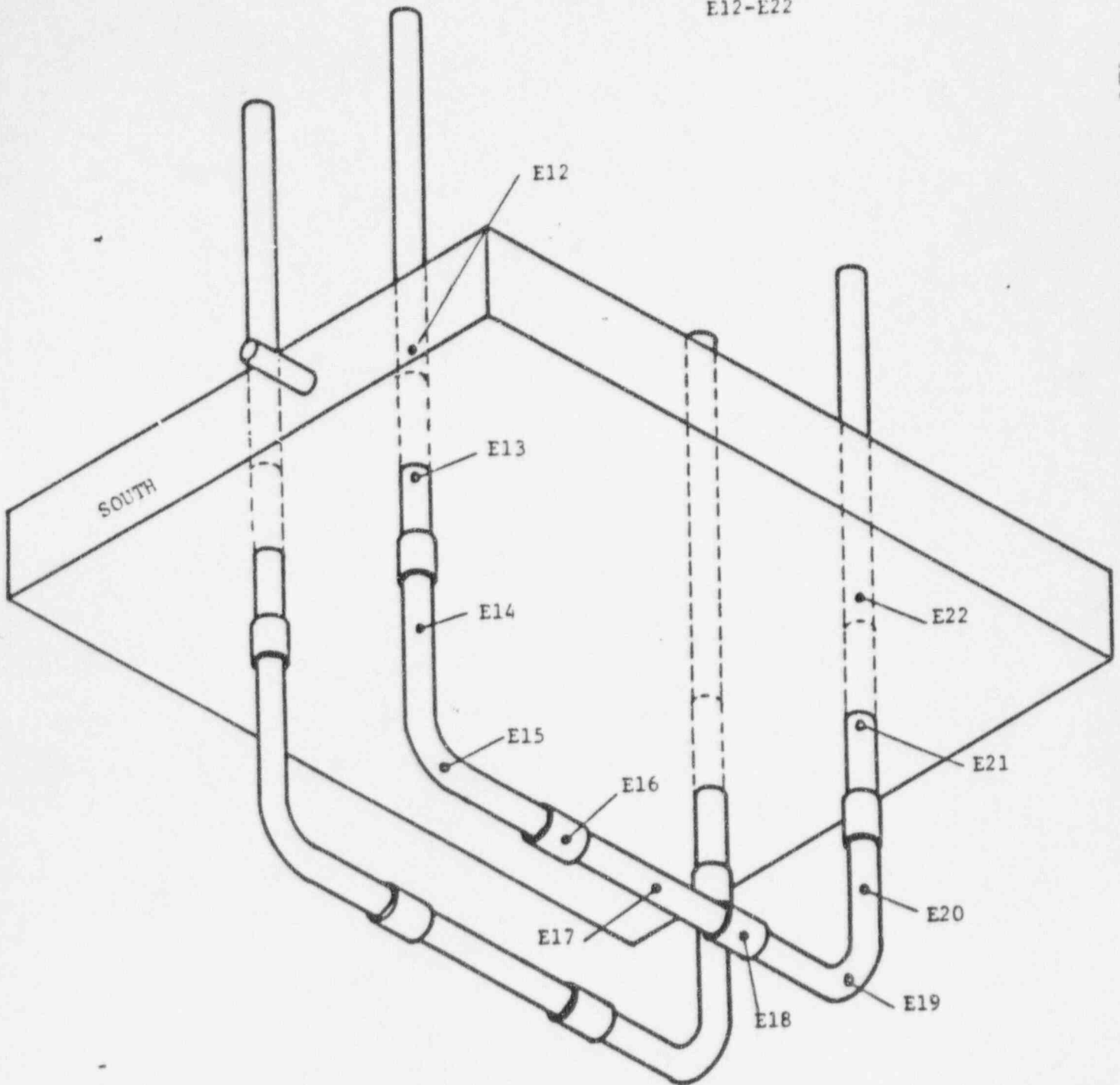
<u>Thermocouple Number</u>	<u>Location</u>	<u>Computer Group</u>	<u>Computer Line</u>	<u>Line Name</u>
T1-T4	Furnace - 12" in from sidewalls	0	1	Furnace
E5-E10	Furnace - 12" down from slab	1		
T11	Ambient temp - 2' from furnace	2		
E12-E22	Steel conduit #1 surface	3		
T23-T48	Steel conduit #1 7/c #12 AWG	4	2	7/c CD. 1
E49-E74	Steel conduit #1 Bare #8	5	4	#8 CD. 1
E75-E87	Steel conduit #2 surface	6		
T88-T118	Steel conduit #2 7/c #12 AWG	7	3	7/c CD. 2
E119-E144	Steel conduit #2 Bare #8	8	5	#8 CD. 2

Note: Thermocouples with "T" or "Test" designation are those required by ANI only. These should be considered for ANI approval. Thermocouples with an "E" or "Engineering" designation are for either U.L. classification purposes or general information.

FIGURE 5

CONDUIT #1

SURFACE THERMOCOUPLES
E12-E22



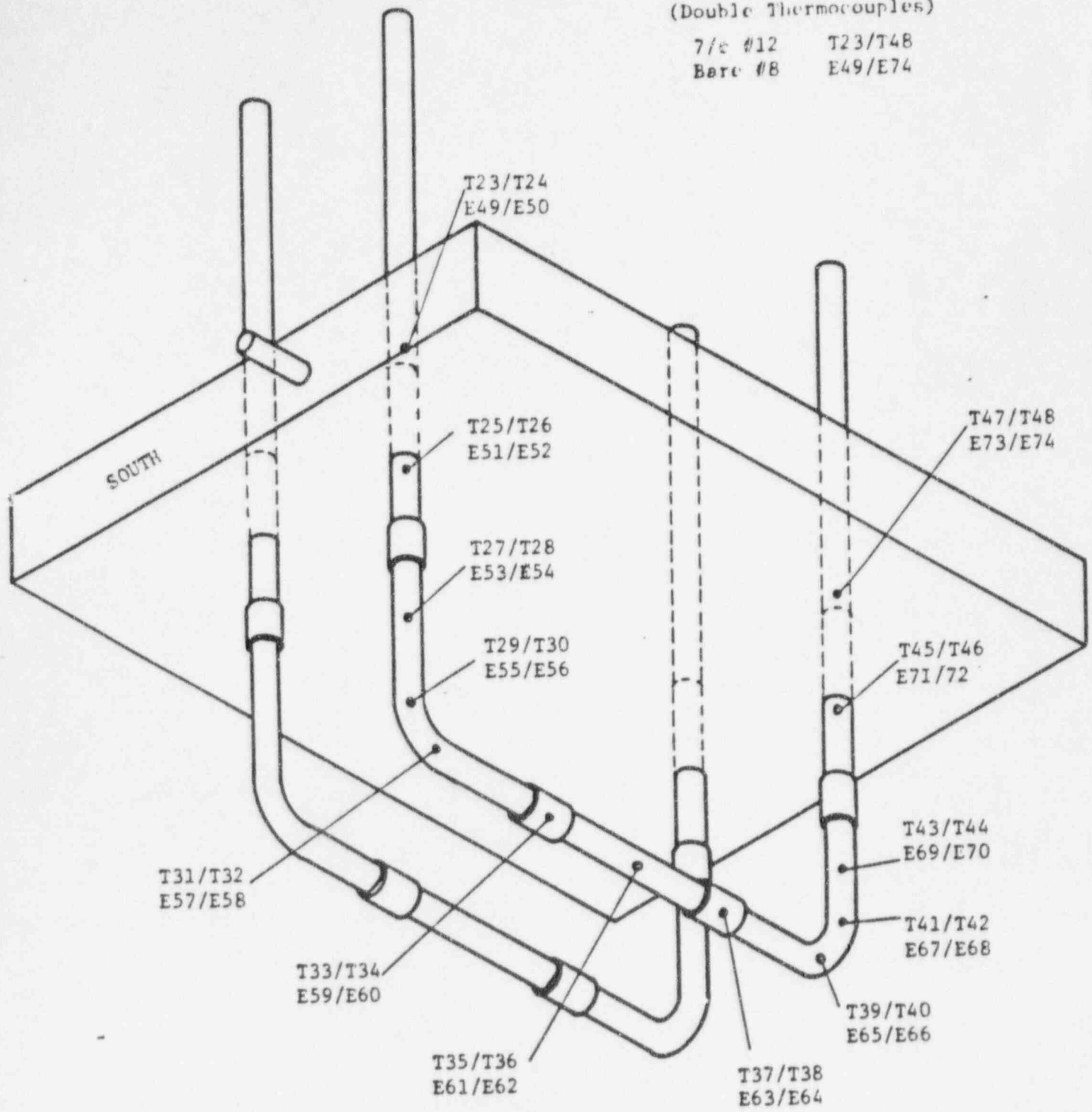
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	1	7-23-86			
	NOT TO SCALE		CM		
	DR K. A. Jensen	APP R. R. Licht			
Ceramic Materials Department/3M		3M/TSI FIRE TEST SLAB			

FIGURE 6

CONDUIT #1

CABLE THERMOCOUPLES
(Double Thermocouples)

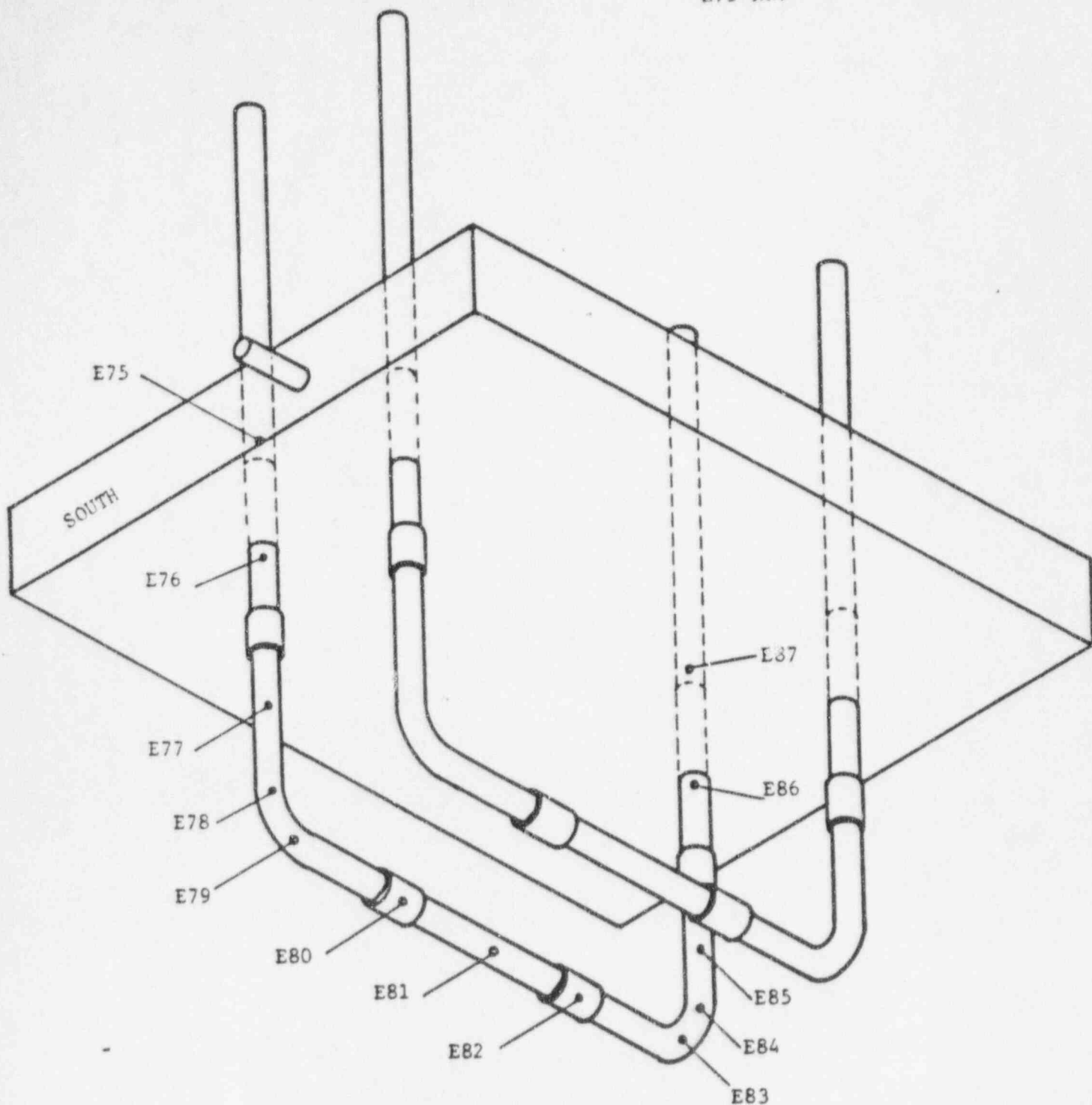
7/c #12 T23/T48
Bore #8 E49/E74



<p><small>All statements, technical information and recommendations contained herein are based on tests and believe to be reliable however, under the conditions of use and application are beyond our control. We shall not be liable for any damage, direct or consequential, resulting from the use of this material or design. 3M's only warranty shall be to replace any of our products found to be defective.</small></p>	ISSUE	DATE	REV.	CM.	<p>THERMOCOUPLE PLACEMENT CONDUIT #1 CABLE SURFACE</p>
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<p>Ceramic Materials Department/3M</p>	<p>3M</p>	<p>3M/TS1 FIRE TEST</p>		<p>3-Hour System</p>	

CONDUIT #2

SURFACE THERMOCOUPLES
E75-E87



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THERMOCOUPLE PLACEMENT
CONDUIT #2
CONDUIT SURFACE

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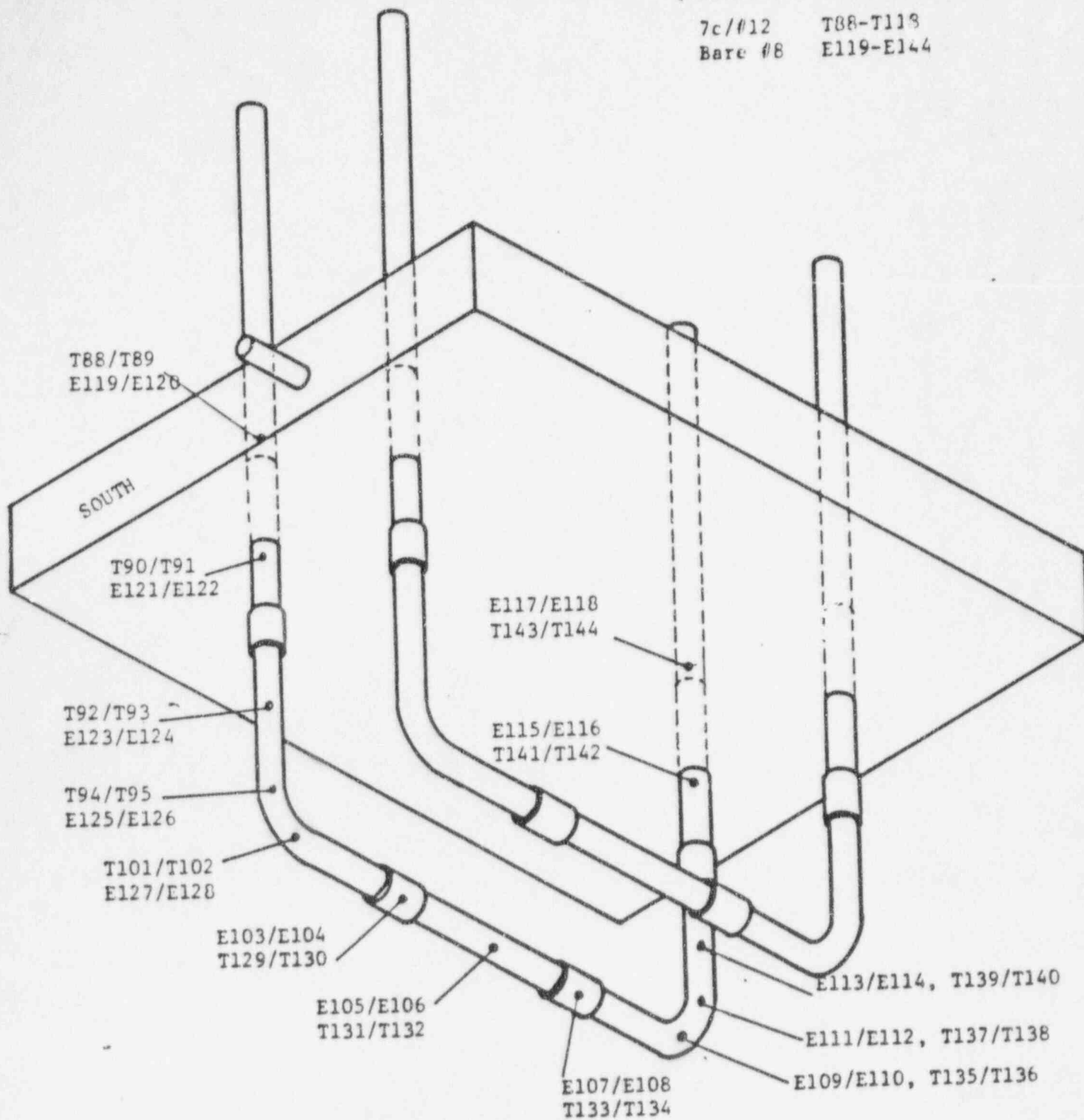
3M/TS1 FIRE TEST

3-Hour System

CONDUIT #2

CABLE THERMOCOUPLES
(Double Thermocouples)

7c/#12 T88-T118
Bare #8 E119-E144



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THERMOCOUPLE PLACEMENT
CONDUIT #2
CABLE SURFACE

Ceramic Materials
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3M/TS1 FIRE TEST

3-Hour System

APPENDIX D

CIRCUIT INTEGRITY MONITORING

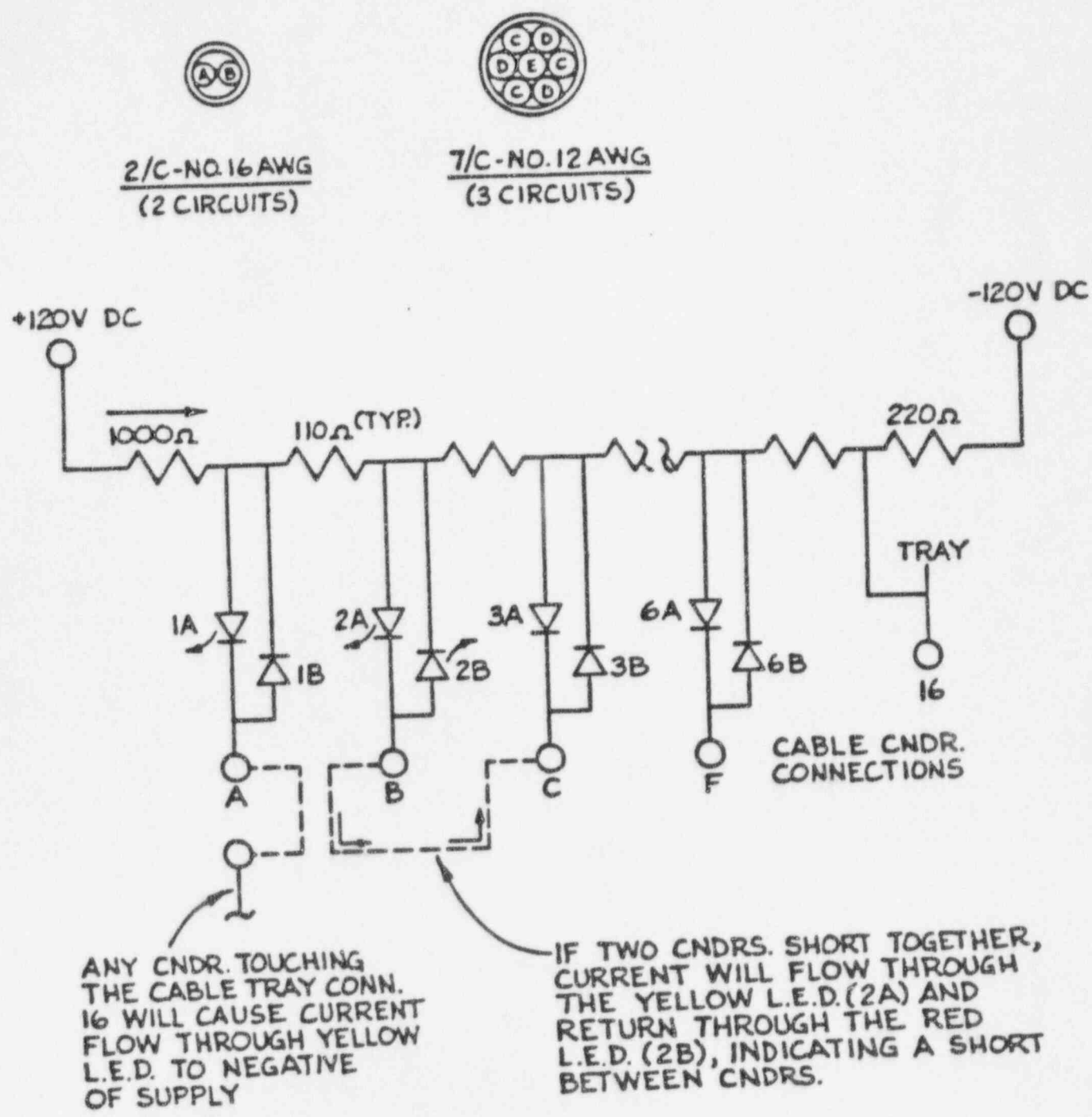
Electrical Lead Assignments	Table II
Schematic of Electrical Circuit Integrity Test Equipment	Figure 9

TABLE II

ELECTRICAL LEAD ASSIGNMENTS FOR CIRCUIT INTEGRITY MONITORING

TEST SLAB

<u>Lead No.</u>	<u>Description</u>	
1	Ground	} 2-1/2" Ø Conduit #1
2	7/c #12 Center black	
3	7/c #12 Red, orange, brown	
4	7/c #12 Blue, yellow, red with black	
5	2/c #14 Red	
6	2/c #14 Black	
7	7/c #12 Center black	} 2-1/2" Ø Conduit #2
8	7/c #12 Red, orange, brown	
9	7/c #12 Blue, yellow, red with black	
10	2/c #14 Red	
11	2/c #14 Black	



ANY CNDR. TOUCHING THE CABLE TRAY CONN. 16 WILL CAUSE CURRENT FLOW THROUGH YELLOW L.E.D. TO NEGATIVE OF SUPPLY

IF TWO CNDRS. SHORT TOGETHER, CURRENT WILL FLOW THROUGH THE YELLOW L.E.D. (2A) AND RETURN THROUGH THE RED L.E.D. (2B), INDICATING A SHORT BETWEEN CNDRS.

ELECTRICAL CIRCUIT INTEGRITY
(TYPICAL-EACH SYSTEM)

APPENDIX E

QUALITY ASSURANCE

3M Installation Quality Assurance Guidelines

TSI Installation Quality Assurance Guidelines

Installation Inspection Report Form

Certificate of Analysis for:

Interam[®] E-50D Mat

Interam[®] T-49 Tape

Interam[®] CS-195 Composite Sheet

Fire Barrier CP-25 Caulk


INSTALLATION QUALITY ASSURANCE GUIDELINES

FOR 3M INTERAM™ E-50D MAT 3-HOUR FIRE PROTECTION SYSTEM

6400-01

Many methods of preparing 3M material for application are possible. Prints issued by 3M do not show all possible installation methods nor even necessarily the best method for installing 3M products. 3M suggests that some installer latitude is acceptable if critical design requirements are met.

This document is intended to supply the installer and the quality inspector with a tool for evaluating the acceptability of design variations.

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	1	7-15-86			
	NOT TO SCALE		DR R.R.J. 7-17-86		
	BY K.A. Jensen	APP R. B. [Signature]			
<p>Ceramic Materials Department/3M</p> 	6400-QA				

When performing quality audits during installation of the 3M Interam™ E-50D Mat 3-Hour Fire Protection System, the following critical system design requirements must be met:

- I. Proper Materials and General Installation Guidelines
- II. Proper Preparation of Open Top Cable Trays Before Any Fire Protection Mat is Applied
- III. Proper Number of Layers
- IV. Proper Seam Overlaps of the Same Layer and Proper Stagger of Seams Between Layers
- V. Proper Repair of Any Gaps or Cuts in the System
- VI. Proper Caulking After the Final Layer of the System
- VII. Proper System Restraints
- VIII. Proper Inspection of the System

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	<p>NOT TO SCALE</p>	<p>DATE</p> <p>7-17-86</p>		<p>BY</p> <p>K.A. Jensen</p>		<p>BY</p> <p>R.R. [Signature]</p>
	<p>Ceramic Materials Department/3M</p> <p>3M</p>		<p>6400-QA</p>			

F. All other materials that are used for assembly may be purchased independent of 3M.

G. All materials must be visually examined upon receipt for damage during shipment and storage.

II. PROPER PREPARATION OF OPEN TOP CABLE TRAYS BEFORE ANY FIRE PROTECTION MAT IS APPLIED

Before any fire protection mat is applied to an open top cable tray greater than 12" wide, some type of strapping must be applied around or across the cable tray at a maximum spacing of 12" on center and underneath all seams. This strapping is used to minimize sagging of the fire protection mat. Any strapping system with a minimum tensile strength of 500 pounds may be used. Some options are:

- Minimum two wraps of 3/4" or wider 3M Filament Tape #898
- Most 1/2" or wider polyester or nylon strapping
- Metal strapping with precautionary note about future pulling of cables
- Metal, plastic, or wood bridging across the top of the cable tray

III. PROPER NUMBER OF LAYERS

A. Cable trays, conduits, airdrops, and junction boxes

Requirement is five layers of E-50D.

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	NOT TO SCALE		DRKJ 7-17-86		
	BY K.A. Jensen		AND R. B. BENTON		
Ceramic Materials Department/3M	6400-QA				

B. Supports and heat transfer items

1. Partial Length Protection - 5 layers for 12"

If the final user of the 3M Interam™ E-50D 3-hour Fire Protection System has determined that the strength of the bare supports holding a critical fire protected item would be sufficient if exposed to an ASTM E-119 time-temperature fire curve, then the supports and any heat transferring item must be fire protected with five layers of E-50D a minimum of 12" from the point of contact to the critical item. Also, any heat transferring item within a 12" conductive heat transfer path from the critical item must also be fire protected with five layers of E-50D.

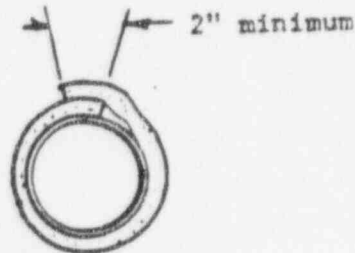
2. Full Length Protection - 3 layers entire length and baseplate

If the above criteria for the high temperature strength of bare supports is not met, or as an alternative the above partial length protection, the entire length of the support and the baseplate must be fire protected with three layers of E-50D. Also, any heat transferring item that physically contacts the support must be fire protected with three layers of E-50D a minimum of 12" from the point of contact along the heat transfer path.

IV. PROPER SEAM OVERLAPS OF THE SAME LAYER AND PROPER SEAM OFFSET BETWEEN LAYERS

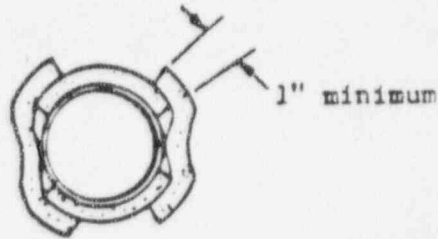
A. Conduits, Airdrops, Supports, and Heat Transfer Items

- Whenever a mat wrap-around technique is used, all seam overlaps of the same layer of mat wrapped around an item and back onto itself must be a minimum of 2".



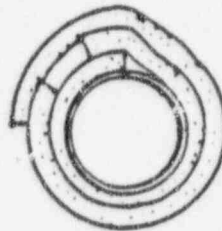
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	<p>NOT TO SCALE</p>		<p>BY <i>R.D.J.</i> 7-17-86</p>		
	<p>BY K.A. Jensen</p>		<p>APP. <i>R.F. Licht</i></p>		
<p>Ceramic Materials Department/3M</p>	<p>6400-QA</p>				

- a. On elbows, at least two options exist for wrapping:
- (1) Wrap-around technique using short sections around the curve of the elbow;
 - (2) Multiple piece per layer technique (e.g. top, bottom, sides). With this technique, a minimum of 1" overlap is required.

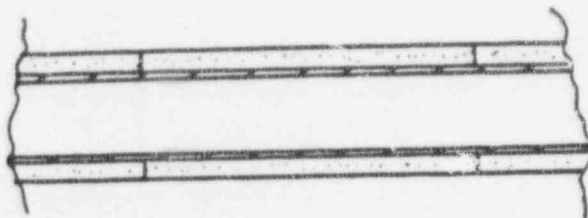


- b. When a given layer has an overlapped seam onto the same or adjoining piece of the same layer, the next layer may be started anywhere.

Next layer may start anywhere

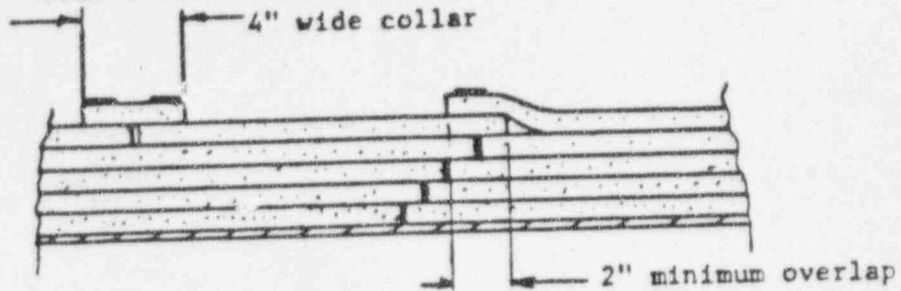


2. All adjoining pieces of the same layer of mat may be butted together without an overlap onto the adjoining pieces. This applies only on layers #1 through #4 which are the four inner layers.

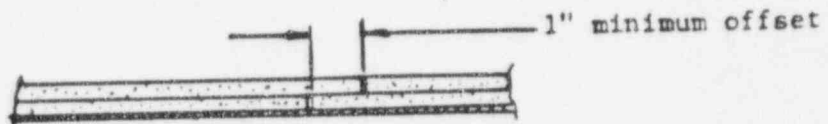


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	NOT TO SCALE		RQJ 7-17-86 K.A. Jensen		
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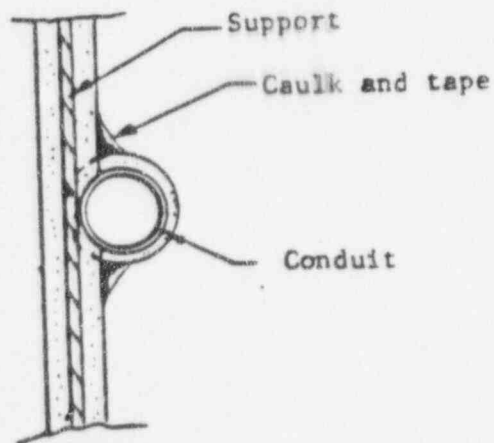
3. On the fifth or final layer, a minimum of 2" overlap of adjoining pieces or a butt joint may be used with a minimum 4" wide collar strip covering the seam.



4. The stagger or offset of the seams of a given layer to the seams of the next layer must be a minimum of 1".



5. Direct line seams to the protected item may be used if necessary at interfaces, terminations, or sharp discontinuities. However, these direct line seams must be caulked and taped after the final layer.



KJ:23.7

ALL DIMENSIONS, UNLESS OTHERWISE SPECIFIED, ARE IN INCHES. DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED. DIMENSIONS ARE TO BE TAKEN FROM THE CENTER OF THE CONDUIT UNLESS OTHERWISE SPECIFIED. DIMENSIONS ARE TO BE TAKEN FROM THE CENTER OF THE CONDUIT UNLESS OTHERWISE SPECIFIED. DIMENSIONS ARE TO BE TAKEN FROM THE CENTER OF THE CONDUIT UNLESS OTHERWISE SPECIFIED.

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 DATE 7-17-86
 BY E.B. Licht

QA GUIDELINES

3-Hour System

Page 7 of 13

E-50D

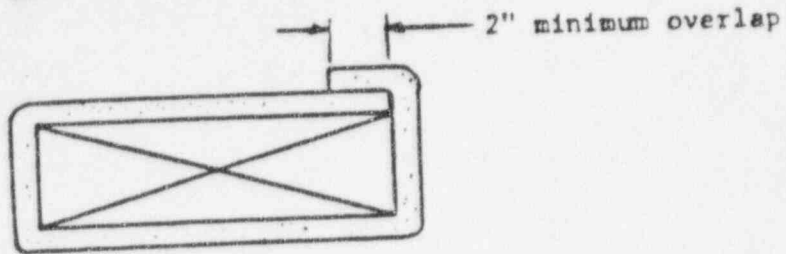
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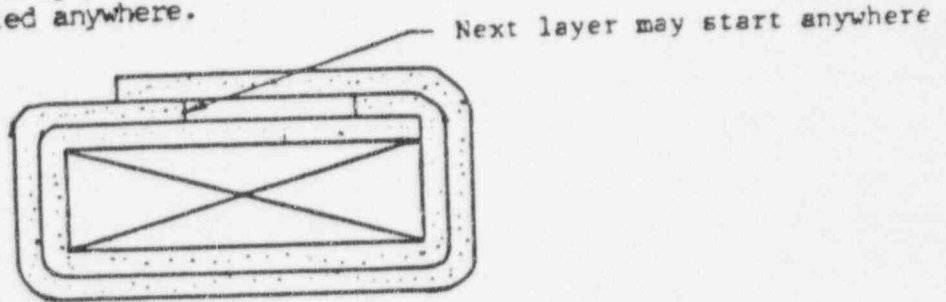
6400-QA

B. Cable Trays, Junction Boxes, and Buss Ducts

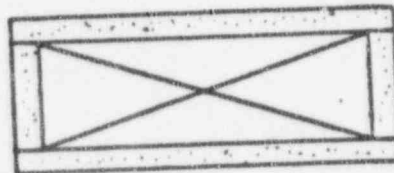
1. Whenever a mat wrap-around technique is used, all seam overlaps of the same layer of mat wrapped around an item and back onto itself must be a minimum of 2".



When a given layer has an overlapped seam onto the same or adjoining piece of the same layer, the next layer may be started anywhere.

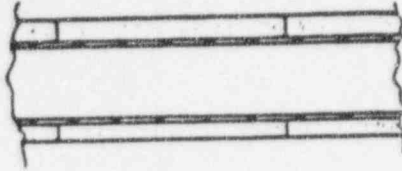


2. An alternative to the wrap-around technique is the four-piece-per-layer, box-type technique whereby adjoining pieces of the same layer are effectively butted together at right angles.

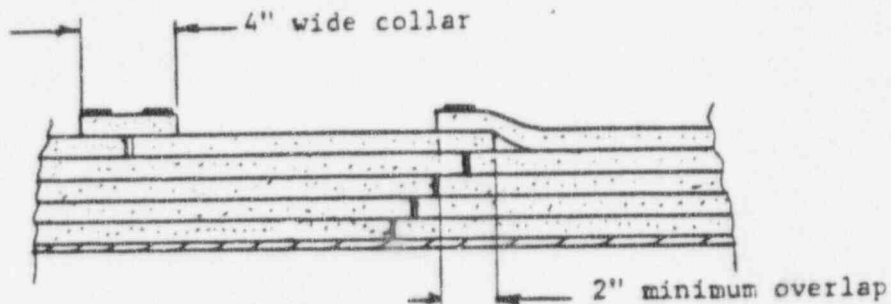


<p>KJ:2318</p> <p>ALL DIMENSIONS, UNLESS OTHERWISE SPECIFIED, ARE IN INCHES. DIMENSIONS ARE GIVEN IN DECIMALS OF AN INCH. DIMENSIONS ARE GIVEN IN FRACTIONS OF AN INCH. DIMENSIONS ARE GIVEN IN MILLIMETERS. DIMENSIONS ARE GIVEN IN CENTIMETERS. DIMENSIONS ARE GIVEN IN METERS. DIMENSIONS ARE GIVEN IN KILOMETERS. DIMENSIONS ARE GIVEN IN MILES. DIMENSIONS ARE GIVEN IN KILOMILES. DIMENSIONS ARE GIVEN IN METERS. DIMENSIONS ARE GIVEN IN KILOMETERS. DIMENSIONS ARE GIVEN IN MILES. DIMENSIONS ARE GIVEN IN KILOMILES.</p>	ISSUE	DATE	REV.	CM.	<p>QA GUIDELINES</p> <p>3-Hour System</p> <p>Page 8 of 13</p> <p>E-50D</p>
	1	7-15-86			
	NOT TO SCALE		REV. 7-17-86		
	BY: K.A. Jensen	APP: R. B. Licht			
<p>Ceramic Materials Department/3M</p> <p>3M</p>	6400-QA				

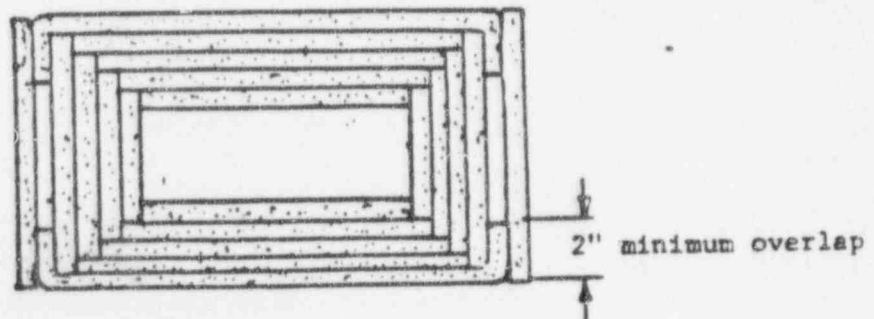
3. All adjoining pieces of the same layer of mat may be butted together without an overlap to the adjoining pieces. This applies only on Layers #1 through #4 which are the four inner layers.



4. On the fifth or final layer, a minimum of 2" overlap of adjoining pieces is required, or a butt joint may be used with a minimum 4" wide collar strip covering the last seam.

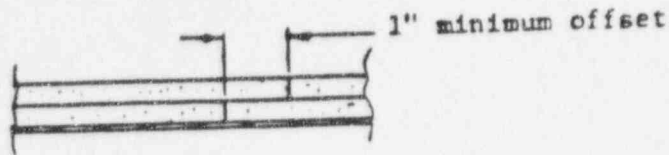


A minimum of 2" overlap around the corners is also required on the fifth or last layer when a box-type installation technique is used.

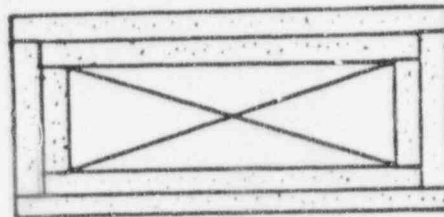


<small>All statements, technical information and recommendations contained herein are based on tests we believe to be reliable however under the conditions of use and application are beyond our control. We shall not be liable for any damage, direct or consequential, resulting from the use of this material or design. Our only warranty shall be to replace any of our products found to be defective.</small>	ISSUE	DATE	REV.	CH.	QA GUIDELINES 3-Hour System Page 9 of 13 E-50D
	1	7-15-86			
	NOT TO SCALE		DR R.R. [Signature] 7-17-86 APR R.R. [Signature] 7-17-86		
Ceramic Materials Department/3M	3M	6400-QA			

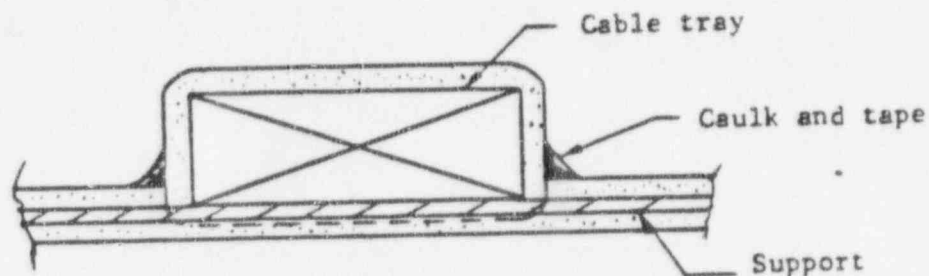
5. The stagger or offset of the seams of a given layer to the seams of the next layer must be a minimum of 1".



Exception: At interfaces, corners, or curves where pieces of a given layer are butted together, the stagger or offset of the seams of a given layer to the seams of the next layer may be as little as the thickness of the mat.



6. Direct line seams to the protected item may be used if necessary at interfaces, terminations, or sharp discontinuities. However, these direct line seams must be caulked and taped after the final layer.



<p>KJ:23,10</p> <p>All statements, technical information and recommendations contained herein are based on data we believe to be true. However, under the conditions of use and application are beyond our control. We shall not be liable for any damage direct or consequential resulting from the use of this material or design. Our only obligation shall be to replace any of our products found to be defective.</p>	ISSUE	DATE	REV.	CH.	<p>QA GUIDELINES</p> <p>3-Hour System</p> <p>Page 10 of 13 E-50D</p>
	1	7-15-86			
	NOT TO SCALE		7-17-86 Rps		
	BY K.A. Jensen	APP R. B. Jensen			
<p>Ceramic Materials Department/3M</p> <p>3M</p>	6400-QA				

V. PROPER REPAIR OF ANY GAPS OR CUTS IN THE SYSTEM

- A. For foil tears, holes, rips, or gaps in the mat less than 1/4", simply cover the area with aluminum foil tape.
- B. For tears, holes, rips, or gaps in the mat 1/4" or greater in the first four inner layers, fill the void with a piece of E-50D mat with butt joints and cover with aluminum foil tape.
- C. For tears, holes, rips, or gaps in the mat 1/4" or greater in the last layer, either (a) fill the void with Interam[®] CP-25 caulk and cover with aluminum foil tape; or (b) cover the void with E-50D mat following the 2" minimum overlap rules for the last layer and hold in place with stainless steel banding.

VI. PROPER CAULKING AFTER THE FINAL LAYER OF THE SYSTEM

- A. Interam[®] CP-25 Caulk should be used whenever a fire protected item connects to a concrete surface. A bead of caulk at least 1/4" in diameter should be applied entirely around the circumference of the fire protected item before any Interam[®] CS-195 Composite Sheet is applied.
- B. Interam[®] CP-25 Caulk should be used whenever a support or heat transferring item is fire protected using the 12" rule.
 - 1. Caulk is required at the butt joined interface of the fifth layer of the support or heat transferring item to the fifth layer of the fire protected item. A bead of caulk at least 1/4" in diameter should be applied entirely around the circumference of the interface.
 - 2. Caulk is required at the end of the Fire Protection System on the support or heat transferring item. The caulk should be used around the support or heat transferring item and within any gaps between layers at this termination of the Fire Protection System. If the support or heat transferring item is an open channel of any type, the open channel should be stuffed with at least 4" of ceramic fiber insulation or E-50D mat and caulked.

<p>KJ:23.11</p> <p><small>All statements, drawings, information and recommendations contained herein are based on facts and figures as far as they are known and the conditions of use and application are beyond our control. We shall not be liable for any damage, loss or consequential resulting from the use of this material or design. Our only warranty shall be to replace any of our products found to be defective.</small></p>	ISSUE	DATE	REV.	CH.	<p>QA GUIDELINES</p> <p>3-Hour System</p> <p>Page 11 of 13 E-50D</p>
	1	7-15-86			
	NOT TO SCALE		RD 7-17-86		
	BY K.A. Jensen	APP R.B. Licht			
<p>Ceramic Materials Department/3M</p> <p>3M</p>		6400-QA			


VII. PROPER SYSTEM RESTRAINTS

A. Stainless Steel Banding

1. A minimum of 1/2" wide x .020" Series 300 thick stainless steel bands must be applied after the second and fifth layers of the system. Either crimp-type banding seals or fold-over wing-type seals may be used. If only three layers are installed, e.g. on fully wrapped supports, banding is required only on the third layer.
2. Bands must also be placed on both sides of all butt joined seams with the band centerline within 2" of the seam, at approximately the center of overlapped seams, and at all system terminations with the band centerline within 2" of the termination.
3. If a minimum 4" wide collar strip is used, a minimum of two bands are required with the centerline of the band within 2" of the edge of the collar.
4. Throughout the entire system, band spacing must be 8" or less from centerline to centerline.
5. The bands must be tightened to the point where they do not move freely, but not tight enough to cut the aluminum foil.
6. If the banding is to be anchored to concrete, a minimum of 5/8" wide x .020" thick series stainless steel bands should be used to accommodate a 1/4" diameter hole for the concrete anchor.
7. An alternative to stainless steel banding is welded stainless steel mesh wire cloth covering the entire system. A minimum of 2 mesh x 2 mesh (nominal 1/2" square openings) should be used with a wire diameter of .060" or larger.

B. Interam™ CS-195 Composite Sheet

1. CS-195 sheet must be used at all penetrations of the E-50D fire protection mat to concrete walls, ceiling, and floors.
2. The CS-195 sheet must cover the concrete by at least 2".
3. The CS-195 sheet must cover the E-50D mat by at least 4".

All dimensions, materials, finishes and recommendations contained herein are based on tests or believe to be reliable however under the conditions of use and application are beyond our control. We shall not be liable for any damage, direct or consequential, resulting from the use of the material or design. Our only warranty shall be to replace any of our products found to be defective.	REG. 1	DATE 7-15-86	REV.	CH.	QA GUIDELINES 3-Hour System Page 12 of 13 E-50D
	NOT TO SCALE		7-17-86		
	DR K.A. Jensen		DR R. J. Licht		
Ceramic Materials Department/3M		6400-QA			

4. The CS-195 sheet is anchored to the concrete such that at least 1-1/2" of the anchor penetrates the concrete.
5. Maximum concrete anchor spacing is 4". Also, concrete anchors are required within 2" of all corners and within 2" of both sides of all seams.
6. A minimum of 1-1/4" x 1/4" diameter washers are required on all concrete anchors.

VIII. PROPER INSPECTION OF THE SYSTEM REQUIRES INSPECTION POINTS AS FOLLOWS:

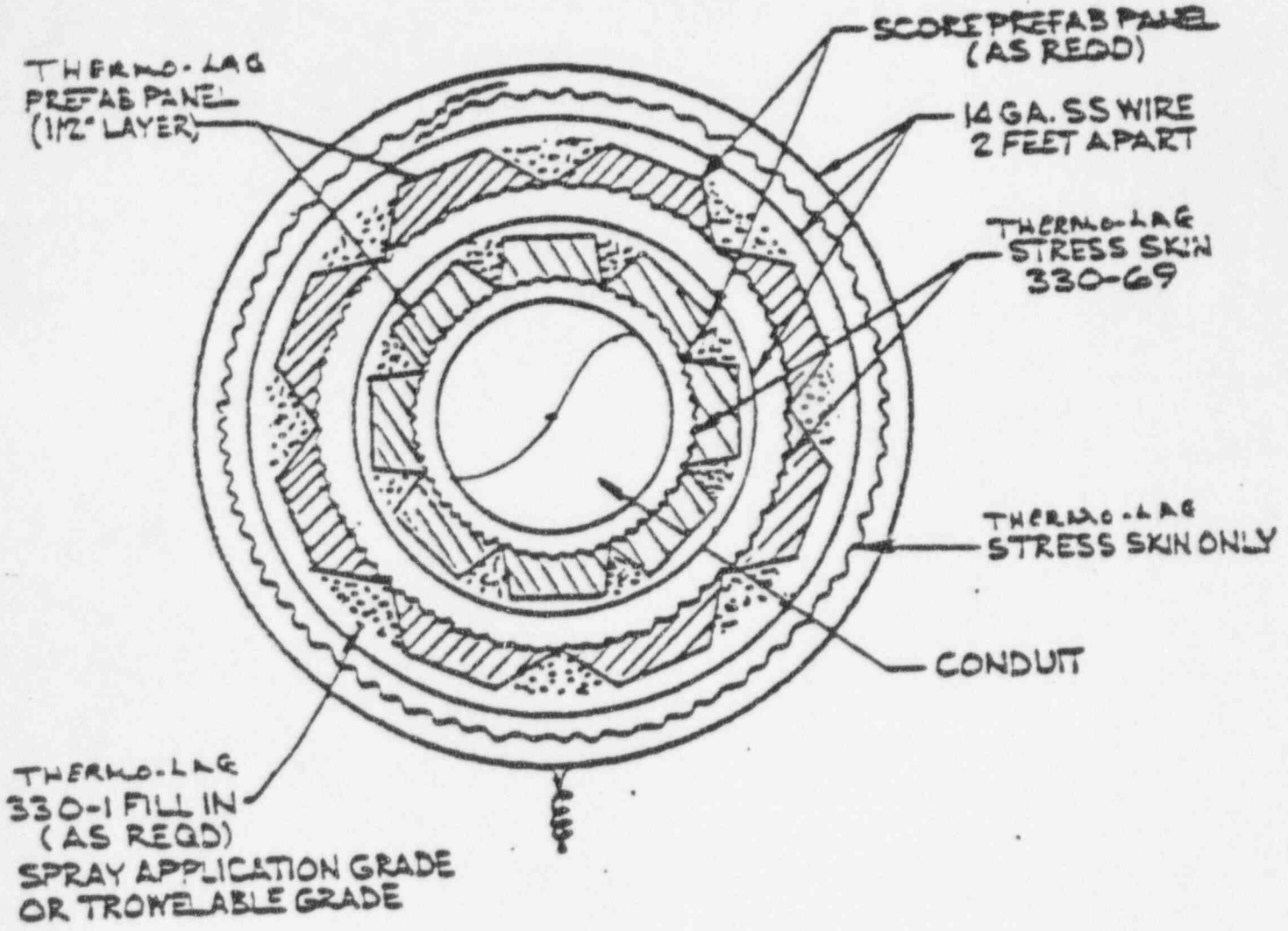
- A. Before start of installation,
- B. After the addition of each layer,
- C. After all caulking is done, and
- D. After entire restraining system is installed.

<p>KJ:23,13</p> <p><small>ALL DIMENSIONS UNLESS OTHERWISE SPECIFIED AND RECOMMENDATIONS CONTAINED HEREIN ARE BASED ON TESTS ON BATHS TO BE TESTED. THIS DOCUMENT AND THE SPECIFICATIONS OF THE SYSTEM AND APPLICATION ARE SUBJECT TO CHANGE WITHOUT NOTICE. THE USER SHALL BE RESPONSIBLE FOR ANY DAMAGE OR LOSS OF PRODUCT RESULTING FROM THE USE OF THIS MATERIAL OR SYSTEM. THE USER'S WARRANTY SHALL BE TO REPORT ONLY IF OUR PRODUCTS FOUND TO BE DEFECTIVE.</small></p>	ISSUE	DATE	REV.	CH.	<p>QA GUIDELINES</p> <p>3-hour System</p> <p>Page 13 of 13 E-50D</p>
	1	7-15-86			
	NOT TO SCALE		RD-1	7-17-86	
	DR K.A. Jensen		AP [Signature]		
Ceramic Materials Department/3M	3M	6400-QA			

TSI INSTALLATION

ASSURANCE GUIDELINES

PREFAB PANEL CONDUIT
3-HOUR RATING THERMO-LAG 330-1



IF ANY QUESTIONS CONTACT
 DAN ROSS,
 509-377-8000 ext 8816

Attachment C - Figure 36

PROCEDURE NUMBER	REVISION NUMBER	PAGE NUMBER
10.25.89	0	10.25.89-54 of 65

b. Areas of Support Steel/Hangers to be Covered

- 1) All support steel necessary to support the gravity loading shall be covered entirely with the designated thickness of Thermo-Lag. Embedded unistrut, strip plates and seismic (horizontal) braces need only be covered a minimum of nine (9) inches from the point of attachment.
- 2) Unprotected trays, tray supports, tubing and insulated piping which penetrate the Thermo-Lag envelope shall be covered a minimum of nine (9) inches from the point where the Thermo-Lag envelope is entered. Antisweat insulated piping shall have the insulation removed and replaced with Thermo-Lag for the appropriate distance specified above.

9. Coating Procedure

a. One-Hour Barriers: For all installations except those for structural steel members, the MINIMUM required dry coating thickness of Thermo-Lag 330-1 is 0.5 inch, with a tolerance of -0.00 inch and an average thickness of no greater than 5/8 inch, or a maximum thickness of 3/4 inch, except locations immediately adjacent to, and including, any joints or flanges.

b. Three-Hour Barriers: For all installations except those for structural steel members, the MINIMUM required total amount of dry Thermo-Lag material is one (1) inch, with a tolerance of -0.00 inch and an average thickness of no greater than 1-1/8 inch, or a maximum thickness of 1-1/4 inch, except locations immediately adjacent to, and including, any joints or flanges.

1) Three-hour barriers may be constructed of two (2) separate layers of prefabricated board or a minimum of 1" 330-1 Subliminal T/L Coating.

2) All three-hour barriers will have Stress Skin mounted to the outside of the final installation, except for structural steel applications.

c. Spray Application

- 1) Thermo-Lag 330-1 removed from warehouse shall be agitated or stirred for fifteen (15) minutes prior to application. No further mixing is required.

PROCEDURE NUMBER	REVISION NUMBER	PAGE NUMBER
10.25.89	0	10.25.89-9 of 65

INSTALLATION INSPECTION REPORT

DATE OF INSPECTION _____

TIME INSPECTION BEGAN _____

APPROXIMATE LENGTH OF INSPECTION _____

AREA OF CONFIGURATION INSPECTED _____

STATUS OF AREA OF CONFIGURATION INSPECTED _____

	Yes	No	Comment
Mat overlap requirements?	[]	[]	_____
Seam stagger requirements?	[]	[]	_____
All seams foil taped?	[]	[]	_____
All gaps or damaged areas properly repaired?	[]	[]	_____
Layer number written on mat?	[]	[]	_____
Proper restraining band spacing?	[]	[]	_____
Proper restraining band tension?	[]	[]	_____
Proper caulking?	[]	[]	_____
Proper installation of CS-195 composite sheet?	[]	[]	_____

Deviations or non-conforming installation techniques and corrective action, if any:

Other comments: _____

Witness of inspection:

Signature _____
Name _____
Date _____

Signature _____
Inspector Name _____
Date _____

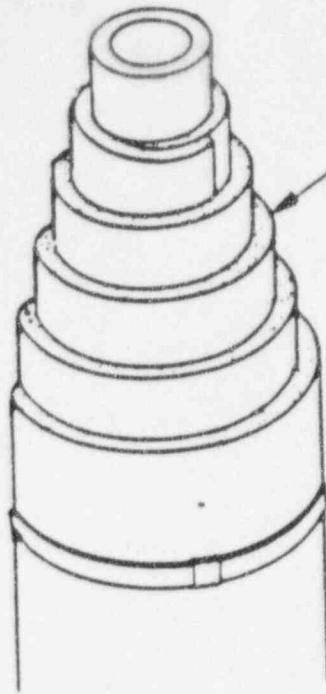
COPIES OF APPLICABLE 3M CERTIFICATES OF ANALYSIS

WILL BE INCLUDED IN FINAL TEST REPORT

APPENDIX F

3M INSTALLATION DRAWINGS

Conduit or Airdrop Straight Run	6400-C1
Conduit Elbow	6400-C2
Conduit or Airdrop Slab Interface CS-195 Collar/Plate.	6400-C3
Materials List.	6400-ML 6400-ML-1 6400-ML-2
Interface to a N M Mat Products Seam Details	6400-S1
3M/TSI Mat Interface.	3M/TSI Fire Test
TSI Installation Information	

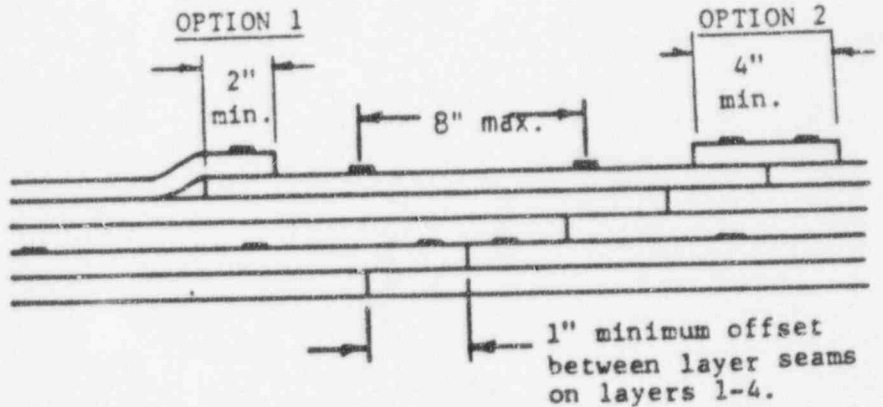
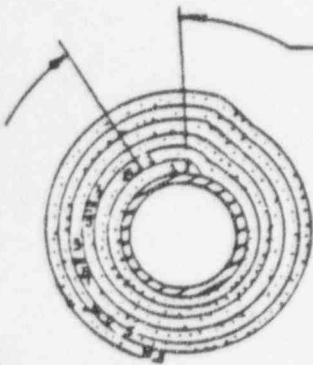


Straight section of conduit or airdrop wrapped with 5 layers of E-50D.

Band the second and the fifth layer with stainless steel banding within 2" of seams and at 8" maximum spacing throughout.

A 2" overlap is maintained throughout the system. All seams are taped with T-49 aluminum tape.

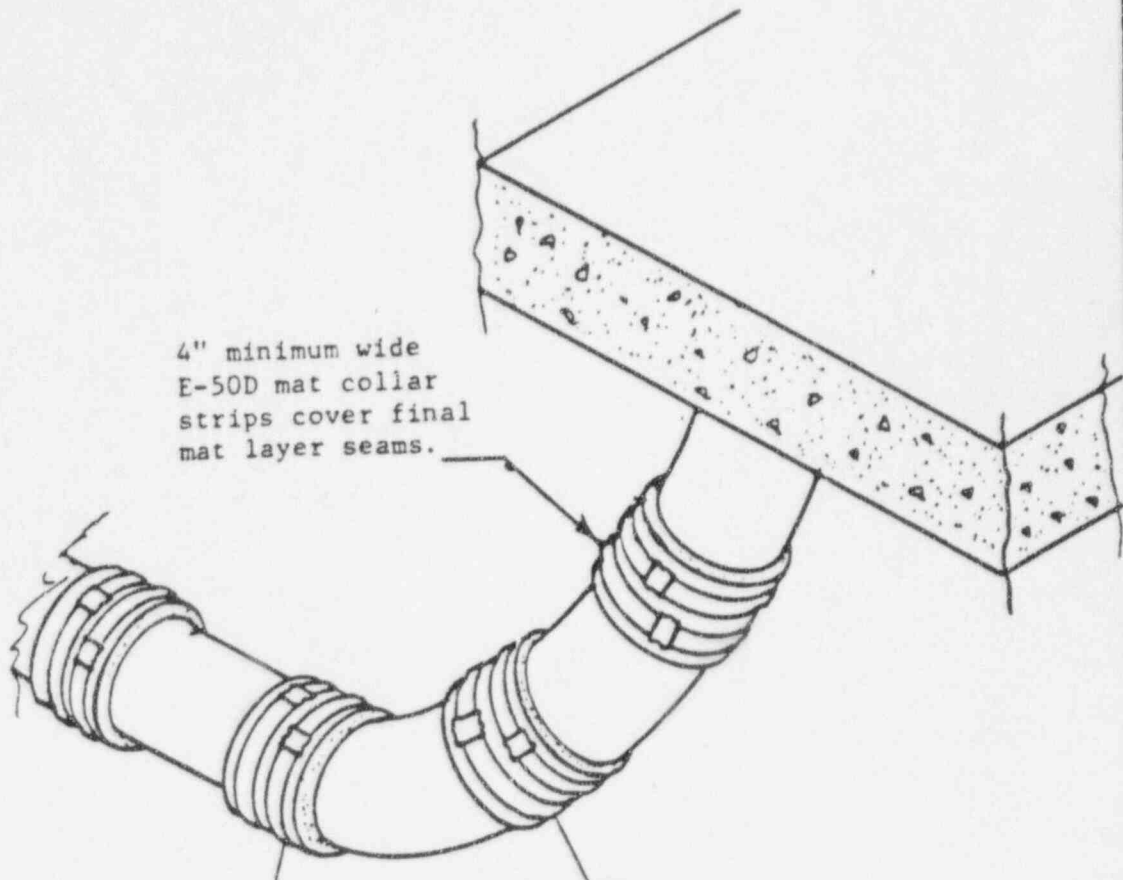
FINAL LAYER SEAM COVER OPTIONS



Final Layer Seam Cover Options:

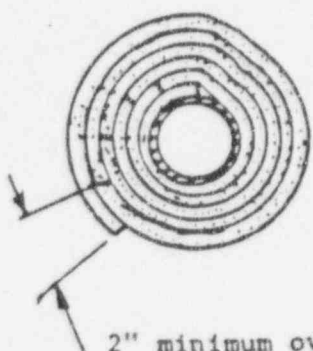
1. 2" minimum overlap on the last layer seam.
2. 4" minimum wide strips of E-50D must cover all final mat layer seams. Two bands minimum are required for each collar strip.

EJ:21 <small>All dimensions, material information and recommendations contained herein are based on tests run before the final design was finalized. The manufacturer of the material and the user are advised that the manufacturer of the material is not responsible for any damage, direct or consequential, resulting from the use of the material or design. 3M's only warranty shall be to replace any of our products found to be defective.</small>	ISSUE 1	DATE 7-15-86	REV. RQ 7-17-86	CH. B.B. Licht 7-17-86	CONDUIT OR AIRDROP STRAIGHT RUN 3-hour System E-50D
	NOT TO SCALE		BY K.A. Jensen		
	3M		6400-C1		

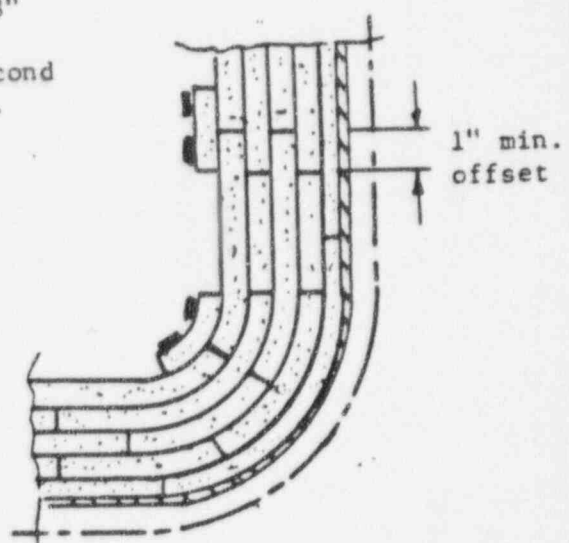


4" minimum wide E-50D mat collar strips cover final mat layer seams.

Stainless steel banding within 2" of seams and at 8" maximum spacing throughout on second and fifth layers.



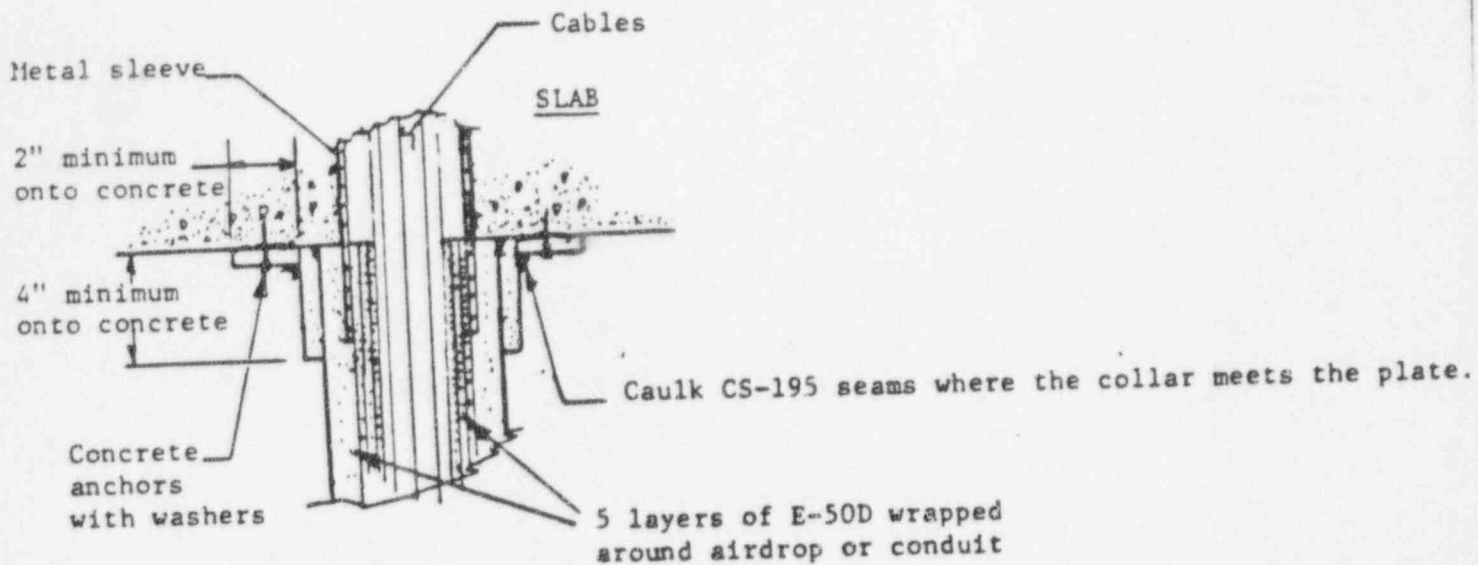
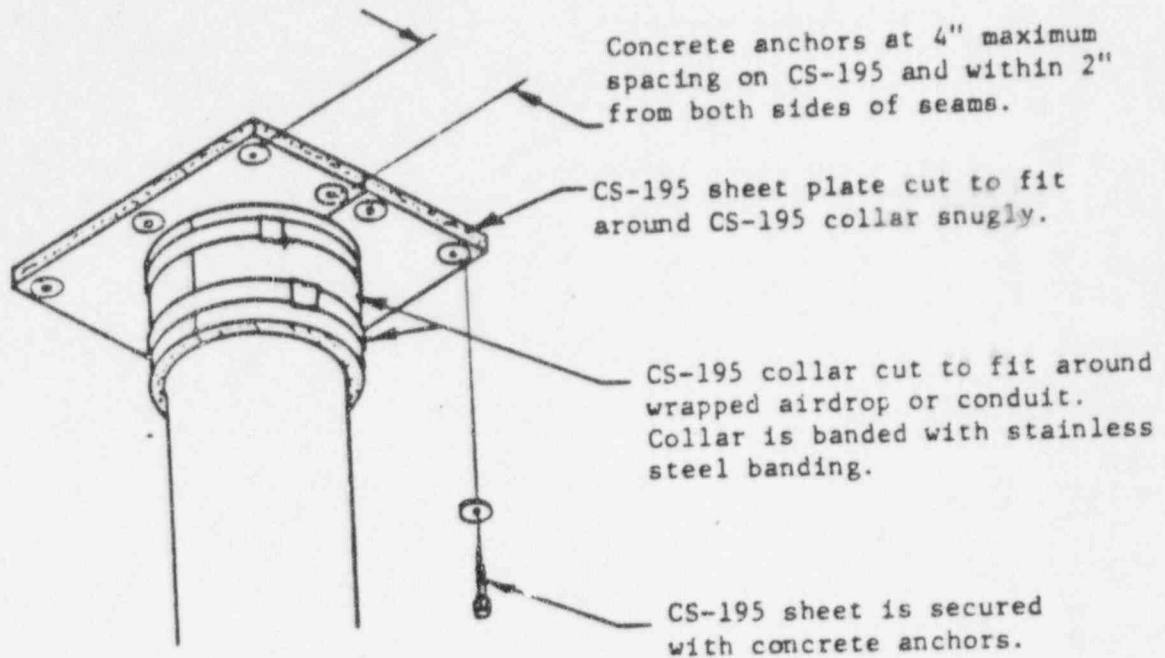
2" minimum overlap
5 layers E-50D required.



1" min. offset

NOTE: Use short sections of mat around the curve of the elbow. The sections are butted together with a 2" minimum overlap and a 1" minimum offset.

KJ:20 <small>Our instructions, technical information and recommendations contained herein are based on tests and experience to be used only as a guide. The conditions of use and application are beyond our control. We shall not be liable for any damage, direct or consequential, resulting from the use of this material or through any copy or modification thereof. Do not replace any of our products found to be defective.</small>	SERIAL 1	DATE 7-15-86	REV. 	CHL 	CONDUIT ELBOW 3-Hour System E-50D
	REF TO SCALE BY K.A. Jensen		DATE 7-17-86 BY W. L. CHIT 7-18-86		
Ceramic Materials Department/3M	3M		6400-C2		



KJ:19 <small>ALL statements, technical information and recommendations contained herein are based on tests and believe to be reliable. However, users are responsible for the application of the material and for the results. No liability is assumed for any damage, direct or consequential, resulting from the use of this material or design. No warranty shall be made to replace any of our products found to be defective.</small>	SHEET 1	DATE 7-15-86	REV. 	CM. 	CONDUIT OR AIRDROP SLAB INTERFACE CS-195 COLLAR/PLATE 3-Hour System E-50D
	REF TO SCALE		<i>RDJ</i> 7-17-86		
	<i>K.A. Jensen</i>		<i>R.B. Licht</i> 7-15-86		
	Ceramic Materials Department/3M		6400-C3		

MATERIALS LIST

FOR 3M INTERAM™ E-50D FIRE PROTECTION SYSTEM

3M PRODUCTS

<u>Reference Name</u>	<u>Trade Name</u>	<u>Size/Quantity</u>	<u>3M Part No.</u>
E-50D Mat	Interam™ E-50D Mat	49" x 12'	98-0400-0501-3
CS-195	Interam™ CS-195 Composite Sheet	24" x 36"	80-6101-1651-1
		36" x 36"	80-6101-1650-3
		41" x 36"	80-6101-1873-1
CP-25	Fire Barrier Caulk CP-25	10.5 oz. tube	98-0400-0250-7
		5-gallon pail	98-0400-0217-6
Putty 303	Fire Barrier Putty 303	1-quart can	98-0400-0218-4
		1-gallon can	98-0400-0251-5
		5-gallon pail	98-0400-0216-8
Aluminum Tape	Interam™ T-49 Tape	4" x 180'	98-0400-0172-3
Filament Tape	Scotch® Brand Tape #898	3/4" x 180'	70-0028-2311-3
Filament Tape Dispenser	Scotch® Brand H-131 Filament Tape Applicator		70-9501-3101-4

KJ10.1

All dimensions, product information and recommendations contained herein are based on tests on materials as supplied to the manufacturer, under the conditions of use and application and beyond our control. We shall not be liable for any damage, direct or consequential, resulting from the use of any material or design. 3M's only duty shall be to replace any of our products found to be defective.

ISSUE 1	DATE 7-15-86	REV.	CM.
NOT TO SCALE		RDJ 7-17-86	
BY K.A. Jensen		FOR H.B. LICHT	

MATERIALS LIST

3-Hour System E-50D

Ceramic Materials
Department/3M



6400-ML

MATERIALS LIST (cont.)

NON-3M PRODUCTS

<u>Reference Name</u>	<u>Description</u>
Banding	1/2" wide minimum x .020" thick minimum stainless steel banding. One possible supplier is: Childers Products Company 23350 Mercantile Road Beachwood, Ohio 44122 216/464-8020
Banding Seals	Either crimp-style or fold-over wing tab seals made out of stainless steel. Also available from Childers Product Company.
Welded Wire Mesh	Wire mesh: "Stainless steel 2 x 2 mesh .063 wire-welded" One possible supplier is: Wire Cloth Manufacturers, Inc. 400 Emery Avenue Randolph, New Jersey 07869 201/328-1000
Concrete Anchors	Approved concrete anchors without any lead or combustible component; e.g. 1/4" diameter tapcon fasteners made by Rawlplug Company, Inc. (call 1-800-243-8160 for local distributors). Fasteners should penetrate into concrete at least 1-1/2".
Fender Washers	1-1/4" minimum diameter x 1/4" hole washer used with all concrete anchors.

KJ:10.2 <small>All dimensions, materials information and recommendations contained herein are based on tests and factors as to which, however, there are variations of use and application are involved and should be checked for any change, direct or consequential, resulting from the use of this material or design. 3M's only warranty shall be to replace any of our products found to be defective.</small>	ISSUE 1	DATE 7-15-86	REV. CH.	MATERIALS LIST 3-Hour System E-50D
	NOT TO SCALE	R.R. 7-17-86	R.A. Jensen R.R. Licht 7-15-86	
	6400-ML-1			

Ceramic Materials Department/3M



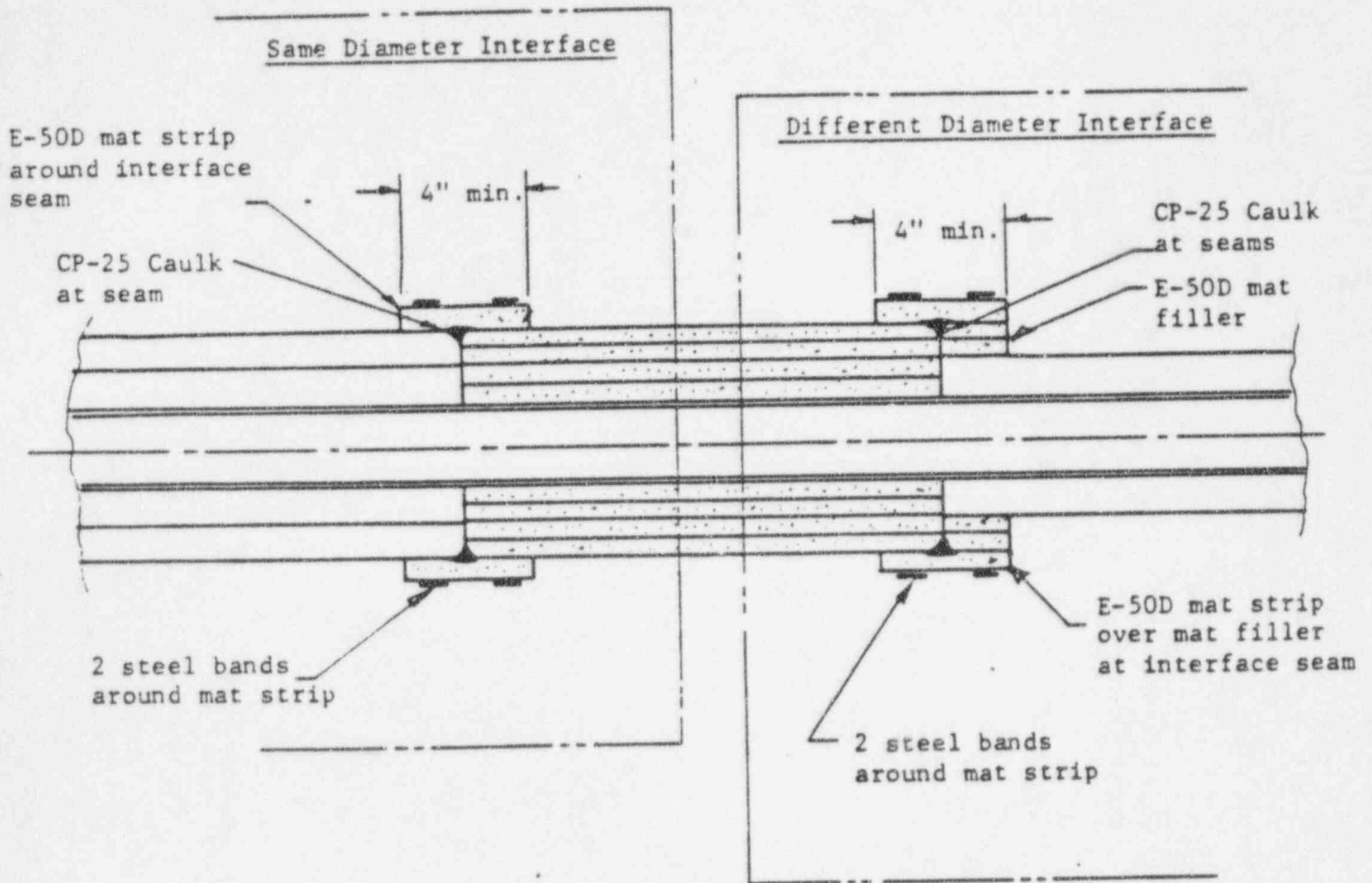
MATERIALS LIST (cont.)

USEFUL INSTALLATION TOOLS

Name	Description and/or Use
Razor knife	Hand-held utility or razor knife used to cut the E-50D mat; large scissors or snips may also be used.
Electric scissors .	Optional electric scissor-blade shears used to cut straight and curved pieces of E-50D mat; e.g. Model K-280 scissor shears from: Kett Tool Company 5053 Madison Road Cincinnati, Ohio 45227 513/271-0333
Rubber roller	2" wide x 1-1/2" diameter or similar hand-held rubber roller used to insure good adhesion of aluminum foil tape; a plastic scrapper or pliable straight-edge may also be used.
Straight-Edge	4' sheet rock T-square or similar straight-edge used to assist with straight cuts of the E-50D mat.
Marking pen	Used to identify the layer number of installed mat.
Tape measure	Used to properly size the pieces of E-50D mat.
Electric hand drill with carbide bit	Used to drill holes through the CS-195 Composite Sheet and into concrete.
Electric hand jig saw or sabre saw with metal cutting blade	Used to cut the CS-195 Composite Sheet; other tools such as band saws, hack saws, bench shears, etc. may also be used.
Driver for concrete anchors	If tapcon fasteners made by Rawlplug are used, the Rawlplug Con Drive 2000 installation tool is helpful for drilling and tightening of the tapcon fasteners.
Banding equipment	Band tensioners are available from most banding suppliers. If crimp-type seals are used to hold the bands, a crimping tool is also required.

<p>KJ:10.3</p> <p><small>All statements, technical information and recommendations contained herein are based on tests and factors to be considered. However, since the application of use and conditions are beyond our control, we shall not be liable for any damage, direct or consequential, resulting from the use of the material or design. 3M's only warranty shall be as appears on any of our products found to be defective.</small></p>	<table border="1"> <tr> <th>ISSUE</th> <th>DATE</th> <th>REV.</th> <th>CHK.</th> </tr> <tr> <td align="center">1</td> <td align="center">7-15-86</td> <td></td> <td></td> </tr> </table>	ISSUE	DATE	REV.	CHK.	1	7-15-86			<table border="1"> <tr> <td colspan="2"> REF TO SCALE BY <i>RJ</i> 7-17-86 </td> </tr> <tr> <td> BY K.A. Jensen </td> <td> BY <i>R.L.</i> Licht 7-15-86 </td> </tr> </table>	REF TO SCALE BY <i>RJ</i> 7-17-86		BY K.A. Jensen	BY <i>R.L.</i> Licht 7-15-86	<p align="center">MATERIALS LIST</p> <p align="right">3-Hour System E-50D</p>
	ISSUE	DATE	REV.	CHK.											
	1	7-15-86													
REF TO SCALE BY <i>RJ</i> 7-17-86															
BY K.A. Jensen	BY <i>R.L.</i> Licht 7-15-86														
<p align="center">3M</p> <p align="center">6400-ML-2</p>															
<p>Ceramic Materials Department/3M</p>															

SEAM INTERFACE 3M/TSI
CROSS-SECTIONAL VIEW OF CONDUIT



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ISSUE	DATE	REV.	CHK.
1	7-16-86		
NOT TO SCALE		OK	
BY K.A. Jensen		BY R.R. Licht	

INTERFACE TO A NON-3M
MAT PRODUCT
SEAM DETAILS

Ceramic Materials
Department/3M

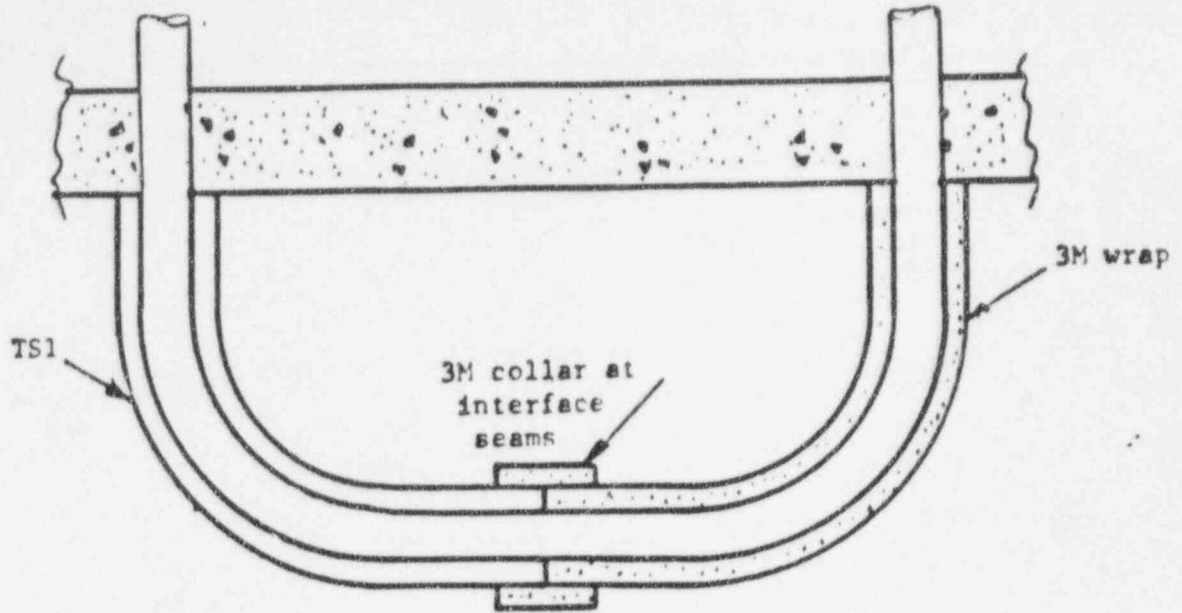


6400-S1

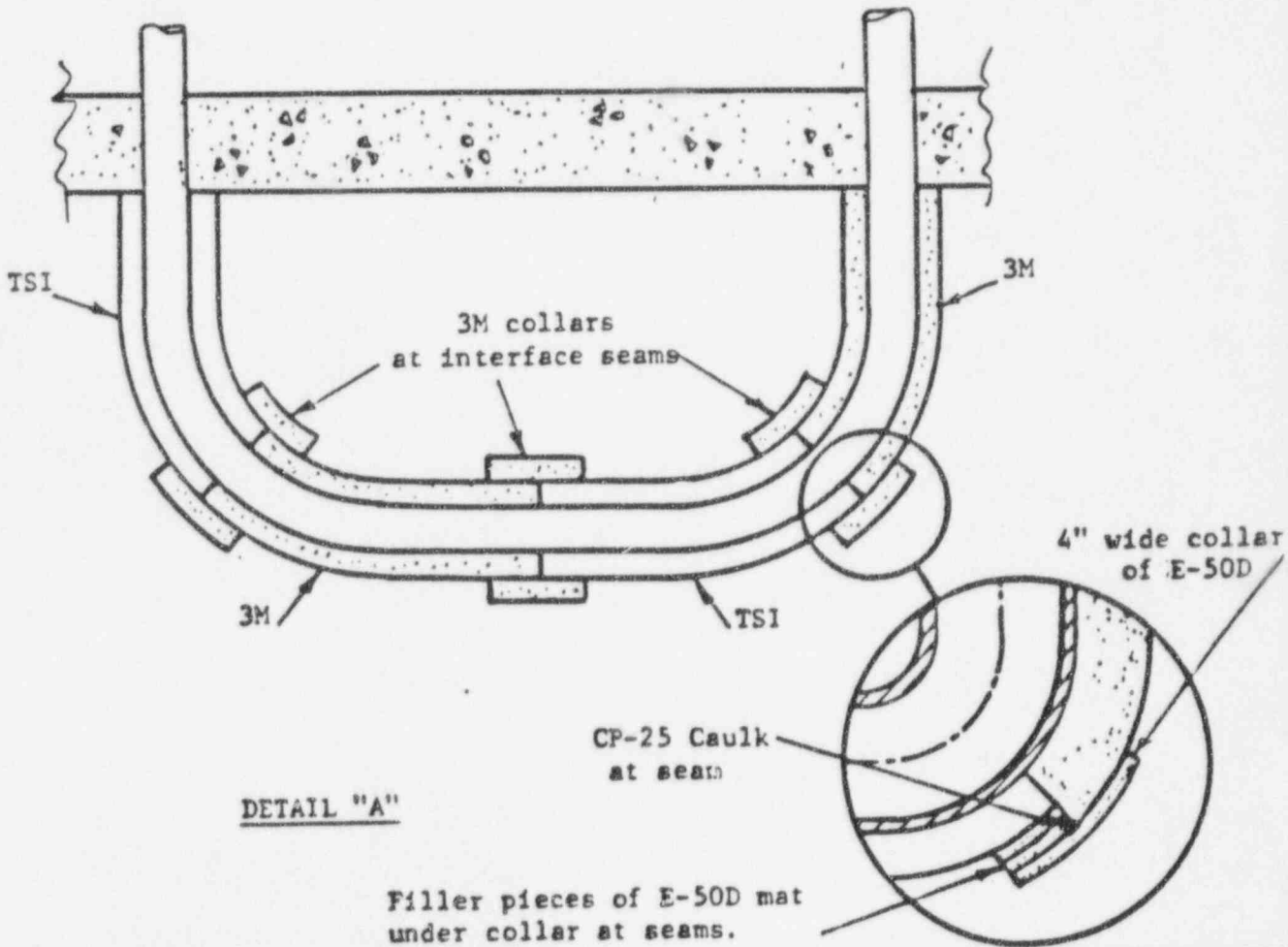
3-Hour System

E-50D

CONDUIT #1



CONDUIT #2



DETAIL "A"

Filler pieces of E-50D mat under collar at seams.

All statements, drawings or information and recommendations contained herein are based on tests and data believed to be reliable. However, since the conditions of use and application are beyond our control, we shall not be liable for any damage, direct or consequential, resulting from the use of this material or design. We do not warrant that we will replace any of our products found to be defective.

ISSUE	DATE	REV.	CH.
1	7-23-86		
NOT TO SCALE		CM	
BY K. A. Jensen		BY R. R. Licht	

3M/TSI MAT INTERFACE
CONDUITS #1 and #2

Ceramic Materials
Department 3M



3M/TSI FIRE TEST

3-Hour System

THE TSI SYSTEM WILL BE INSTALLED

UNDER THE SUPERVISION OF A

WASHINGTON PUBLIC POWER SUPPLY SERVICES ENGINEER

ACCORDING TO THE DRAWINGS PROVIDED BY

WASHINGTON PUBLIC POWER SUPPLY SERVICES

✓

3M & TSI INTERFACE TEST 2.51n CNDT 3HF
3M CHEM 66 FT #86-92 8/19/86

2 Minutes Furnace: 303 E119: 510

FURNACE	BAD TC'S
1 253°F	5 -267°F
2 371°F	6 306°F
3 337°F	10 -313°F
4 399°F	
7 307°F	
8 249°F	
9 209°F	
=====	=====
303 F	306 F

4 Minutes Furnace: 802 E119: 865

FURNACE	BAD TC'S
1 731°F	5 0°F
2 874°F	6 783°F
3 855°F	10 0°F
4 952°F	
7 833°F	
8 738°F	
9 632°F	
=====	=====
802°F	783°F

6 Minutes Furnace: 1077 E119: 1080

FURNACE	BAD TC'S
1 1030°F	5 0°F
2 1117°F	6 1041°F
3 1115°F	10 0°F
4 1159°F	
7 1099°F	
8 1047°F	
9 975°F	
=====	=====
1077 F	1041°F

8 Minutes Furnace: 1175 E119: 1210

FURNACE	BAD TC'S
1 1140°F	5 0°F
2 1203°F	6 1138°F
3 1199°F	10 0°F
4 1224°F	
7 1194°F	
8 1161°F	
9 1107°F	
=====	=====
1175 F	1138 F

2/46

Furnace: 1206
 11 Minutes
 FURNACE
 1 1171 F
 2 1173 F
 3 1173 F
 4 1181 F
 7 1179 F
 8 1193 F
 9 1145 F
 =====
 1206 F

BAD TC'S
 5 0 F
 6 1169 F
 10 0 F
 =====
 1169 F

Furnace: 1241
 11 Minutes
 FURNACE
 1 1203 F
 2 1209 F
 3 1204 F
 4 1208 F
 7 1208 F
 8 1232 F
 9 1185 F
 =====
 1241 F

BAD TC'S
 5 0 F
 6 1205 F
 10 0 F
 =====
 1205 F

Furnace: 1268
 14 Minutes
 FURNACE
 1 1229 F
 2 1296 F
 3 1292 F
 4 1291 F
 7 1295 F
 8 1259 F
 9 1214 F
 =====
 1268 F

BAD TC'S
 5 0 F
 6 1233 F
 10 0 F
 =====
 1233 F

Furnace: 1293
 16 Minutes
 FURNACE
 1 1257 F
 2 1320 F
 3 1317 F
 4 1314 F
 7 1318 F
 8 1286 F
 9 1241 F
 =====
 1293 F

BAD TC'S
 5 0 F
 6 1258 F
 10 0 F
 =====
 1258 F

Furnace: 1305
 18 Minutes
 FURNACE
 1 1269 F
 2 1334 F
 3 1330 F
 4 1320 F
 7 1329 F
 8 1297 F
 9 1253 F
 =====
 1305 F

BAD TC'S
 5 0 F
 6 1271 F
 10 0 F
 =====
 1271 F

1 1287 F
2 1284 F
3 1281 F
4 1274 F
5 1268 F
6 1248 F
7 1241 F
=====

BAD TC'S
5 0 F
6 1291 F
10 0 F
=====

1291 F

12 Minutes
FURNACE

1 1300 F
2 1315 F
3 1349 F
4 1348 F
5 1365 F
6 1332 F
7 1294 F
=====

BAD TC'S
5 0 F
6 1311 F
10 0 F

Furnace: 1241

=====

1311 F

24 Minutes
FURNACE

1 1322 F
2 1391 F
3 1387 F
4 1362 F
5 1382 F
6 1349 F
7 1309 F
=====

BAD TC'S
5 0 F
6 1328 F
10 0 F

Furnace: 1357

=====

1328 F

26 Minutes
FURNACE

1 1332 F
2 1402 F
3 1395 F
4 1369 F
5 1369 F
6 1356 F
7 1319 F
=====

BAD TC'S
5 0 F
6 1337 F
10 0 F

Furnace: 1366

=====

1337 F

28 Minutes
FURNACE

1 1306 F
2 1359 F
3 1331 F
4 1312 F
5 1315 F
6 1314 F
7 1286 F
=====

BAD TC'S
5 0 F
6 1294 F
10 0 F

Furnace: 1318

=====

1294 F

1313 F

30 Minutes	BAD TC'S
1 1281 F	5 0 F
2 1284 F	6 1228 F
3 1284 F	10 0 F
4 1272 F	
5 1263 F	
6 1251 F	
7 1241 F	
=====	
1250 F	1228 F

32 Minutes	Furnace: 1320
FURNACE	BAD TC'S
1 1305 F	5 0 F
2 1349 F	6 1297 F
3 1320 F	10 0 F
4 1341 F	
7 1322 F	
8 1311 F	
9 1292 F	
=====	
1320 F	1297 F

34 Minutes	Furnace: 1386
FURNACE	BAD TC'S
1 1357 F	5 0 F
2 1418 F	6 1363 F
3 1408 F	10 0 F
4 1394 F	
7 1401 F	
8 1378 F	
9 1347 F	
=====	
1386 F	1363 F

36 Minutes	Furnace: 1403
FURNACE	BAD TC'S
1 1370 F	5 0 F
2 1435 F	6 1379 F
3 1429 F	10 0 F
4 1405 F	
7 1421 F	
8 1394 F	
9 1364 F	
=====	
1403 F	1379 F

38 Minutes	Furnace: 1422
FURNACE	BAD TC'S
1 1387 F	5 0 F
2 1435 F	6 1398 F
3 1450 F	10 0 F
4 1425 F	
7 1442 F	
8 1415 F	
9 1382 F	
=====	
1422 F	1398 F

42 Minutes

Furnace: 1439

FURNACE
 1 1438 F
 2 1470 F
 3 1480 F
 4 1470 F
 5 1459 F
 6 1412 F
 7 1412 F
 8 1412 F
 9 1412 F
 10 1439 F

BAD TC'S
 5 0 F
 6 1415 F
 10 0 F
 =====
 1415 F

43 Minutes

Furnace: 1453

FURNACE
 1 1415 F
 2 1483 F
 3 1478 F
 4 1450 F
 5 1473 F
 6 1445 F
 7 1413 F
 8 1453 F
 9 1453 F

BAD TC'S
 5 0 F
 6 1429 F
 10 0 F
 =====
 1429 F

44 Minutes

Furnace: 1459

FURNACE
 1 1429 F
 2 1495 F
 3 1484 F
 4 1456 F
 5 1480 F
 6 1450 F
 7 1417 F
 8 1459 F
 9 1459 F

BAD TC'S
 5 0 F
 6 1433 F
 10 0 F
 =====
 1433 F

46 Minutes

Furnace: 1483

FURNACE
 1 1458 F
 2 1517 F
 3 1506 F
 4 1480 F
 5 1504 F
 6 1475 F
 7 1442 F
 8 1483 F
 9 1483 F

BAD TC'S
 5 0 F
 6 1457 F
 10 0 F
 =====
 1457 F

48 Minutes

Furnace: 1500

FURNACE
 1 1474 F
 2 1532 F
 3 1523 F
 4 1498 F
 5 1521 F
 6 1493 F
 7 1458 F
 8 1500 F
 9 1500 F

BAD TC'S
 5 0 F
 6 1472 F
 10 0 F
 =====
 1472 F

51 Minutes
FURNACE
1 1490 F
2 1514 F
3 1511 F
4 1508 F
5 1502 F
6 1503 F
7 1490 F
=====

Furnace: 1512
BAD TC'S
5 0 F
6 1484 F
10 0 F

=====

81171 1990

52 Minutes
FURNACE
1 1493 F
2 1502 F
3 1541 F
4 1515 F
5 1538 F
6 1511 F
9 1477 F
=====

Furnace: 1515
BAD TC'S
5 0 F
6 1491 F
10 0 F

=====

55 Minutes
FURNACE
1 1519 F
2 1572 F
3 1561 F
4 1534 F
7 1557 F
8 1530 F
9 1496 F
=====

Furnace: 1508
BAD TC'S
5 0 F
6 1510 F
10 0 F

=====

58 Minutes
FURNACE
1 1528 F
2 1581 F
3 1573 F
4 1541 F
7 1569 F
8 1541 F
9 1508 F
=====

Furnace: 1549
BAD TC'S
5 0 F
6 1522 F
10 0 F

=====

62 Minutes
FURNACE
1 1550 F
2 1596 F
3 1586 F
4 1555 F
7 1562 F
8 1557 F
9 1526 F
=====

Furnace: 1565
BAD TC'S
5 0 F
6 1538 F
10 0 F

=====

Furnace: 1577
 1 1577 F
 2 1577 F
 3 1577 F
 4 1577 F
 5 1577 F
 6 1577 F
 7 1577 F
 8 1577 F
 9 1577 F
 10 1577 F

Furnace: 1576
 1 1576 F
 2 1576 F
 3 1576 F
 4 1576 F
 5 1576 F
 6 1576 F
 7 1576 F
 8 1576 F
 9 1576 F
 10 1576 F

Furnace: 1591
 1 1591 F
 2 1591 F
 3 1591 F
 4 1578 F
 5 1607 F
 6 1584 F
 7 1556 F
 8 1591 F
 9 1591 F
 10 1591 F

Furnace: 1600
 1 1593 F
 2 1629 F
 3 1618 F
 4 1588 F
 5 1614 F
 6 1594 F
 7 1562 F
 8 1600 F
 9 1600 F
 10 1600 F

Furnace: 1606
 1 1599 F
 2 1636 F
 3 1623 F
 4 1595 F
 5 1619 F
 6 1601 F
 7 1567 F
 8 1606 F
 9 1606 F
 10 1606 F

E119: 1735

Furnace: 1616

TC'S	TEMPERATURE
1	1614 F
2	1643 F
3	1611 F
4	1611 F
5	1611 F
6	1611 F
7	1611 F
8	1611 F
9	1611 F
10	1611 F

=====

1585 F

Furnace: 1621

TC'S	TEMPERATURE
1	1619 F
2	1649 F
3	1615 F
4	1610 F
7	1634 F
8	1618 F
9	1585 F
10	1621 F

=====

1592 F

78 Minutes
Furnace: 1636

TC'S	TEMPERATURE
1	1637 F
2	1662 F
3	1644 F
4	1626 F
7	1648 F
8	1634 F
9	1604 F
10	1636 F

=====

1608 F

80 Minutes
Furnace: 1645

TC'S	TEMPERATURE
1	1648 F
2	1666 F
3	1650 F
4	1639 F
7	1655 F
8	1647 F
9	1613 F
10	1645 F

=====

1615 F

E119: 1765

62 Minutes
Furnace: 1655

TC'S	TEMPERATURE
1	1659 F
2	1671 F
3	1660 F
4	1649 F
7	1665 F
8	1657 F
9	1622 F
10	1655 F

=====

1649 F

54 Minutes Furnace: 1667
 FURNACE BAD TC'S
 1 1667 F 5 1710 F
 2 1679 F 6 1629 F
 3 1687 F 10 1620 F
 4 1680 F
 5 1671 F
 6 1667 F
 7 1669 F
 8 1667 F
 9 1667 F
 10 1667 F
 =====
 1675 F

55 Minutes Furnace: 1672
 FURNACE BAD TC'S
 1 1678 F 5 1721 F
 2 1686 F 6 1637 F
 3 1675 F 10 1690 F
 4 1669 F
 7 1681 F
 8 1677 F
 9 1639 F
 =====
 1672 F 1684 F

58 Minutes Furnace: 1676
 FURNACE BAD TC'S
 1 1684 F 5 1725 F
 2 1690 F 6 1642 F
 3 1680 F 10 1701 F
 4 1677 F
 7 1686 F
 8 1683 F
 9 1644 F
 =====
 1673 F 1689 F

90 Minutes Furnace: 1687 E119: 1792
 FURNACE BAD TC'S
 1 1695 F 5 1736 F
 2 1698 F 6 1651 F
 3 1687 F 10 1711 F
 4 1686 F
 7 1695 F
 8 1692 F
 9 1654 F
 =====
 1687 F 1699 F

92 Minutes Furnace: 1697
 FURNACE BAD TC'S
 1 1707 F 5 1745 F
 2 1707 F 6 1662 F
 3 1696 F 10 1724 F
 4 1697 F
 7 1705 F
 8 1705 F
 9 1685 F
 =====
 1697 F 1710 F

92 Minutes
FURNACE
1 1713 F
2 1712 F
3 1701 F
4 1708 F
5 1708 F
6 1711 F
7 1671 F
=====

BAD TC'S
5 1749 F
6 1667 F
10 1726 F

Furnace: 1703
=====

1703 F 1714 F

94 Minutes
FURNACE
1 1710 F
2 1715 F
3 1700 F
4 1712 F
5 1709 F
6 1717 F
7 1682 F
=====

BAD TC'S
5 1751 F
6 1676 F
10 1734 F

Furnace: 1708
=====

1708 F 1720 F

96 Minutes
FURNACE
1 1726 F
2 1721 F
3 1705 F
4 1718 F
5 1713 F
6 1722 F
7 1689 F
=====

BAD TC'S
5 1759 F
6 1683 F
10 1741 F

Furnace: 1713
=====

1713 F 1728 F

100 Minutes
FURNACE
1 1729 F
2 1726 F
3 1709 F
4 1722 F
5 1719 F
6 1727 F
7 1693 F
=====

BAD TC'S
5 1762 F
6 1687 F
10 1742 F

Furnace: 1718
=====

1718 F 1730 F

E119: 1815

102 Minutes
FURNACE
1 1734 F
2 1730 F
3 1715 F
4 1729 F
5 1724 F
6 1734 F
7 1697 F
=====

BAD TC'S
5 1765 F
6 1692 F
10 1747 F

Furnace: 1723
=====

1723 F 1735 F

Furnace: 1705

Minutes	FURNACE	BAD TC'S	Temp
1	1705 F	5	1770 F
2	1706 F	6	1698 F
3	1702 F	10	1751 F
4	1703 F		
5	1700 F		
6	1701 F		
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399	1701 F		

114 Minutes Furnace: 1745
 FURNACE BAD TC'S
 1 1751 F 5 1730 F
 2 1743 F 6 1718 F
 3 1736 F 10 1752 F
 4 1757 F
 7 1744 F
 8 1752 F
 9 1710 F
 =====
 1735 F 1731 F

116 Minutes Furnace: 1750
 FURNACE BAD TC'S
 1 1752 F 5 1782 F
 2 1754 F 6 1720 F
 3 1741 F 10 1757 F
 4 1749 F
 7 1746 F
 8 1752 F
 9 1724 F
 =====
 1750 F 1753 F

118 Minutes Furnace: 1759
 FURNACE BAD TC'S
 1 1759 F 5 1787 F
 2 1760 F 6 1726 F
 3 1747 F 10 1766 F
 4 1785 F
 7 1756 F
 8 1773 F
 9 1731 F
 =====
 1759 F 1760 F

120 Minutes Furnace: 1776 E119: 1850
 FURNACE BAD TC'S
 1 1777 F 5 1804 F
 2 1773 F 6 1739 F
 3 1763 F 10 1779 F
 4 1808 F
 7 1772 F
 8 1791 F
 9 1746 F
 =====
 1776 F 1774 F

122 Minutes Furnace: 1783
 FURNACE BAD TC'S
 1 1786 F 5 1813 F
 2 1783 F 6 1747 F
 3 1768 F 10 1787 F
 4 1815 F
 7 1778 F
 8 1799 F
 9 1755 F
 =====
 1783 F 1781 F

124 Minutes
 FURNACE
 1 1789 F
 2 1789 F
 3 1773 F
 4 1818 F
 5 1782 F
 6 1800 F
 7 1777 F
 8 1777 F
 9 1777 F
 10 1777 F

Furnace: 1787
 BAD TC'S
 5 1819 F
 6 1750 F
 10 1792 F

=====

1787 F

126 Minutes
 FURNACE
 1 1791 F
 2 1794 F
 3 1780 F
 4 1824 F
 5 1782 F
 6 1808 F
 7 1761 F
 8 1793 F
 9 1793 F
 10 1793 F

Furnace: 1793
 BAD TC'S
 5 1822 F
 6 1754 F
 10 1793 F

=====

1793 F

128 Minutes
 FURNACE
 1 1799 F
 2 1803 F
 3 1786 F
 4 1830 F
 5 1795 F
 6 1814 F
 7 1768 F
 8 1799 F
 9 1799 F
 10 1799 F

Furnace: 1799
 BAD TC'S
 5 1829 F
 6 1761 F
 10 1800 F

=====

1799 F

130 Minutes
 FURNACE
 1 1805 F
 2 1809 F
 3 1790 F
 4 1836 F
 5 1799 F
 6 1819 F
 7 1773 F
 8 1804 F
 9 1804 F
 10 1804 F

Furnace: 1804
 BAD TC'S
 5 1835 F
 6 1766 F
 10 1804 F

=====

1804 F

E119: 1862

132 Minutes
 FURNACE
 1 1809 F
 2 1813 F
 3 1794 F
 4 1841 F
 5 1803 F
 6 1823 F
 7 1778 F
 8 1809 F
 9 1809 F
 10 1809 F

Furnace: 1809
 BAD TC'S
 5 1839 F
 6 1771 F
 10 1808 F

=====

1809 F

134 Minutes Furnace: 1813
 FURNACE BAD TC'S
 1 1812 F 5 1843 F
 2 1819 F 6 1776 F
 3 1801 F 10 1813 F
 4 1844 F
 7 1809 F
 8 1827 F
 9 1782 F
 =====
 1813 F 1811 F

174 Minutes Furnace: 1818
 FURNACE BAD TC'S
 1 1816 F 5 1848 F
 2 1824 F 6 1781 F
 3 1808 F 10 1817 F
 4 1847 F
 7 1815 F
 8 1832 F
 9 1767 F
 =====
 1818 F 1815 F

138 Minutes Furnace: 1821
 FURNACE BAD TC'S
 1 1819 F 5 1851 F
 2 1827 F 6 1783 F
 3 1809 F 10 1819 F
 4 1850 F
 7 1816 F
 8 1833 F
 9 1790 F
 =====
 1821 F 1818 F

140 Minutes Furnace: 1824 E119: 1875
 FURNACE BAD TC'S
 1 1824 F 5 1852 F
 2 1831 F 6 1788 F
 3 1813 F 10 1821 F
 4 1851 F
 7 1820 F
 8 1835 F
 9 1795 F
 =====
 1824 F 1820 F

142 Minutes Furnace: 1830
 FURNACE BAD TC'S
 1 1828 F 5 1856 F
 2 1835 F 6 1793 F
 3 1818 F 10 1824 F
 4 1857 F
 7 1826 F
 8 1842 F
 9 1801 F
 =====
 1830 F 1824 F

144 Minutes Furnace: 1834

FURNACE	BAD TC'S
1 1834 F	5 1861 F
2 1840 F	6 2701 F
3 1822 F	10 1830 F
4 1861 F	
7 1830 F	
8 1847 F	
9 1807 F	
=====	=====
1834 F	1131 F

146 Minutes Furnace: 1837

FURNACE	BAD TC'S
1 1837 F	5 1862 F
2 1843 F	6 1803 F
3 1826 F	10 1832 F
4 1862 F	
7 1833 F	
8 1849 F	
9 1811 F	
=====	=====
1837 F	1832 F

148 Minutes Furnace: 1840

FURNACE	BAD TC'S
1 1840 F	5 1866 F
2 1846 F	6 1806 F
3 1828 F	10 1836 F
4 1868 F	
7 1835 F	
8 1851 F	
9 1814 F	
=====	=====
1840 F	1836 F

150 Minutes Furnace: 1845 E119: 1888

FURNACE	BAD TC'S
1 1845 F	5 1870 F
2 1850 F	6 1810 F
3 1834 F	10 1840 F
4 1872 F	
7 1840 F	
8 1857 F	
9 1818 F	
=====	=====
1845 F	1840 F

152 Minutes Furnace: 1850

FURNACE	BAD TC'S
1 1849 F	5 1874 F
2 1855 F	6 203 F
3 1839 F	10 1844 F
4 1876 F	
7 1846 F	
8 1861 F	
9 1821 F	
=====	=====
1850 F	1307 F

154 Minutes Furnace: 1855
 FURNACE BAD TC'S
 1 1852 F 5 1877 F
 2 1859 F 6 5 F
 3 1846 F 10 1846 F
 4 1880 F
 7 1853 F
 8 1867 F
 9 1827 F
 =====
 1855 F 1243 F

156 Minutes Furnace: 1858
 FURNACE BAD TC'S
 1 1858 F 5 1883 F
 2 1864 F 6 3048 F
 3 1847 F 10 1853 F
 4 1881 F
 7 1854 F
 8 1869 F
 9 1832 F
 =====
 1858 F 2261 F

158 Minutes Furnace: 1861
 FURNACE BAD TC'S
 1 1860 F 5 1885 F
 2 1867 F 6 0 F
 3 1853 F 10 1854 F
 4 1883 F
 7 1859 F
 8 1872 F
 9 1836 F
 =====
 1861 F 1870 F

162 Minutes Furnace: 1869
 FURNACE BAD TC'S
 1 1868 F 5 1893 F
 2 1875 F 6 305 F
 3 1860 F 10 1862 F
 4 1889 F
 7 1867 F
 8 1879 F
 9 1844 F
 =====
 1869 F 1353 F

164 Minutes Furnace: 1873
 FURNACE BAD TC'S
 1 1873 F 5 1897 F
 2 1879 F 6 217 F
 3 1865 F 10 1867 F
 4 1894 F
 7 1871 F
 8 1883 F
 9 1848 F
 =====
 1873 F 1327 F

166 Minutes Furnace: 1878
 FURNACE BAD TC'S
 1 1877°F 5 1900°F
 2 1883°F 6 0°F
 3 1869°F 10 1869°F
 4 1900°F
 7 1876°F
 8 1888°F
 9 1853°F
 =====
 1873°F 1885°F

168 Minutes Furnace: 1831
 FURNACE BAD TC'S
 1 1830°F 5 1905°F
 2 1888°F 6 2372°F
 3 1873°F 10 1874°F
 4 1900°F
 7 1879°F
 8 1891°F
 9 1856°F
 =====
 1881°F 2050°F

170 Minutes Furnace: 1885 E119: 1912
 FURNACE BAD TC'S
 1 1885°F 5 1911°F
 2 1893°F 6 272°F
 3 1876°F 10 1881°F
 4 1905°F
 7 1883°F
 8 1894°F
 9 1861°F
 =====
 1885°F 1355°F

172 Minutes Furnace: 1888
 FURNACE BAD TC'S
 1 1886°F 5 1911°F
 2 1894°F 6 134°F
 3 1883°F 10 1880°F
 4 1908°F
 7 1888°F
 8 1897°F
 9 1863°F
 =====
 1888°F 1308°F

174 Minutes Furnace: 1894
 FURNACE BAD TC'S
 1 1893°F 5 1918°F
 2 1900°F 6 1532°F
 3 1886°F 10 1888°F
 4 1913°F
 7 1892°F
 8 1903°F
 9 1870°F
 =====
 1894°F 1779°F

176 Minutes Furnace: 1896

FURNACE	BAD	TC'S
1 1897 F	5	1921 F
2 1902 F	6	1410 F
3 1888 F	10	1891 F
4 1915 F		
7 1894 F		
8 1905 F		
9 1874 F		
=====		
1896 F		1741 F

176 Minutes Furnace: 1901

FURNACE	BAD	TC'S
1 1901 F	5	1925 F
2 1907 F	6	1755 F
3 1893 F	10	1895 F
4 1920 F		
7 1899 F		
8 1910 F		
9 1877 F		
=====		
1901 F		1858 F

180 Minutes Furnace: 1905 E119: 1925

FURNACE	BAD	TC'S
1 1906 F	5	1930 F
2 1911 F	6	0 F
3 1896 F	10	1900 F
4 1923 F		
7 1902 F		
8 1913 F		
9 1882 F		
=====		
1905 F		1915 F

182 Minutes Furnace: 1909

FURNACE	BAD	TC'S
1 1909 F	5	1934 F
2 1916 F	6	1992 F
3 1901 F	10	1905 F
4 1926 F		
7 1907 F		
8 1916 F		
9 1885 F		
=====		
1909 F		1944 F

3M & TSI INTERFACE TEST 2.51n CNDT 3HR
3M CHEM 66 FT #86-92 8/19/86

MINUTES	GROUP 0 FURNACE	GROUP 1 FURNACE 2	GROUP 2 AMBIENT	GROUP 3 CNDT#1 SUR	GROUP 4 7c/12 #1
1	250°F	5 -267°F	11 74°F	12 70°F	23 72°F
2	371°F	6 306°F		13 72°F	24 72°F
3	332°F	7 307°F		14 71°F	25 71°F
4	399°F	8 249°F		15 71°F	26 74°F
		9 209°F		16 71°F	27 71°F
		10 -313°F		17 71°F	28 74°F
				18 71°F	29 70°F
				19 71°F	30 72°F
				20 71°F	31 76°F
				21 72°F	32 72°F
				22 73°F	33 73°F
					34 73°F
					35 73°F
					36 75°F
					37 73°F
					38 73°F
					39 73°F
					40 71°F
					41 72°F
					42 72°F
					43 72°F
					44 72°F
					45 73°F
					46 73°F
					47 73°F
					48 73°F

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 339°F 268°F 74°F 72°F 73°F

GROUP 5 BARE#8 #1	GROUP 6 CNDT#2 SUR	GROUP 7 7c/12 #2	GROUP 8 BARE#8 #2	GROUP 9 DUMMY
49 73°F	75 72°F	88 73°F	97 72°F	96 1269°F
50 74°F	76 72°F	89 72°F	98 72°F	117 3236°F
51 73°F	77 71°F	90 72°F	99 72°F	
52 73°F	78 71°F	91 72°F	100 77°F	
53 73°F	79 71°F	92 71°F	119 74°F	
54 73°F	80 71°F	93 71°F	120 72°F	
55 72°F	81 71°F	94 71°F	121 71°F	
56 72°F	82 71°F	95 71°F	122 71°F	
57 72°F	83 71°F	101 70°F	123 71°F	
58 72°F	84 73°F	102 70°F	124 71°F	
59 72°F	85 73°F	103 70°F	125 71°F	
60 71°F	86 73°F	104 70°F	126 71°F	
61 71°F	87 74°F	105 70°F	127 71°F	
62 71°F		106 70°F	128 71°F	
63 71°F		107 70°F	129 71°F	
64 71°F		108 70°F	130 71°F	
65 71°F		109 70°F	131 71°F	
66 71°F		110 73°F	132 71°F	
67 72°F		111 73°F	133 71°F	
68 72°F		112 73°F	134 71°F	
69 72°F		113 74°F	135 71°F	
70 72°F		114 74°F	136 71°F	
71 73°F		115 74°F	137 72°F	
72 72°F		116 74°F	138 72°F	
73 72°F		118 74°F	139 72°F	
74 72°F				

===== ===== ===== =====
 72°F 72°F 72°F 72°F 2283°F

L47

4 MINUTES
GROUP 0
FURNACE

731 F
874 F
888 F
951 F

GROUP 1
FURNACE 2
5 780 F
6 880 F
7 880 F
8 880 F
9 880 F
10 880 F

GROUP 2
AMBIENT
11 73 F

GROUP 3
CNDT#1 SUR
12 73 F
13 72 F
14 71 F
15 71 F
16 71 F
17 71 F
18 71 F
19 71 F
20 71 F
21 72 F
22 73 F

GROUP 4
7c/12 #1
23 72 F
24 72 F
25 71 F
26 74 F
27 71 F
28 75 F
29 70 F
30 72 F
31 76 F
32 72 F
33 72 F
34 72 F
35 73 F
36 75 F
37 73 F
38 73 F
39 73 F
40 72 F
41 72 F
42 72 F
43 73 F
44 72 F
45 73 F
46 73 F
47 73 F
48 73 F

=====
853 F

=====
747 F

=====
73 F

=====
72 F

=====
73 F

GROUP 5
BARE#B #1
49 73 F
50 74 F
51 73 F
52 73 F
53 73 F
54 73 F
55 72 F
56 72 F
57 72 F
58 72 F
59 72 F
60 71 F
61 71 F
62 71 F
63 71 F
64 71 F
65 71 F
66 72 F
67 72 F
68 72 F
69 73 F
70 72 F
71 73 F
72 73 F
73 73 F
74 72 F

=====
72 F

GROUP 6
CNDT#2 SUR
75 72 F
76 72 F
77 71 F
78 71 F
79 71 F
80 71 F
81 71 F
82 71 F
83 71 F
84 73 F
85 71 F
86 74 F
87 74 F

=====
72 F

GROUP 7
7c/12 #2
88 73 F
89 73 F
90 72 F
91 72 F
92 71 F
93 71 F
94 71 F
95 71 F
101 70 F
102 70 F
103 70 F
104 70 F
105 70 F
106 70 F
107 70 F
108 70 F
109 71 F
110 73 F
111 73 F
112 73 F
113 74 F
114 74 F
115 74 F
116 74 F
118 74 F

=====
72 F

GROUP 8
BARE#B #2
97 72 F
98 72 F
99 72 F
100 78 F
119 74 F
120 72 F
121 71 F
122 71 F
123 71 F
124 71 F
125 71 F
126 71 F
127 71 F
128 71 F
129 71 F
130 71 F
131 71 F
132 71 F
133 71 F
134 71 F
135 72 F
136 72 F
137 72 F
138 72 F
139 73 F

=====
72 F

GROUP 9
DUMMY
96 1573 F
117 3261 F

=====
2317 F

6 MINUTES

GROUP 0
FURNACE

1	1000 F
2	1117 F
3	1110 F
4	1158 F

GROUP 1
FURNACE 2

5	1041 F
6	1089 F
7	1047 F
8	975 F
10	0 F

GROUP 2
AMBIENT

11	74 F
----	------

GROUP 3
CNDT#1 SUR

12	74 F
13	72 F
14	71 F
15	71 F
16	71 F
17	70 F
18	71 F
19	71 F
20	71 F
21	72 F
22	73 F

GROUP 4
7c/12 #1

23	72 F
24	72 F
25	71 F
26	75 F
27	71 F
28	75 F
29	70 F
30	72 F
31	77 F
32	72 F
33	73 F
34	73 F
35	73 F
36	75 F
37	73 F
38	73 F
39	73 F
40	72 F
41	72 F
42	72 F
43	73 F
44	73 F
45	73 F
46	73 F
47	73 F
48	73 F

=====
1105 F

=====
1041 F

=====
74 F

=====
72 F

=====
73 F

GROUP 5
BARE#8 #1

49	73 F
50	74 F
51	73 F
52	73 F
53	73 F
54	73 F
55	73 F
56	72 F
57	72 F
58	72 F
59	72 F
60	71 F
61	71 F
62	71 F
63	71 F
64	71 F
65	71 F
66	72 F
67	72 F
68	72 F
69	72 F
70	72 F
71	73 F
72	73 F
73	73 F
74	73 F

=====
72 F

GROUP 6
CNDT#2 SUR

75	72 F
76	72 F
77	71 F
78	71 F
79	71 F
80	71 F
81	71 F
82	72 F
83	71 F
84	73 F
85	69 F
86	64 F
87	74 F

=====
71 F

GROUP 7
7c/12 #2

88	73 F
89	73 F
90	72 F
91	72 F
92	71 F
93	71 F
94	71 F
95	71 F
101	70 F
102	70 F
103	70 F
104	70 F
105	70 F
106	70 F
107	71 F
108	70 F
109	71 F
110	73 F
111	73 F
112	73 F
113	74 F
114	72 F
115	74 F
116	74 F
118	74 F

=====
72 F

GROUP 8
BARE#8 #2

97	72 F
98	73 F
99	73 F
100	78 F
119	74 F
120	72 F
121	71 F
122	71 F
123	71 F
124	71 F
125	71 F
126	71 F
127	71 F
128	71 F
129	71 F
130	71 F
131	71 F
132	71 F
133	71 F
134	71 F
135	72 F
136	72 F
137	72 F
138	72 F
139	73 F

=====
72 F

GROUP 9
DUMMY

96	1250 F
117	227 F

=====
739 F

8 MINUTES
GROUP 0
FURNACE

1 1140 F
2 1200 F
3 1199 F
4 1224 F

GROUP 1
FURNACE 2

5 1138 F
6 1134 F
7 1131 F
8 1107 F

GROUP 2
AMBIENT

11 73 F

GROUP 3
CNDT#1 SUR

12 74 F
13 73 F
14 72 F
15 71 F
16 72 F
17 71 F
18 71 F
19 71 F
20 71 F
21 72 F
22 72 F

GROUP 4
7c/12 #1

23 72 F
24 72 F
25 72 F
26 75 F
27 71 F
28 75 F
29 71 F
30 72 F
31 73 F
32 72 F
33 73 F
34 73 F
35 73 F
36 76 F
37 73 F
38 73 F
39 73 F
40 72 F
41 72 F
42 72 F
43 73 F
44 73 F
45 73 F
46 73 F
47 73 F
48 73 F

=====
1192 F

=====
1150 F

=====
73 F

=====
72 F

=====
73 F

GROUP 5
BARE#8 #1

49 73 F
50 74 F
51 74 F
52 73 F
53 73 F
54 73 F
55 73 F
56 73 F
57 73 F
58 73 F
59 73 F
60 71 F
61 71 F
62 71 F
63 71 F
64 71 F
65 72 F
66 72 F
67 72 F
68 72 F
69 73 F
70 72 F
71 73 F
72 73 F
73 73 F
74 73 F

=====
73 F

GROUP 6
CNDT#2 SUR

75 73 F
76 72 F
77 72 F
78 71 F
79 71 F
80 72 F
81 71 F
82 72 F
83 71 F
84 73 F
85 65 F
86 43 F
87 74 F

=====
69 F

GROUP 7
7c/12 #2

88 73 F
89 73 F
90 72 F
91 72 F
92 71 F
93 71 F
94 71 F
95 71 F
101 70 F
102 70 F
103 70 F
104 70 F
105 70 F
106 70 F
107 70 F
108 70 F
109 71 F
110 73 F
111 74 F
112 74 F
113 74 F
114 74 F
115 75 F
116 75 F
118 75 F

=====
72 F

GROUP 8
BARE#8 #2

97 72 F
98 73 F
99 73 F
100 76 F
119 74 F
120 72 F
121 72 F
122 72 F
123 71 F
124 71 F
125 71 F
126 71 F
127 71 F
128 71 F
129 71 F
130 71 F
131 71 F
132 71 F
133 71 F
134 71 F
135 72 F
136 72 F
137 72 F
138 72 F
139 73 F

=====
72 F

GROUP 9
DUMMY

96 1277 F
117 273 F

=====
775 F

10 MINUTES

GROUP 0

FURNACE

1	1171	F
2	1207	F
3	1200	F
4	1141	F

GROUP 1

FURNACE 2

5	0	F
6	1189	F
7	1229	F
8	1198	F
9	1148	F
10	0	F

GROUP 2

AMBIENT

11 74 F

GROUP 3

CNDT#1 SUR

12	74	F
13	73	F
14	73	F
15	72	F
16	73	F
17	73	F
18	71	F
19	71	F
20	71	F
21	72	F
22	73	F

GROUP 4

7c/12 #1

23	72	F
24	72	F
25	72	F
26	75	F
27	71	F
28	75	F
29	71	F
30	72	F
31	72	F
32	72	F
33	73	F
34	73	F
35	73	F
36	76	F
37	73	F
38	73	F
39	73	F
40	72	F
41	72	F
42	72	F
43	73	F
44	73	F
45	73	F
46	73	F
47	73	F
48	73	F

=====
1219 F

=====
1185 F

=====
74 F

=====
72 F

=====
73 F

GROUP 5
BARE#B #1

49	73	F
50	74	F
51	74	F
52	73	F
53	73	F
54	73	F
55	73	F
56	73	F
57	73	F
58	73	F
59	73	F
60	71	F
61	71	F
62	71	F
63	71	F
64	71	F
65	72	F
66	72	F
67	72	F
68	72	F
69	73	F
70	72	F
71	73	F
72	73	F
73	73	F
74	73	F

=====
73 F

GROUP 6
CNDT#2 SUR

75	73	F
76	72	F
77	72	F
78	71	F
79	71	F
80	73	F
81	71	F
82	71	F
83	71	F
84	73	F
85	59	F
86	26	F
87	74	F

=====
67 F

GROUP 7
7c/12 #2

88	73	F
89	72	F
90	72	F
91	72	F
92	71	F
93	71	F
94	70	F
95	70	F
101	70	F
102	70	F
103	70	F
104	70	F
105	70	F
106	70	F
107	70	F
108	70	F
109	70	F
110	73	F
111	73	F
112	73	F
113	74	F
114	74	F
115	75	F
116	75	F
118	75	F

=====
72 F

GROUP 8
BARE#B #2

97	72	F
98	72	F
99	72	F
100	77	F
119	74	F
120	72	F
121	71	F
122	71	F
123	71	F
124	71	F
125	71	F
126	71	F
127	71	F
128	71	F
129	71	F
130	71	F
131	71	F
132	71	F
133	71	F
134	71	F
135	71	F
136	71	F
137	72	F
138	72	F
139	72	F

=====
72 F

GROUP 9
DUMMY

96	1357	F
117	267	F

=====
812 F

15 MINUTED
GROUP 1
FURNACE

1 1255 F
2 1254 F
3 1254 F
4 1253 F

GROUP 1
FURNACE 2

5 0 F
6 1225 F
7 1226 F
8 1232 F
9 1185 F
10 0 F

GROUP 2
AMBIENT

11 75 F

GROUP 3
CNDT#1 SUR

12 74 F
13 74 F
14 75 F
15 74 F
16 75 F
17 70 F
18 70 F
19 71 F
20 70 F
21 72 F
22 73 F

GROUP 4
7c/12 #1

23 72 F
24 72 F
25 71 F
26 75 F
27 71 F
28 75 F
29 75 F
30 72 F
31 73 F
32 72 F
33 72 F
34 72 F
35 72 F
36 75 F
37 72 F
38 72 F
39 72 F
40 71 F
41 72 F
42 72 F
43 72 F
44 72 F
45 73 F
46 73 F
47 73 F
48 73 F

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GROUP 5
BARE#3 #1

49 73 F
50 74 F
51 73 F
52 73 F
53 73 F
54 73 F
55 72 F
56 72 F
57 72 F
58 72 F
59 72 F
60 71 F
61 71 F
62 71 F
63 71 F
64 71 F
65 71 F
66 71 F
67 72 F
68 72 F
69 72 F
70 72 F
71 73 F
72 72 F
73 73 F
74 73 F

GROUP 6
CNDT#2 SUR

75 73 F
76 72 F
77 74 F
78 71 F
79 70 F
80 75 F
81 71 F
82 71 F
83 71 F
84 73 F
85 31 F
86 -10 F
87 74 F

GROUP 7
7c/12 #2

88 73 F
89 73 F
90 72 F
91 72 F
92 71 F
93 71 F
94 70 F
95 70 F
101 70 F
102 70 F
103 70 F
104 70 F
105 70 F
106 70 F
107 70 F
108 70 F
109 70 F
110 73 F
111 73 F
112 73 F
113 74 F
114 74 F
115 74 F
116 74 F
118 75 F

GROUP 8
BARE#8 #2

97 72 F
98 73 F
99 73 F
100 77 F
119 74 F
120 72 F
121 71 F
122 71 F
123 71 F
124 71 F
125 71 F
126 71 F
127 71 F
128 71 F
129 71 F
130 71 F
131 71 F
132 71 F
133 71 F
134 71 F
135 71 F
136 71 F
137 72 F
138 72 F
139 73 F

GROUP 9
DUMMY

96 1244 F
117 283 F

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14 MINUTES

GROUP 0
FURNACE
1 1229 F
2 1296 F
3 1292 F
4 1291 F

GROUP 1
FURNACE 2
5 0 F
6 1233 F
7 1295 F
8 1259 F
9 1214 F
10 0 F

GROUP 2
AMBIENT
11 74 F

GROUP 3
CNDT#1 SUR
12 74 F
13 77 F
14 76 F
15 77 F
16 79 F
17 71 F
18 70 F
19 71 F
20 70 F
21 72 F
22 73 F

GROUP 4
7c/12 #1
23 72 F
24 72 F
25 71 F
26 76 F
27 71 F
28 75 F
29 71 F
30 72 F
31 77 F
32 73 F
33 72 F
34 72 F
35 72 F
36 76 F
37 73 F
38 72 F
39 73 F
40 71 F
41 72 F
42 72 F
43 72 F
44 72 F
45 73 F
46 73 F
47 73 F
48 73 F

===== 1277 F

===== 1250 F

===== 74 F

===== 74 F

===== 73 F

GROUP 5
BARE#B #1
49 73 F
50 74 F
51 73 F
52 73 F
53 73 F
54 73 F
55 73 F
56 73 F
57 73 F
58 72 F
59 72 F
60 71 F
61 71 F
62 71 F
63 71 F
64 71 F
65 71 F
66 71 F
67 72 F
68 72 F
69 72 F
70 72 F
71 73 F
72 73 F
73 73 F
74 73 F

GROUP 6
CNDT#2 SUR
75 75 F
76 72 F
77 76 F
78 71 F
79 71 F
80 77 F
81 71 F
82 71 F
83 72 F
84 72 F
85 -18 F
86 -57 F
87 74 F

GROUP 7
7c/12 #2
88 73 F
89 73 F
90 73 F
91 72 F
92 71 F
93 71 F
94 71 F
95 71 F
101 70 F
102 70 F
103 70 F
104 70 F
105 70 F
106 70 F
107 70 F
108 70 F
109 71 F
110 73 F
111 73 F
112 73 F
113 74 F
114 74 F
115 74 F
116 74 F
118 75 F

GROUP 8
BARE#B #2
97 72 F
98 73 F
99 73 F
100 78 F
101 74 F
102 72 F
103 71 F
104 71 F
105 71 F
106 71 F
107 71 F
108 71 F
109 71 F
110 71 F
111 71 F
112 71 F
113 71 F
114 71 F
115 71 F
116 72 F
117 72 F
118 73 F

GROUP 9
DUMMY
96 1226 F
117 309 F

===== 72 F

===== 73 F

===== 72 F

===== 72 F

===== 763 F

16 MINUTES

GROUP 0
FURNACE

1	1257 F
2	1320 F
3	1317 F
4	1314 F

GROUP 1
FURNACE 2

5	01F
6	1258 F
7	1318 F
8	1286 F
9	1241 F
10	0 F

GROUP 2
AMBIENT

11	76 F
----	------

GROUP 3
CNDT#1 SUR

12	74 F
13	82 F
14	80 F
15	81 F
16	83 F
17	74 F
18	71 F
19	60 F
20	70 F
21	70 F
22	73 F

GROUP 4
7c/12 #1

23	72 F
24	72 F
25	71 F
26	76 F
27	71 F
28	75 F
29	71 F
30	73 F
31	73 F
32	73 F
33	73 F
34	73 F
35	71 F
36	76 F
37	73 F
38	73 F
39	73 F
40	71 F
41	72 F
42	72 F
43	72 F
44	72 F
45	73 F
46	73 F
47	73 F
48	73 F

=====

1302 F

=====

1276 F

=====

76 F

=====

74 F

=====

73 F

GROUP 5
BARE#B #1

49	73 F
50	74 F
51	74 F
52	73 F
53	73 F
54	73 F
55	73 F
56	73 F
57	73 F
58	73 F
59	73 F
60	71 F
61	71 F
62	71 F
63	71 F
64	71 F
65	71 F
66	71 F
67	72 F
68	72 F
69	72 F
70	72 F
71	73 F
72	73 F
73	73 F
74	73 F

GROUP 6
CNDT#2 SUR

75	76 F
76	73 F
77	80 F
78	71 F
79	71 F
80	81 F
81	72 F
82	71 F
83	74 F
84	72 F
85	-29 F
86	-114 F
87	74 F

GROUP 7
7c/12 #2

88	73 F
89	73 F
90	73 F
91	72 F
92	72 F
93	72 F
94	71 F
95	71 F
101	70 F
102	70 F
103	70 F
104	70 F
105	70 F
106	70 F
107	71 F
108	71 F
109	71 F
110	74 F
111	73 F
112	73 F
113	74 F
114	74 F
115	74 F
116	74 F
118	75 F

GROUP 8
BARE#B #2

97	72 F
98	73 F
99	73 F
100	78 F
119	74 F
120	72 F
121	71 F
122	71 F
123	71 F
124	71 F
125	71 F
126	71 F
127	71 F
128	71 F
129	72 F
130	72 F
131	72 F
132	72 F
133	72 F
134	72 F
135	72 F
136	72 F
137	72 F
138	72 F
139	73 F

GROUP 9
DUMMY

96	1276 F
117	344 F

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72 F

=====

74 F

=====

72 F

=====

72 F

=====

810 F

18 MINUTES
GROUP 0
FURNACE

1 1269 F
2 1334 F
3 1300 F
4 1326 F

GROUP 1
FURNACE 2
5 0 F
6 1271 F
7 1329 F
8 1297 F
9 1253 F
10 0 F

GROUP 2
AMBIENT
11 76 F

GROUP 3
CNDT#1 SUR
12 74 F
13 88 F
14 82 F
15 84 F
16 81 F
17 75 F
18 71 F
19 37 F
20 71 F
21 72 F
22 74 F

GROUP 4
7c/12 #1
23 72 F
24 72 F
25 71 F
26 77 F
27 71 F
28 75 F
29 72 F
30 73 F
31 77 F
32 74 F
33 73 F
34 73 F
35 72 F
36 76 F
37 72 F
38 72 F
39 73 F
40 71 F
41 72 F
42 72 F
43 73 F
44 72 F
45 73 F
46 73 F
47 73 F
48 73 F

=====
1313 F

=====
1288 F

=====
76 F

=====
74 F

=====
73 F

GROUP 5
BARE#B #1
49 73 F
50 74 F
51 74 F
52 74 F
53 74 F
54 74 F
55 73 F
56 73 F
57 73 F
58 73 F
59 73 F
60 71 F
61 71 F
62 71 F
63 71 F
64 71 F
65 71 F
66 71 F
67 72 F
68 72 F
69 72 F
70 72 F
71 73 F
72 73 F
73 73 F
74 73 F

GROUP 6
CNDT#2 SUR
75 78 F
76 73 F
77 82 F
78 71 F
79 70 F
80 84 F
81 73 F
82 71 F
83 75 F
84 72 F
85 -65 F
86 -158 F
87 74 F

GROUP 7
7c/12 #2
88 73 F
89 73 F
90 74 F
91 72 F
92 72 F
93 72 F
94 71 F
95 71 F
101 70 F
102 70 F
103 70 F
104 70 F
105 71 F
106 71 F
107 71 F
108 71 F
109 71 F
110 74 F
111 73 F
112 73 F
113 74 F
114 74 F
115 74 F
116 74 F
118 75 F

GROUP 8
BARE#B #2
97 72 F
98 73 F
99 73 F
100 79 F
119 74 F
120 72 F
121 72 F
122 72 F
123 71 F
124 71 F
125 71 F
126 70 F
127 71 F
128 71 F
129 72 F
130 72 F
131 73 F
132 72 F
133 72 F
134 72 F
135 72 F
136 72 F
137 72 F
138 72 F
139 73 F

GROUP 9
DUMMY
96 1217 F
117 358 F

=====
73 F

=====
75 F

=====
72 F

=====
72 F

=====
788 F

20 MINUT 5
GROUP 0
FURNACE

1 1287 F
2 1384 F
3 1751 F
4 1334 F

GROUP 1
FURNACE 1
5 0 F
6 1291 F
7 1350 F
8 1318 F
9 1274 F
10 0 F

GROUP 2
AMBIENT
11 78 F

GROUP 3
CNDT#1 SUR
12 75 F
13 103 F
14 91 F
15 88 F
16 98 F
17 83 F
18 68 F
19 53 F
20 75 F
21 79 F
22 78 F

GROUP 4
7c/12 #1
23 72 F
24 72 F
25 72 F
26 77 F
27 72 F
28 74 F
29 73 F
30 74 F
31 78 F
32 75 F
33 73 F
34 73 F
35 72 F
36 76 F
37 72 F
38 72 F
39 73 F
40 71 F
41 72 F
42 72 F
43 72 F
44 72 F
45 73 F
46 73 F
47 73 F
48 73 F

=====
1332 F

=====
1308 F

=====
76 F

=====
81 F

=====
73 F

GROUP 5
BARE#B #1
49 74 F
50 75 F
51 75 F
52 74 F
53 75 F
54 75 F
55 74 F
56 74 F
57 74 F
58 73 F
59 73 F
60 71 F
61 71 F
62 71 F
63 71 F
64 71 F
65 71 F
66 71 F
67 72 F
68 72 F
69 73 F
70 72 F
71 73 F
72 73 F
73 73 F
74 73 F

=====
73 F

GROUP 6
CNDT#2 SUR
75 81 F
76 75 F
77 87 F
78 71 F
79 71 F
80 90 F
81 75 F
82 72 F
83 78 F
84 75 F
85 -103 F
86 -262 F
87 74 F

=====
77 F

GROUP 7
7c/12 #2
88 73 F
89 73 F
90 75 F
91 72 F
92 73 F
93 73 F
94 71 F
95 71 F
101 70 F
102 70 F
103 70 F
104 70 F
105 71 F
106 71 F
107 71 F
108 71 F
109 73 F
110 75 F
111 74 F
112 74 F
113 74 F
114 74 F
115 75 F
116 75 F
118 75 F

=====
73 F

GROUP 8
BARE#B #2
97 73 F
98 73 F
99 73 F
100 79 F
119 74 F
120 72 F
121 72 F
122 72 F
123 71 F
124 71 F
125 71 F
126 71 F
127 72 F
128 72 F
129 74 F
130 73 F
131 74 F
132 74 F
133 73 F
134 73 F
135 72 F
136 72 F
137 72 F
138 72 F
139 73 F

=====
73 F

GROUP 9
DUMMY
96 1268 F
117 469 F

=====
869 F

22 MINUTES

GROUP 0
FURNACE

1	1307 F
2	1375 F
3	1369 F
4	1348 F

GROUP 1
FURNACE 2

5	0 F
6	1311 F
7	1365 F
8	1332 F
9	1294 F
10	0 F

GROUP 2
AMBIENT

11 76 F

GROUP 3
CNDT#1 SUR

12	75 F
13	118 F
14	99 F
15	93 F
16	107 F
17	97 F
18	64 F
19	69 F
20	91 F
21	93 F
22	87 F

GROUP 4
7c/12 #1

23	73 F
24	72 F
25	73 F
26	77 F
27	73 F
28	73 F
29	75 F
30	75 F
31	75 F
32	76 F
33	74 F
34	74 F
35	73 F
36	76 F
37	72 F
38	73 F
39	73 F
40	72 F
41	72 F
42	72 F
43	73 F
44	72 F
45	73 F
46	73 F
47	74 F
48	73 F

===== 1350 F

===== 1326 F

===== 76 F

===== 90 F

===== 74 F

GROUP 5
BARE#B #1

49	75 F
50	76 F
51	77 F
52	76 F
53	77 F
54	77 F
55	76 F
56	75 F
57	75 F
58	74 F
59	74 F
60	72 F
61	71 F
62	71 F
63	71 F
64	71 F
65	71 F
66	71 F
67	72 F
68	72 F
69	73 F
70	73 F
71	73 F
72	73 F
73	73 F
74	73 F

GROUP 6
CNDT#2 SUR

75	84 F
76	77 F
77	92 F
78	72 F
79	71 F
80	99 F
81	80 F
82	72 F
83	81 F
84	86 F
85	312 F
86	418 F
87	75 F

GROUP 7
7c/12 #2

88	73 F
89	73 F
90	76 F
91	72 F
92	74 F
93	75 F
94	71 F
95	71 F
101	70 F
102	70 F
103	70 F
104	70 F
105	73 F
106	73 F
107	72 F
108	72 F
109	74 F
110	76 F
111	74 F
112	74 F
113	74 F
114	74 F
115	76 F
116	76 F
118	75 F

GROUP 8
BARE#B #2

97	75 F
98	73 F
99	73 F
100	79 F
119	74 F
120	72 F
121	73 F
122	73 F
123	72 F
124	72 F
125	71 F
126	71 F
127	72 F
128	73 F
129	76 F
130	74 F
131	76 F
132	75 F
133	74 F
134	74 F
135	73 F
136	73 F
137	73 F
138	73 F
139	74 F

GROUP 9
DUMMY

96	1180 F
117	489 F

===== 74 F

===== 125 F

===== 73 F

===== 74 F

===== 835 F

24 MINUTES
GROUP 0
FURNACE

1 1322 F
2 1391 F
3 1387 F
4 1382 F

GROUP 1
FURNACE 2
5 0 F
6 1328 F
7 1382 F
8 1349 F
9 1309 F
10 0 F

GROUP 2
AMBIENT
11 76 F

GROUP 3
CNDT#1 SUR
12 76 F
13 132 F
14 104 F
15 101 F
16 121 F
17 109 F
18 67 F
19 90 F
20 132 F
21 97 F
22 92 F

GROUP 4
7c/12 #1
23 74 F
24 73 F
25 74 F
26 77 F
27 75 F
28 71 F
29 78 F
30 77 F
31 74 F
32 78 F
33 73 F
34 75 F
35 73 F
36 77 F
37 73 F
38 73 F
39 73 F
40 72 F
41 72 F
42 72 F
43 73 F
44 72 F
45 73 F
46 73 F
47 73 F
48 73 F

=====

1366 F

=====

1342 F

=====

76 F

=====

102 F

=====

74 F

GROUP 5
BARE#8 #1

49 76 F
50 77 F
51 80 F
52 79 F
53 80 F
54 81 F
55 78 F
56 78 F
57 77 F
58 75 F
59 75 F
60 73 F
61 72 F
62 72 F
63 71 F
64 71 F
65 71 F
66 71 F
67 72 F
68 72 F
69 73 F
70 73 F
71 73 F
72 73 F
73 74 F
74 73 F

=====

75 F

GROUP 6
CNDT#2 SUR

75 88 F
76 81 F
77 97 F
78 75 F
79 72 F
80 109 F
81 90 F
82 75 F
83 89 F
84 111 F
85 402 F
86 508 F
87 75 F

=====

144 F

GROUP 7
7c/12 #2

88 74 F
89 73 F
90 78 F
91 73 F
92 76 F
93 76 F
94 72 F
95 72 F
101 70 F
102 70 F
103 71 F
104 71 F
105 75 F
106 75 F
107 74 F
108 74 F
109 76 F
110 78 F
111 76 F
112 76 F
113 74 F
114 74 F
115 79 F
116 79 F
118 75 F

=====

74 F

GROUP 8
BARE#8 #2

97 77 F
98 74 F
99 74 F
100 79 F
119 75 F
120 73 F
121 74 F
122 74 F
123 73 F
124 73 F
125 71 F
126 71 F
127 74 F
128 75 F
129 80 F
130 77 F
131 79 F
132 78 F
133 76 F
134 75 F
135 74 F
136 74 F
137 74 F
138 74 F
139 76 F

=====

75 F

GROUP 9
DUMMY

96 1190 F
117 551 F

=====

871 F

26 MINUTES

GROUP 0
FURNACE

1 1332°F
2 1402°F
3 1395°F
4 1369°F

GROUP 1
FURNACE 2

5 0°F
6 1337°F
7 1389°F
8 1356°F
9 1319°F
10 0°F

GROUP 2
AMBIENT

11 76°F

GROUP 3
CNDT#1 SUR

12 76°F
13 140°F
14 108°F
15 119°F
16 131°F
17 119°F
18 73°F
19 117°F
20 152°F
21 97°F
22 96°F

GROUP 4
7c/12 #1

23 74°F
24 74°F
25 75°F
26 77°F
27 77°F
28 69°F
29 81°F
30 78°F
31 72°F
32 80°F
33 75°F
34 76°F
35 73°F
36 77°F
37 73°F
38 73°F
39 73°F
40 72°F
41 72°F
42 72°F
43 73°F
44 73°F
45 74°F
46 73°F
47 73°F
48 73°F

=====
1375°F

=====
1350°F

=====
76°F

=====
112°F

=====
74°F

GROUP 5
BARE#B #1

49 77°F
50 78°F
51 82°F
52 81°F
53 83°F
54 83°F
55 80°F
56 79°F
57 78°F
58 76°F
59 76°F
60 73°F
61 72°F
62 72°F
63 72°F
64 71°F
65 72°F
66 72°F
67 72°F
68 72°F
69 73°F
70 74°F
71 74°F
72 73°F
73 74°F
74 74°F

=====
76°F

GROUP 6
CNDT#2 SUR

75 90°F
76 83°F
77 101°F
78 77°F
79 72°F
80 120°F
81 98°F
82 76°F
83 96°F
84 128°F
85 398°F
86 557°F
87 76°F

=====
152°F

GROUP 7
7c/12 #2

88 74°F
89 73°F
90 79°F
91 74°F
92 77°F
93 77°F
94 73°F
95 73°F
101 70°F
102 70°F
103 71°F
104 71°F
105 78°F
106 78°F
107 75°F
108 75°F
109 78°F
110 80°F
111 77°F
112 77°F
113 74°F
114 74°F
115 81°F
116 81°F
118 75°F

=====
75°F

GROUP 8
BARE#B #2

97 79°F
98 74°F
99 74°F
100 79°F
119 75°F
120 73°F
121 75°F
122 75°F
123 74°F
124 74°F
125 71°F
126 71°F
127 76°F
128 76°F
129 83°F
130 79°F
131 82°F
132 80°F
133 77°F
134 77°F
135 75°F
136 75°F
137 75°F
138 75°F
139 78°F

=====
76°F

GROUP 9
DUMMY

96 1126°F
117 635°F

=====
881°F

26 MINUTES

GROUP 0
FURNACE

1	1306 F
2	1359 F
3	1331 F
4	1312 F

GROUP 1
FURNACE 2

5	0 F
6	1294 F
7	1315 F
8	1314 F
9	1286 F
10	0 F

GROUP 2
AMBIENT

11 75 F

GROUP 3
CNDT#1 SUR

12	77 F
13	151 F
14	117 F
15	152 F
16	151 F
17	144 F
18	93 F
19	152 F
20	149 F
21	114 F
22	85 F

GROUP 4
7c/12 #1

23	75 F
24	75 F
25	78 F
26	77 F
27	81 F
28	65 F
29	66 F
30	81 F
31	73 F
32	83 F
33	76 F
34	78 F
35	74 F
36	77 F
37	73 F
38	73 F
39	73 F
40	72 F
41	72 F
42	72 F
43	73 F
44	73 F
45	74 F
46	74 F
47	74 F
48	74 F

=====
1327 F

=====
1302 F

=====
75 F

=====
126 F

=====
75 F

GROUP 5
BARE#B #1

49	79 F
50	80 F
51	87 F
52	85 F
53	88 F
54	89 F
55	83 F
56	82 F
57	80 F
58	78 F
59	78 F
60	75 F
61	73 F
62	73 F
63	72 F
64	72 F
65	72 F
66	72 F
67	72 F
68	72 F
69	74 F
70	74 F
71	74 F
72	74 F
73	74 F
74	74 F

=====
77 F

GROUP 6
CNDT#2 SUR

75	93 F
76	87 F
77	105 F
78	83 F
79	74 F
80	140 F
81	113 F
82	83 F
83	123 F
84	164 F
85	1017 F
86	135 F
87	82 F

=====
177 F

GROUP 7
7c/12 #2

88	74 F
89	74 F
90	80 F
91	74 F
92	79 F
93	79 F
94	75 F
95	75 F
101	71 F
102	71 F
103	72 F
104	73 F
105	83 F
106	83 F
107	79 F
108	79 F
109	83 F
110	84 F
111	79 F
112	79 F
113	76 F
114	76 F
115	85 F
116	85 F
118	76 F

=====
78 F

GROUP 8
BARE#B #2

97	82 F
98	74 F
99	75 F
100	79 F
119	76 F
120	74 F
121	77 F
122	76 F
123	76 F
124	76 F
125	72 F
126	72 F
127	79 F
128	80 F
129	91 F
130	84 F
131	87 F
132	84 F
133	80 F
134	80 F
135	77 F
136	77 F
137	77 F
138	77 F
139	81 F

=====
79 F

GROUP 9
DUMMY

96	1189 F
117	0 F

=====
1189 F

30 MINUTES

GROUP 0
FURNACE

1	1261 F
2	1284 F
3	1221 F
4	1275 F

GROUP 1
FURNACE 2

5	0 F
6	1228 F
7	1219 F
8	1251 F
9	1241 F
0	0 F

GROUP 2
AMBIENT

11 77 F

GROUP 3
CNDT#1 SUR

12	78 F
13	158 F
14	128 F
15	180 F
16	176 F
17	163 F
18	102 F
19	188 F
20	198 F
21	140 F
22	66 F

GROUP 4
7c/12 #1

23	77 F
24	75 F
25	81 F
26	77 F
27	85 F
28	59 F
29	91 F
30	86 F
31	67 F
32	86 F
33	78 F
34	79 F
35	75 F
36	77 F
37	73 F
38	74 F
39	73 F
40	72 F
41	72 F
42	72 F
43	73 F
44	73 F
45	75 F
46	74 F
47	74 F
48	74 F

===== 1260 F

===== 1235 F

===== 77 F

===== 143 F

===== 76 F

GROUP 5
BARE#B #1

49	81 F
50	82 F
51	92 F
52	90 F
53	94 F
54	95 F
55	87 F
56	86 F
57	83 F
58	80 F
59	80 F
60	76 F
61	74 F
62	74 F
63	72 F
64	72 F
65	72 F
66	72 F
67	73 F
68	73 F
69	75 F
70	75 F
71	75 F
72	74 F
73	74 F
74	74 F

===== 79 F

GROUP 6
CNDT#2 SUR

75	96 F
76	91 F
77	110 F
78	91 F
79	77 F
80	158 F
81	129 F
82	100 F
83	141 F
84	208 F
85	77 F
86	14 F
87	93 F

===== 107 F

GROUP 7
7c/12 #2

88	74 F
89	74 F
90	82 F
91	75 F
92	81 F
93	81 F
94	76 F
95	77 F
101	72 F
102	74 F
103	74 F
104	74 F
105	90 F
106	90 F
107	83 F
108	84 F
109	89 F
110	89 F
111	81 F
112	81 F
113	77 F
114	77 F
115	88 F
116	89 F
118	77 F

===== 80 F

GROUP 8
BARE#B #2

97	85 F
98	75 F
99	75 F
100	79 F
119	77 F
120	75 F
121	79 F
122	78 F
123	78 F
124	78 F
125	74 F
126	74 F
127	84 F
128	86 F
129	99 F
130	91 F
131	94 F
132	90 F
133	84 F
134	83 F
135	80 F
136	80 F
137	80 F
138	81 F
139	83 F

===== 82 F

GROUP 9
DUMMY

96	1012 F
117	0 F

===== 1012 F

32 MINUTES
GROUP 0
FURNACE

1 1305 F
2 1345 F
3 1320 F
4 1341 F

GROUP 1
FURNACE 2
5 0 F
6 1297 F
7 1322 F
8 1311 F
9 1292 F
10 0 F

GROUP 2
AMBIENT
11 75 F

GROUP 3
CNDT#1 SUR
12 79 F
13 165 F
14 139 F
15 192 F
16 188 F
17 168 F
18 110 F
19 223 F
20 247 F
21 173 F
22 41 F

GROUP 4
7c/12 #1
23 30 F
24 71 F
25 65 F
26 76 F
27 90 F
28 54 F
29 97 F
30 91 F
31 64 F
32 90 F
33 80 F
34 52 F
35 76 F
36 77 F
37 74 F
38 75 F
39 74 F
40 72 F
41 72 F
42 72 F
43 73 F
44 73 F
45 76 F
46 75 F
47 74 F
48 74 F

=====
1329 F

=====
1306 F

=====
75 F

=====
157 F

=====
77 F

GROUP 5
BARE#8 #1

49 83 F
50 84 F
51 98 F
52 96 F
53 101 F
54 102 F
55 93 F
56 91 F
57 86 F
58 83 F
59 83 F
60 78 F
61 76 F
62 75 F
63 73 F
64 73 F
65 72 F
66 72 F
67 73 F
68 73 F
69 76 F
70 77 F
71 76 F
72 75 F
73 75 F
74 74 F

=====
81 F

GROUP 6
CNDT#2 SUR

75 100 F
76 97 F
77 115 F
78 100 F
79 81 F
80 182 F
81 152 F
82 109 F
83 159 F
84 262 F
85 81 F
86 154 F
87 89 F

=====
129 F

GROUP 7
7c/12 #2

88 75 F
89 74 F
90 84 F
91 76 F
92 84 F
93 84 F
94 79 F
95 79 F
101 73 F
102 73 F
103 76 F
104 77 F
105 92 F
106 97 F
107 89 F
108 90 F
109 97 F
110 95 F
111 84 F
112 84 F
113 80 F
114 79 F
115 92 F
116 93 F
118 78 F

=====
84 F

GROUP 8
BARE#8 #2

97 88 F
98 76 F
99 76 F
100 79 F
119 78 F
120 76 F
121 81 F
122 80 F
123 82 F
124 81 F
125 76 F
126 76 F
127 90 F
128 82 F
129 110 F
130 99 F
131 102 F
132 98 F
133 89 F
134 88 F
135 84 F
136 84 F
137 84 F
138 85 F
139 87 F

=====
86 F

GROUP 9
DUMMY

96 923 F
117 626 F

=====
775 F

34 MINUTES
GROUP 0
FURNACE

1 1357°F
2 1418°F
3 1408°F
4 1394°F

GROUP 1
FURNACE 2
5 0°F
6 1363°F
7 1401°F
8 1378°F
9 1347°F
10 0°F

GROUP 2
AMBIENT
11 76°F

GROUP 3
CNDT#1 SUR
12 80°F
13 175°F
14 148°F
15 195°F
16 191°F
17 183°F
18 107°F
19 240°F
20 274°F
21 215°F
22 27°F

GROUP 4
7c/12 #1
23 84°F
24 78°F
25 90°F
26 75°F
27 96°F
28 47°F
29 105°F
30 96°F
31 60°F
32 94°F
33 82°F
34 84°F
35 77°F
36 77°F
37 75°F
38 75°F
39 74°F
40 72°F
41 72°F
42 73°F
43 74°F
44 74°F
45 78°F
46 76°F
47 74°F
48 74°F

=====
1394°F

=====
1372°F

=====
76°F

=====
167°F

=====
78°F

GROUP 5
BARE#B #1
49 85°F
50 86°F
51 105°F
52 103°F
53 109°F
54 110°F
55 98°F
56 97°F
57 89°F
58 86°F
59 86°F
60 80°F
61 77°F
62 76°F
63 73°F
64 73°F
65 73°F
66 72°F
67 74°F
68 73°F
69 78°F
70 79°F
71 77°F
72 76°F
73 75°F
74 75°F

=====
84°F

GROUP 6
CNDT#2 SUR
75 102°F
76 102°F
77 119°F
78 116°F
79 93°F
80 198°F
81 179°F
82 131°F
83 176°F
84 320°F
85 85°F
86 165°F
87 68°F

=====
143°F

GROUP 7
7c/12 #2
88 75°F
89 75°F
90 86°F
91 77°F
92 86°F
93 86°F
94 83°F
95 82°F
96 75°F
97 75°F
98 79°F
99 80°F
100 107°F
101 107°F
102 107°F
103 107°F
104 80°F
105 107°F
106 107°F
107 96°F
108 98°F
109 107°F
110 104°F
111 88°F
112 88°F
113 83°F
114 82°F
115 97°F
116 98°F
118 79°F

=====
98°F

GROUP 8
BARE#B #2
97 92°F
98 77°F
99 77°F
100 80°F
101 79°F
102 77°F
103 83°F
104 82°F
105 85°F
106 85°F
107 79°F
108 78°F
109 98°F
110 100°F
111 121°F
112 109°F
113 113°F
114 107°F
115 96°F
116 94°F
117 89°F
118 89°F
119 89°F
120 90°F
121 90°F

=====
90°F

GROUP 9
DUMMY
96 948°F
117 529°F

=====
739°F

36 MINUTES

GROUP 0

FURNACE	
1	1370°F
2	1435°F
3	1429°F
4	1405°F

GROUP 1

FURNACE 2	
5	0°F
6	1379°F
7	1421°F
8	1394°F
9	1364°F
10	0°F

GROUP 2

AMBIENT	
11	77°F

GROUP 3

CNDT#1 SUR	
12	81°F
13	178°F
14	155°F
15	203°F
16	200°F
17	181°F
18	113°F
19	229°F
20	289°F
21	231°F
22	19°F

GROUP 4

7c/12 #1	
23	86°F
24	80°F
25	92°F
26	74°F
27	100°F
28	42°F
29	109°F
30	100°F
31	57°F
32	97°F
33	84°F
34	86°F
35	78°F
36	78°F
37	75°F
38	76°F
39	75°F
40	73°F
41	73°F
42	73°F
43	74°F
44	74°F
45	79°F
46	77°F
47	75°F
48	75°F

=====
1410°F

=====
1390°F

=====
77°F

=====
171°F

=====
79°F

GROUP 5
BARE#B #1

49	86°F
50	88°F
51	109°F
52	107°F
53	114°F
54	116°F
55	102°F
56	100°F
57	91°F
58	88°F
59	88°F
60	82°F
61	78°F
62	77°F
63	74°F
64	74°F
65	73°F
66	73°F
67	74°F
68	74°F
69	80°F
70	81°F
71	78°F
72	77°F
73	75°F
74	75°F

=====
86°F

GROUP 6
CNDT#2 SUR

75	104°F
76	106°F
77	124°F
78	127°F
79	105°F
80	211°F
81	189°F
82	144°F
83	208°F
84	340°F
85	85°F
86	170°F
87	58°F

=====
152°F

GROUP 7
7c/12 #2

88	75°F
89	75°F
90	88°F
91	78°F
92	88°F
93	88°F
94	86°F
95	85°F
101	77°F
102	77°F
103	82°F
104	83°F
105	114°F
106	113°F
107	100°F
108	103°F
109	113°F
110	109°F
111	90°F
112	91°F
113	85°F
114	84°F
115	100°F
116	101°F
118	80°F

=====
91°F

GROUP 8
BARE#B #2

97	94°F
98	78°F
99	78°F
100	80°F
119	80°F
120	78°F
121	85°F
122	84°F
123	88°F
124	87°F
125	82°F
126	80°F
127	103°F
128	106°F
129	127°F
130	115°F
131	120°F
132	113°F
133	100°F
134	99°F
135	92°F
136	92°F
137	92°F
138	94°F
139	92°F

=====
94°F

GROUP 9
DUMMY

96	819°F
117	525°F

=====
672°F

38 MINUTES

GROUP 0

FURNACE

1	1387 F
2	1455 F
3	1450 F
4	1425 F

GROUP 1

FURNACE 2

5	0 F
6	1398 F
7	1442 F
8	1415 F
9	1382 F
10	0 F

GROUP 2

AMBIENT

11 79 F

GROUP 3

CNDT#1 SUR

12	82 F
13	193 F
14	162 F
15	211 F
16	217 F
17	181 F
18	126 F
19	257 F
20	304 F
21	278 F
22	8 F

GROUP 4

7c/12 #1

23	91 F
24	82 F
25	98 F
26	73 F
27	107 F
28	35 F
29	118 F
30	107 F
31	53 F
32	102 F
33	87 F
34	89 F
35	80 F
36	78 F
37	76 F
38	77 F
39	76 F
40	74 F
41	73 F
42	74 F
43	75 F
44	75 F
45	82 F
46	79 F
47	76 F
48	75 F

=====
1429 F

=====
1409 F

=====
79 F

=====
183 F

=====
81 F

GROUP 5
BARE#8 #1

49	89 F
50	91 F
51	117 F
52	115 F
53	123 F
54	125 F
55	109 F
56	106 F
57	96 F
58	91 F
59	92 F
60	84 F
61	80 F
62	79 F
63	75 F
64	75 F
65	74 F
66	74 F
67	75 F
68	75 F
69	83 F
70	85 F
71	80 F
72	79 F
73	75 F
74	75 F

=====
89 F

GROUP 6
CNDT#2 SUR

75	108 F
76	112 F
77	127 F
78	145 F
79	131 F
80	233 F
81	195 F
82	183 F
83	260 F
84	378 F
85	97 F
86	181 F
87	51 F

=====
169 F

GROUP 7
7c/12 #2

88	75 F
89	75 F
90	90 F
91	79 F
92	91 F
93	91 F
94	89 F
95	89 F
101	81 F
102	82 F
103	89 F
104	90 F
105	123 F
106	124 F
107	109 F
108	112 F
109	122 F
110	119 F
111	96 F
112	97 F
113	90 F
114	89 F
115	104 F
116	106 F
118	82 F

=====
96 F

GROUP 8
BARE#8 #2

97	96 F
98	80 F
99	80 F
100	80 F
119	82 F
120	79 F
121	88 F
122	87 F
123	92 F
124	92 F
125	88 F
126	85 F
127	112 F
128	115 F
129	137 F
130	125 F
131	130 F
132	123 F
133	109 F
134	107 F
135	99 F
136	99 F
137	99 F
138	100 F
139	94 F

=====
99 F

GROUP 9
DUMMY

96	829 F
117	524 F

=====
677 F

40 MINUTES

GROUP 0
FURNACE

1	1408 F
2	1472 F
3	1465 F
4	1430 F

GROUP 1
FURNACE 2

5	0 F
6	1415 F
7	1459 F
8	1432 F
9	1399 F
10	0 F

GROUP 2
AMBIENT

11 78 F

GROUP 3
CNDT#1 SUR

12	84 F
13	188 F
14	171 F
15	217 F
16	233 F
17	140 F
18	160 F
19	271 F
20	310 F
21	325 F
22	-10 F

GROUP 4
7c/12 #1

23	97 F
24	86 F
25	103 F
26	72 F
27	114 F
28	27 F
29	127 F
30	114 F
31	49 F
32	107 F
33	91 F
34	93 F
35	83 F
36	78 F
37	78 F
38	79 F
39	77 F
40	75 F
41	74 F
42	75 F
43	77 F
44	77 F
45	85 F
46	81 F
47	77 F
48	76 F

=====
1446 F

=====
1426 F

=====
78 F

=====
210 F

=====
84 F

GROUP 5
BARE#8 #1

49	92 F
50	95 F
51	124 F
52	121 F
53	132 F
54	134 F
55	116 F
56	113 F
57	100 F
58	95 F
59	97 F
60	88 F
61	83 F
62	81 F
63	77 F
64	77 F
65	75 F
66	75 F
67	76 F
68	77 F
69	89 F
70	92 F
71	83 F
72	82 F
73	76 F
74	76 F

=====
93 F

GROUP 6
CNDT#2 SUR

75	115 F
76	117 F
77	131 F
78	164 F
79	165 F
80	258 F
81	198 F
82	218 F
83	299 F
84	469 F
85	120 F
86	194 F
87	53 F

=====
192 F

GROUP 7
7c/12 #2

88	76 F
89	76 F
90	93 F
91	81 F
92	95 F
93	95 F
94	94 F
95	95 F
101	86 F
102	88 F
103	97 F
104	99 F
105	132 F
106	132 F
107	117 F
108	121 F
109	130 F
110	127 F
111	102 F
112	103 F
113	95 F
114	95 F
115	109 F
116	110 F
118	84 F

=====
101 F

GROUP 8
BARE#8 #2

97	99 F
98	82 F
99	82 F
100	80 F
119	84 F
120	81 F
121	92 F
122	90 F
123	98 F
124	98 F
125	96 F
126	93 F
127	122 F
128	125 F
129	144 F
130	134 F
131	139 F
132	132 F
133	118 F
134	115 F
135	107 F
136	107 F
137	106 F
138	107 F
139	97 F

=====
105 F

GROUP 9
DIMMY

96	762 F
117	577 F

=====
670 F

42 MINUTES

GROUP 0
FURNACE

1	1425 F
2	1488 F
3	1476 F
4	1450 F

GROUP 1
FURNACE 2

5	0 F
6	1429 F
7	1473 F
8	1445 F
9	1413 F
10	0 F

GROUP 2
AMBIENT

11	78 F
----	------

GROUP 3
CNDT#1 SUR

12	87 F
13	191 F
14	177 F
15	219 F
16	224 F
17	229 F
18	182 F
19	278 F
20	329 F
21	371 F
22	-22 F

GROUP 4
7c/12 #1

23	102 F
24	90 F
25	109 F
26	69 F
27	22 F
28	19 F
29	136 F
30	122 F
31	44 F
32	112 F
33	94 F
34	97 F
35	85 F
36	79 F
37	79 F
38	81 F
39	78 F
40	76 F
41	75 F
42	76 F
43	78 F
44	79 F
45	89 F
46	85 F
47	78 F
48	77 F

=====
1460 F

=====
1440 F

=====
78 F

=====
229 F

=====
86 F

GROUP 5
BARE#8 #1

49	96 F
50	99 F
51	130 F
52	128 F
53	141 F
54	144 F
55	123 F
56	120 F
57	105 F
58	100 F
59	102 F
60	92 F
61	86 F
62	84 F
63	78 F
64	78 F
65	77 F
66	76 F
67	78 F
68	79 F
69	98 F
70	101 F
71	85 F
72	85 F
73	77 F
74	76 F

GROUP 6
CNDT#2 SUR

75	122 F
76	120 F
77	139 F
78	182 F
79	213 F
80	294 F
81	200 F
82	258 F
83	322 F
84	573 F
85	145 F
86	207 F
87	38 F

GROUP 7
7c/12 #2

88	77 F
89	77 F
90	97 F
91	83 F
92	99 F
93	99 F
94	99 F
95	100 F
101	94 F
102	97 F
103	107 F
104	109 F
105	139 F
106	140 F
107	126 F
108	129 F
109	138 F
110	135 F
111	109 F
112	110 F
113	103 F
114	103 F
115	113 F
116	115 F
118	87 F

GROUP 8
BARE#6 #2

97	102 F
98	84 F
99	84 F
100	80 F
119	86 F
120	83 F
121	86 F
122	94 F
123	106 F
124	106 F
125	107 F
126	103 F
127	132 F
128	134 F
129	151 F
130	142 F
131	146 F
132	140 F
133	126 F
134	124 F
135	116 F
136	116 F
137	113 F
138	115 F
139	100 F

GROUP 9
DUMMY

96	674 F
117	408 F

=====
98 F

=====
216 F

=====
107 F

=====
111 F

=====
541 F

44 MINUTES

GROUP 0
FURNACE
1 1429 F
2 1495 F
3 1484 F
4 1458 F

GROUP 1
FURNACE 2
5 0 F
6 1473 F
7 1480 F
8 1450 F
9 1417 F
10 0 F

GROUP 2
AMBIENT
11 79 F

GROUP 3
CNDT#1 SUR
12 88 F
13 174 F
14 183 F
15 220 F
16 224 F
17 234 F
18 179 F
19 264 F
20 329 F
21 390 F
22 -40 F

GROUP 4
7c/12 #1
23 105 F
24 92 F
25 117 F
26 68 F
27 127 F
28 14 F¹
29 140 F
30 126 F
31 41 F
32 115 F
33 97 F
34 100 F
35 87 F
36 79 F
37 81 F
38 82 F
39 80 F
40 77 F
41 75 F
42 77 F
43 80 F
44 80 F
45 92 F
46 87 F
47 80 F
48 78 F

=====
1466 F

=====
1445 F

=====
79 F

=====
231 F

=====
87 F

GROUP 5
BARE#8 #1
49 99 F
50 102 F
51 134 F
52 131 F
53 147 F
54 149 F
55 127 F
56 124 F
57 108 F
58 103 F
59 105 F
60 94 F
61 88 F
62 86 F
63 79 F
64 80 F
65 78 F
66 77 F
67 79 F
68 80 F
69 105 F
70 107 F
71 88 F
72 88 F
73 77 F
74 77 F

=====
100 F

GROUP 6
CNDT#2 SUR
75 127 F
76 123 F
77 145 F
78 192 F
79 230 F
80 320 F
81 201 F
82 282 F
83 332 F
84 642 F
85 173 F
86 216 F
87 31 F

=====
232 F

GROUP 7
7c/12 #2
88 77 F
89 77 F
90 99 F
91 84 F
92 102 F
93 102 F
94 103 F
95 104 F
101 100 F
102 103 F
103 114 F
104 116 F
105 143 F
106 145 F
107 131 F
108 135 F
109 142 F
110 139 F
111 113 F
112 115 F
113 109 F
114 110 F
115 116 F
116 118 F
118 88 F

=====
111 F

GROUP 8
BARE#8 #2
97 105 F
98 87 F
99 86 F
100 78 F
119 87 F
120 84 F
121 99 F
122 97 F
123 111 F
124 112 F
125 115 F
126 111 F
127 137 F
128 140 F
129 155 F
130 147 F
131 150 F
132 145 F
133 132 F
134 130 F
135 123 F
136 122 F
137 118 F
138 120 F
139 102 F

=====
116 F

GROUP 9
DUMMY
96 734 F
117 0 F

=====
734 F

45 MINUTES

GROUP 0
FURNACE

1	1458 F
2	1517 F
3	1506 F
4	1486 F

GROUP 1
FURNACE 2

5	0 F
6	1457 F
7	1504 F
8	1475 F
9	1442 F
10	0 F

GROUP 2
AMBIENT

11	77 F
----	------

GROUP 3
CNDT#1 SUR

12	91 F
13	194 F
14	189 F
15	219 F
16	211 F
17	284 F
18	182 F
19	262 F
20	317 F
21	408 F
22	-47 F

GROUP 4
7c/12 #1

23	111 F
24	97 F
25	118 F
26	64 F
27	134 F
28	6 F
29	148 F
30	134 F
31	36 F
32	120 F
33	101 F
34	105 F
35	91 F
36	80 F
37	83 F
38	85 F
39	82 F
40	78 F
41	77 F
42	78 F
43	84 F
44	85 F
45	98 F
46	91 F
47	81 F
48	80 F

===== 1490 F

===== 1470 F

===== 77 F

===== 236 F

===== 90 F

GROUP 5
BARE#B #1

49	104 F
50	107 F
51	140 F
52	138 F
53	156 F
54	157 F
55	135 F
56	131 F
57	114 F
58	108 F
59	110 F
60	99 F
61	92 F
62	89 F
63	82 F
64	82 F
65	80 F
66	79 F
67	82 F
68	83 F
69	117 F
70	118 F
71	93 F
72	92 F
73	79 F
74	78 F

GROUP 6
CNDT#2 SUR

75	133 F
76	128 F
77	159 F
78	204 F
79	261 F
80	369 F
81	200 F
82	316 F
83	392 F
84	760 F
85	221 F
86	232 F
87	51 F

GROUP 7
7c/12 #2

88	78 F
89	79 F
90	104 F
91	86 F
92	107 F
93	107 F
94	112 F
95	111 F
101	112 F
102	114 F
103	126 F
104	127 F
105	151 F
106	151 F
107	140 F
108	143 F
109	149 F
110	146 F
111	121 F
112	122 F
113	120 F
114	122 F
115	121 F
116	123 F
118	93 F

GROUP 8
BARE#B #2

97	119 F
98	100 F
99	93 F
100	68 F
119	91 F
120	86 F
121	105 F
122	102 F
123	123 F
124	124 F
125	129 F
126	124 F
127	147 F
128	150 F
129	162 F
130	156 F
131	158 F
132	153 F
133	142 F
134	145 F
135	136 F
136	134 F
137	131 F
138	131 F
139	110 F

GROUP 9
DUMMY

96	702 F
117	0 F

===== 106 F

===== 264 F

===== 119 F

===== 125 F

===== 702 F

48 MINUTES

GROUP 0
FURNACE

1 1474 F
2 1532 F
3 1523 F
4 1498 F

GROUP 1
FURNACE 2

5 0 F
6 1472 F
7 1521 F
8 1493 F
9 1458 F
10 0 F

GROUP 2
AMBIENT

11 77 F

GROUP 3
CNDT#1 SUR

12 94 F
13 196 F
14 192 F
15 222 F
16 211 F
17 287 F
18 186 F
19 253 F
20 311 F
21 402 F
22 532 F

GROUP 4
7c/12 #1

23 116 F
24 102 F
25 123 F
26 61 F
27 141 F
28 -1 F
29 155 F
30 141 F
31 30 F
32 126 F
33 106 F
34 109 F
35 94 F
36 81 F
37 85 F
38 88 F
39 84 F
40 80 F
41 79 F
42 81 F
43 91 F
44 92 F
45 103 F
46 96 F
47 83 F
48 82 F

=====
1507 F

=====
1486 F

=====
77 F

=====
236 F

=====
97 F

GROUP 5
BARE#8 #1

49 109 F
50 111 F
51 145 F
52 144 F
53 163 F
54 165 F
55 142 F
56 138 F
57 120 F
58 113 F
59 116 F
60 103 F
61 96 F
62 93 F
63 84 F
64 84 F
65 82 F
66 81 F
67 86 F
68 88 F
69 128 F
70 128 F
71 98 F
72 98 F
73 82 F
74 79 F

=====
111 F

GROUP 6
CNDT#2 SUR

75 140 F
76 135 F
77 158 F
78 222 F
79 281 F
80 401 F
81 202 F
82 342 F
83 431 F
84 824 F
85 272 F
86 251 F
87 62 F

=====
286 F

GROUP 7
7c/12 #2

88 79 F
89 80 F
90 109 F
91 89 F
92 112 F
93 113 F
94 123 F
95 119 F
101 124 F
102 128 F
103 138 F
104 140 F
105 158 F
106 158 F
107 149 F
108 151 F
109 156 F
110 153 F
111 132 F
112 132 F
113 132 F
114 131 F
115 129 F
116 130 F
118 100 F

=====
127 F

GROUP 8
BARE#8 #2

97 135 F
98 118 F
99 104 F
100 47 F
119 96 F
120 90 F
121 111 F
122 107 F
123 135 F
124 136 F
125 142 F
126 137 F
127 157 F
128 161 F
129 171 F
130 166 F
131 168 F
132 164 F
133 157 F
134 162 F
135 152 F
136 147 F
137 149 F
138 148 F
139 119 F

=====
135 F

GROUP 9
DUMMY

96 637 F
117 0 F

=====
637 F

50 MINUTES

GROUP 0
FURNACE
1 1490°F
2 1544°F
3 1534°F
4 1508°F

GROUP 1
FURNACE 2
5 0°F
6 1484°F
7 1532°F
8 1503°F
9 1470°F
10 0°F

GROUP 2
AMBIENT
11 79°F

GROUP 3
CNDT#1 SUR
12 97°F
13 199°F
14 195°F
15 223°F
16 204°F
17 281°F
18 188°F
19 233°F
20 300°F
21 399°F
22 -28°F

GROUP 4
7c/12 #1
23 123°F
24 109°F
25 127°F
26 87°F
27 148°F
28 -7°F
29 160°F
30 148°F
31 24°F
32 133°F
33 111°F
34 115°F
35 99°F
36 82°F
37 89°F
38 92°F
39 86°F
40 83°F
41 81°F
42 83°F
43 99°F
44 101°F
45 107°F
46 100°F
47 84°F
48 83°F

=====
1519°F

=====
1497°F

=====
79°F

=====
232°F

=====
101°F

GROUP 5
BARE#8 #1
49 115°F
50 116°F
51 151°F
52 150°F
53 170°F
54 171°F
55 149°F
56 145°F
57 126°F
58 120°F
59 122°F
60 108°F
61 101°F
62 98°F
63 87°F
64 88°F
65 86°F
66 84°F
67 91°F
68 94°F
69 140°F
70 139°F
71 103°F
72 103°F
73 85°F
74 80°F

=====
116°F

GROUP 6
CNDT#2 SUR
75 148°F
76 140°F
77 163°F
78 241°F
79 294°F
80 356°F
81 201°F
82 345°F
83 472°F
84 834°F
85 325°F
86 274°F
87 65°F

=====
297°F

GROUP 7
7c/12 #2
88 81°F
89 83°F
90 114°F
91 92°F
92 118°F
93 117°F
94 133°F
95 129°F
101 135°F
102 142°F
103 149°F
104 150°F
105 165°F
106 165°F
107 159°F
108 159°F
109 162°F
110 161°F
111 143°F
112 147°F
113 147°F
114 146°F
115 139°F
116 139°F
118 111°F

=====
135°F

GROUP 8
BARE#8 #2
97 147°F
98 139°F
99 114°F
100 28°F
119 102°F
120 95°F
121 119°F
122 114°F
123 147°F
124 146°F
125 154°F
126 148°F
127 167°F
128 171°F
129 180°F
130 177°F
131 182°F
132 175°F
133 172°F
134 179°F
135 167°F
136 162°F
137 167°F
138 162°F
139 131°F

=====
146°F

GROUP 9
DUMMY
96 644°F
117 0°F

=====
644°F

52 MINUTES

GROUP 0
FURNACE

1 1498 F
2 1552 F
3 1541 F
4 1515 F

GROUP 1
FURNACE 2

5 0 F
6 1491 F
7 1538 F
8 1511 F
9 1477 F
10 0 F

GROUP 2
AMBIENT

11 79 F

GROUP 3
CNDT#1 SUR

12 99 F
13 201 F
14 196 F
15 222 F
16 208 F
17 266 F
18 189 F
19 229 F
20 303 F
21 397 F
22 -4 F

GROUP 4
7c/12 #1

23 126 F
24 114 F
25 130 F
26 54 F
27 151 F
28 -11 F
29 167 F
30 152 F
31 20 F²
32 136 F
33 114 F
34 118 F
35 101 F
36 83 F
37 91 F
38 94 F
39 88 F
40 84 F
41 83 F
42 85 F
43 112 F
44 108 F
45 111 F
46 103 F
47 86 F
48 85 F

=====
1527 F

=====
1504 F

=====
79 F

=====
231 F

=====
104 F

GROUP 5
BARE#8 #1

49 121 F
50 121 F
51 153 F
52 152 F
53 174 F
54 174 F
55 153 F
56 149 F
57 131 F
58 124 F
59 126 F
60 112 F
61 104 F
62 100 F
63 89 F
64 90 F
65 88 F
66 86 F
67 95 F
68 99 F
69 147 F
70 145 F
71 107 F
72 108 F
73 88 F
74 81 F

GROUP 6
CNDT#2 SUR

75 155 F
76 142 F
77 159 F
78 264 F
79 293 F
80 330 F
81 200 F
82 341 F
83 494 F
84 821 F
85 362 F
86 290 F
87 79 F

GROUP 7
7c/12 #2

88 82 F
89 85 F
90 118 F
91 95 F
92 121 F
93 121 F
94 139 F
95 134 F
101 142 F
102 149 F
103 155 F
104 155 F
105 171 F
106 170 F
107 165 F
108 164 F
109 166 F
110 166 F
111 151 F
112 156 F
113 153 F
114 153 F
115 145 F
116 143 F
118 116 F

GROUP 8
BARE#8 #2

97 151 F
98 146 F
99 118 F
100 24 F
119 106 F
120 98 F
121 125 F
122 119 F
123 152 F
124 152 F
125 159 F
126 154 F
127 173 F
128 176 F
129 185 F
130 183 F
131 189 F
132 181 F
133 180 F
134 186 F
135 175 F
136 169 F
137 176 F
138 169 F
139 140 F

GROUP 9
DUMMY

96 612 F
117 0 F

=====
120 F

=====
302 F

=====
141 F

=====
151 F

=====
612 F

56 MINUTES

GROUP 0
FURNACE

1 1519 F
2 1572 F
3 1561 F
4 1534 F

GROUP 1
FURNACE 2

5 0 F
6 1510 F
7 1557 F
8 1500 F
9 1496 F
10 0 F

GROUP 2
AMBIENT

11 78 F

GROUP 3
CNDT#1 SUR

12 104 F
13 200 F
14 5 F
15 216 F
16 213 F
17 242 F
18 197 F
19 183 F
20 309 F
21 368 F
22 46 F

GROUP 4
7c/12 #1

23 136 F
24 124 F
25 139 F
26 46 F
27 159 F
28 -19 F
29 170 F
30 161 F
31 8 F
32 148 F
33 124 F
34 128 F
35 110 F
36 87 F
37 99 F
38 102 F
39 94 F
40 90 F
41 93 F
42 95 F
43 128 F
44 129 F
45 122 F
46 109 F
47 94 F
48 91 F

=====
1547 F

=====
1523 F

=====
78 F

=====
209 F

=====
111 F

GROUP 5
BARE#8 #1

49 132 F
50 133 F
51 157 F
52 159 F
53 182 F
54 181 F
55 165 F
56 162 F
57 144 F
58 136 F
59 138 F
60 123 F
61 114 F
62 109 F
63 96 F
64 97 F
65 97 F
66 94 F
67 116 F
68 123 F
69 177 F
70 168 F
71 120 F
72 117 F
73 95 F
74 85 F

=====
132 F

GROUP 6
CNDT#2 SUR

75 168 F
76 149 F
77 170 F
78 279 F
79 305 F
80 208 F
81 197 F
82 369 F
83 484 F
84 739 F
85 452 F
86 328 F
87 100 F

=====
304 F

GROUP 7
7c/12 #2

88 87 F
89 91 F
90 129 F
91 102 F
92 136 F
93 135 F
94 150 F
95 145 F
101 156 F
102 164 F
103 168 F
104 167 F
105 180 F
106 179 F
107 177 F
108 175 F
109 176 F
110 179 F
111 168 F
112 176 F
113 166 F
114 161 F
115 158 F
116 154 F
118 138 F

=====
153 F

GROUP 8
BARE#8 #2

97 163 F
98 162 F
99 135 F
100 26 F
119 119 F
120 109 F
121 139 F
122 132 F
123 163 F
124 162 F
125 171 F
126 166 F
127 184 F
128 186 F
129 196 F
130 193 F
131 199 F
132 193 F
133 189 F
134 195 F
135 193 F
136 185 F
137 189 F
138 183 F
139 165 F

=====
164 F

GROUP 9
DUMMY

96 371 F
117 0 F

=====
371 F

58 MINUTES

GROUP 0
FURNACE

1 1528 F
2 1591 F
3 1573 F
4 1541 F

GROUP 1
FURNACE 2

5 0 F
6 1522 F
7 1569 F
8 1541 F
9 1508 F
10 0 F

GROUP 2
AMBIENT

11 78 F

GROUP 3
CNDT#1 SUR

12 109 F
13 200 F
14 218 F
15 213 F
16 211 F
17 240 F
18 198 F
19 188 F
20 305 F
21 365 F
22 69 F

GROUP 4
7c/12 #1

23 140 F
24 130 F
25 143 F
26 41 F
27 163 F
28 -22 F
29 173 F
30 166 F
31 2 F
32 154 F
33 130 F
34 133 F
35 116 F
36 90 F
37 105 F
38 107 F
39 98 F
40 95 F
41 105 F
42 107 F
43 138 F
44 137 F
45 124 F
46 116 F
47 96 F
48 94 F

=====
1556 F

=====
1535 F

=====
78 F

=====
211 F

=====
116 F

GROUP 5
BARE#8 #1

49 136 F
50 138 F
51 159 F
52 161 F
53 185 F
54 184 F
55 171 F
56 167 F
57 150 F
58 143 F
59 145 F
60 129 F
61 120 F
62 114 F
63 101 F
64 102 F
65 103 F
66 100 F
67 131 F
68 136 F
69 179 F
70 174 F
71 136 F
72 127 F
73 98 F
74 86 F

=====
138 F

GROUP 6
CNDT#2 SUR

75 172 F
76 152 F
77 175 F
78 269 F
79 304 F
80 206 F
81 195 F
82 379 F
83 457 F
84 685 F
85 488 F
86 346 F
87 113 F

=====
303 F

GROUP 7
7c/12 #2

88 90 F
89 97 F
90 134 F
91 108 F
92 143 F
93 143 F
94 156 F
95 151 F
101 162 F
102 170 F
103 176 F
104 174 F
105 187 F
106 184 F
107 186 F
108 184 F
109 182 F
110 188 F
111 177 F
112 182 F
113 178 F
114 168 F
115 167 F
116 168 F
118 153 F

=====
160 F

GROUP 8
BARE#8 #2

97 173 F
98 170 F
99 150 F
100 19 F¹
119 127 F
120 116 F
121 148 F
122 139 F
123 169 F
124 168 F
125 177 F
126 173 F
127 189 F
128 192 F
129 204 F
130 199 F
131 206 F
132 203 F
133 196 F
134 202 F
135 203 F
136 194 F
137 201 F
138 201 F
139 184 F

=====
172 F

GROUP 9
DUMMY

96 351 F
117 0 F

=====
351 F

62 MINUTES
GROUP 0
FURNACE

1 1550 F
2 1596 F
3 1586 F
4 1355 F

GROUP 1
FURNACE 2

5 1578 F
6 1578 F
7 1582 F
8 1557 F
9 1516 F
10 0 F

GROUP 2
AMBIENT
11 79 F

GROUP 3
CNDT#1 SUR

12 111 F
13 202 F
14 215 F
15 211 F
16 210 F
17 227 F
18 200 F
19 208 F
20 286 F
21 343 F
22 90 F

GROUP 4
7c/12 #1

23 147 F
24 138 F
25 150 F
26 30 F
27 171 F
28 -28 F
29 179 F
30 173 F
31 -9 F
32 164 F
33 141 F
34 144 F
35 139 F
36 96 F
37 121 F
38 122 F
39 112 F
40 108 F
41 136 F
42 133 F
43 151 F
44 154 F
45 135 F
46 135 F
47 111 F
48 102 F

=====
1572 F

=====
1551 F

=====
79 F

=====
210 F

=====
133 F

GROUP 5
BARE#8 #1

49 143 F
50 145 F
51 164 F
52 165 F
53 189 F
54 187 F
55 178 F
56 176 F
57 161 F
58 154 F
59 156 F
60 141 F
61 133 F
62 126 F
63 113 F
64 114 F
65 122 F
66 119 F
67 152 F
68 152 F
69 185 F
70 182 F
71 153 F
72 140 F
73 101 F
74 90 F

=====
148 F

GROUP 6
CNDT#2 SUR

75 179 F
76 159 F
77 182 F
78 247 F
79 293 F
80 199 F
81 192 F
82 395 F
83 402 F
84 534 F
85 470 F
86 385 F
87 113 F

=====
288 F

GROUP 7
7c/12 #2

88 100 F
89 110 F
90 145 F
91 121 F
92 156 F
93 156 F
94 169 F
95 164 F
101 175 F
102 183 F
103 198 F
104 191 F
105 210 F
106 199 F
107 207 F
108 207 F
109 201 F
110 212 F
111 205 F
112 216 F
113 213 F
114 201 F
115 194 F
116 190 F
118 194 F

=====
181 F

GROUP 8
BARE#8 #2

97 202 F
98 189 F
99 192 F
100 -11 F
119 141 F
120 130 F
121 163 F
122 154 F
123 184 F
124 180 F
125 187 F
126 186 F
127 200 F
128 204 F
129 219 F
130 216 F
131 223 F
132 224 F
133 213 F
134 225 F
135 224 F
136 212 F
137 225 F
138 233 F
139 230 F

=====
198 F

GROUP 9
DUMMY

96 479 F
117 0 F

=====
479 F

64 MINUTES
GROUP 0
FURNACE

1 1565 F
2 1536 F
3 1595 F
4 1567 F

GROUP 1
FURNACE 2

5 0 F
6 1549 F
7 1590 F
8 1566 F
9 1538 F
10 0 F

GROUP 2
AMBIENT
11 79 F

GROUP 3
CNDT#1 SUR

12 114 F
13 201 F
14 216 F
15 212 F
16 215 F
17 199 F
18 206 F
19 224 F
20 275 F
21 328 F
22 105 F

GROUP 4
7c/12 #1

23 150 F
24 141 F
25 154 F
26 20 F²
27 174 F
28 -31 F
29 183 F
30 177 F
31 -13 F
32 169 F
33 149 F
34 151 F
35 137 F
36 39 F
37 104 F
38 101 F
39 124 F
40 120 F
41 152 F
42 146 F
43 161 F
44 167 F
45 146 F
46 146 F
47 124 F
48 113 F

=====
1582 F

=====
1561 F

=====
79 F

=====
209 F

=====
140 F

GROUP 5
BARE#B #1

49 146 F
50 148 F
51 166 F
52 167 F
53 191 F
54 188 F
55 181 F
56 180 F
57 167 F
58 160 F
59 163 F
60 148 F
61 140 F
62 134 F
63 123 F
64 122 F
65 135 F
66 130 F
67 159 F
68 160 F
69 183 F
70 185 F
71 163 F
72 148 F
73 105 F
74 93 F

=====
153 F

GROUP 6
CNDT#2 SUR

75 181 F
76 162 F
77 186 F
78 235 F
79 277 F
80 200 F
81 199 F
82 363 F
83 386 F
84 472 F
85 485 F
86 407 F
87 113 F

=====
282 F

GROUP 7
7c/12 #2

88 105 F
89 116 F
90 152 F
91 129 F
92 162 F
93 163 F
94 176 F
95 172 F
101 181 F
102 189 F
103 211 F
104 199 F
105 223 F
106 208 F
107 215 F
108 220 F
109 213 F
110 230 F
111 223 F
112 245 F
113 231 F
114 227 F
115 213 F
116 200 F
118 208 F

=====
192 F

GROUP 8
BARE#B #2

97 215 F
98 200 F
99 212 F
100 -29 F
119 147 F
120 136 F
121 168 F
122 161 F
123 190 F
124 186 F
125 193 F
126 193 F
127 205 F
128 209 F
129 227 F
130 225 F
131 231 F
132 230 F
133 224 F
134 233 F
135 236 F
136 225 F
137 234 F
138 239 F
139 256 F

=====
207 F

GROUP 9
DUMMY

96 528 F
117 0 F

=====
528 F

66 MINUTES
GROUP 0
FURNACE

1 1575 F
2 1613 F
3 1602 F
4 1570 F

GROUP 1
FURNACE 2
5 0 F
6 1556 F
7 1598 F
8 1574 F
9 1547 F
10 0 F

GROUP 2
AMBIENT
11 79 F

GROUP 3
CNDT#1 SUR
12 114 F
13 201 F
14 216 F
15 213 F
16 218 F
17 197 F
18 207 F
19 236 F
20 270 F
21 307 F
22 104 F

GROUP 4
7c/12 #1
23 156 F
24 146 F
25 157 F
26 9 F
27 177 F
28 -33 F
29 167 F
30 180 F
31 -17 F
32 173 F
33 157 F
34 158 F
35 147 F
36 102 F
37 147 F
38 141 F
39 138 F
40 136 F
41 162 F
42 156 F
43 173 F
44 184 F
45 156 F
46 151 F
47 131 F
48 130 F

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=====

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=====

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GROUP 5
BARE#B #1
49 150 F
50 152 F
51 168 F
52 170 F
53 187 F
54 168 F
55 184 F
56 183 F
57 173 F
58 166 F
59 169 F
60 155 F
61 149 F
62 143 F
63 133 F
64 133 F
65 148 F
66 141 F
67 163 F
68 163 F
69 184 F
70 186 F
71 167 F
72 151 F
73 111 F
74 100 F

=====

GROUP 6
CNDT#2 SUR
75 182 F
76 165 F
77 193 F
78 231 F
79 261 F
80 201 F
81 202 F
82 330 F
83 367 F
84 411 F
85 514 F
86 428 F
87 105 F

=====

GROUP 7
7c/12 #2
88 111 F
89 125 F
90 159 F
91 139 F
92 174 F
93 170 F
94 185 F
95 188 F
101 188 F
102 197 F
103 223 F
104 214 F
105 252 F
106 218 F
107 224 F
108 235 F
109 223 F
110 246 F
111 252 F
112 255 F
113 257 F
114 244 F
115 240 F
116 232 F
118 237 F

=====

GROUP 8
BARE#B #2
97 227 F
98 206 F
99 226 F
100 -45 F
119 153 F
120 143 F
121 178 F
122 269 F
123 197 F
124 191 F
125 198 F
126 200 F
127 210 F
128 214 F
129 236 F
130 234 F
131 236 F
132 233 F
133 231 F
134 237 F
135 249 F
136 241 F
137 254 F
138 250 F
139 272 F

=====

GROUP 9
DUMMY
96 436 F
117 0 F

=====

1590 F

1569 F

79 F

208 F

148 F

158 F

276 F

206 F

216 F

436 F

68 MINUTES

GROUP 0
FURNACE

1	1584 F
2	1621 F
3	1609 F
4	1578 F

GROUP 1
FURNACE 2

5	0 F
6	1565 F
7	1607 F
8	1584 F
9	1556 F
10	0 F

GROUP 2
AMBIENT

11 80 F

GROUP 3
CNDT#1 SUR

12	117 F
13	201 F
14	216 F
15	212 F
16	218 F
17	200 F
18	210 F
19	241 F
20	267 F
21	296 F
22	113 F

GROUP 4
7c/12 #1

23	161 F
24	151 F
25	160 F
26	-4 F
27	180 F
28	-35 F
29	191 F
30	184 F
31	-21 F
32	178 F
33	164 F
34	166 F
35	158 F
36	105 F
37	160 F
38	152 F
39	149 F
40	155 F
41	170 F
42	165 F
43	180 F
44	196 F
45	164 F
46	158 F
47	140 F
48	145 F

=====
1598 F

=====
1578 F

=====
80 F

=====
208 F

=====
162 F

GROUP 5
BARE#B #1

49	154 F
50	156 F
51	169 F
52	171 F
53	188 F
54	188 F
55	187 F
56	185 F
57	179 F
58	171 F
59	176 F
60	163 F
61	157 F
62	153 F
63	145 F
64	145 F
65	160 F
66	149 F
67	166 F
68	166 F
69	182 F
70	191 F
71	172 F
72	158 F
73	117 F
74	105 F

=====
164 F

GROUP 6
CNDT#2 SUR

75	184 F
76	166 F
77	196 F
78	225 F
79	257 F
80	204 F
81	204 F
82	293 F
83	355 F
84	372 F
85	550 F
86	449 F
87	109 F

=====
274 F

GROUP 7
7c/12 #2

88	116 F
89	131 F
90	162 F
91	151 F
92	182 F
93	180 F
94	195 F
95	191 F
101	197 F
102	206 F
103	227 F
104	228 F
105	228 F
106	231 F
107	239 F
108	250 F
109	236 F
110	251 F
111	271 F
112	257 F
113	287 F
114	256 F
115	272 F
116	252 F
118	270 F

=====
219 F

GROUP 8
BARE#B #2

97	249 F
98	217 F
99	244 F
100	-62 F
119	161 F
120	149 F
121	183 F
122	175 F
123	202 F
124	196 F
125	203 F
126	208 F
127	214 F
128	219 F
129	249 F
130	246 F
131	246 F
132	240 F
133	239 F
134	245 F
135	268 F
136	259 F
137	277 F
138	272 F
139	305 F

=====
228 F

GROUP 9
DUMMY

96	402 F
117	392 F

=====
397 F

70 MINUTES
GROUP 0
FURNACE

1 1593 F
2 1629 F
3 1618 F
4 1588 F

GROUP 1
FURNACE 2
5 0 F
6 1571 F
7 1614 F
8 1594 F
9 1562 F
10 0 F

GROUP 2
AMBIENT
11 79 F

GROUP 3
CNDT#1 SUR
12 118 F
13 201 F
14 216 F
15 212 F
16 222 F
17 203 F
18 219 F
19 247 F
20 262 F
21 286 F
22 122 F

GROUP 4
7c/12 #1
23 163 F
24 154 F
25 163 F
26 -15 F
27 182 F
28 -37 F
29 195 F
30 188 F
31 -26 F
32 182 F
33 172 F
34 173 F
35 168 F
36 108 F
37 172 F
38 161 F
39 151 F
40 168 F
41 179 F
42 173 F
43 186 F
44 204 F
45 173 F
46 166 F
47 148 F
48 160 F

=====
1607 F

=====
1585 F

=====
79 F

=====
210 F

=====
170 F

GROUP 5
BARE#8 #1

49 156 F
50 159 F
51 172 F
52 173 F
53 190 F
54 188 F
55 190 F
56 188 F
57 185 F
58 177 F
59 183 F
60 171 F
61 166 F
62 164 F
63 155 F
64 155 F
65 172 F
66 156 F
67 170 F
68 171 F
69 194 F
70 206 F
71 181 F
72 172 F
73 124 F
74 109 F

=====
170 F

GROUP 6
CNDT#2 SUR

75 189 F
76 167 F
77 198 F
78 219 F
79 241 F
80 209 F
81 204 F
82 280 F
83 343 F
84 337 F
85 380 F
86 469 F
87 116 F

=====
273 F

GROUP 7
7c/12 #2

88 122 F
89 138 F
90 172 F
91 162 F
92 190 F
93 188 F
94 206 F
95 200 F
101 207 F
102 216 F
103 222 F
104 241 F
105 232 F
106 239 F
107 252 F
108 252 F
109 247 F
110 243 F
111 253 F
112 234 F
113 310 F
114 264 F
115 229 F
116 224 F
118 290 F

=====
221 F

GROUP 8
BARE#8 #2

97 275 F
98 234 F
99 261 F
100 -82 F
119 168 F
120 156 F
121 188 F
122 181 F
123 207 F
124 202 F
125 211 F
126 220 F
127 221 F
128 228 F
129 267 F
130 261 F
131 257 F
132 238 F
133 251 F
134 256 F
135 295 F
136 276 F
137 298 F
138 283 F
139 329 F

=====
240 F

GROUP 9
DUMMY

96 433 F
117 409 F

=====
421 F

72 MINUTES
GROUP 0
FURNACE

1 1599 F
2 1636 F
3 1623 F
4 1595 F

GROUP 1
FURNACE 2
5 0 F
6 1578 F
7 1619 F
8 1601 F
9 1567 F
10 0 F

GROUP 2
AMBIENT
11 78 F

GROUP 3
CNDT#1 SUR
12 117 F
13 200 F
14 214 F
15 214 F
16 224 F
17 206 F
18 226 F
19 249 F
20 263 F
21 290 F
22 126 F

GROUP 4
7c/12 #1
23 168 F
24 158 F
25 166 F
26 -24 F
27 185 F
28 -39 F
29 198 F
30 191 F
31 -31 F
32 187 F
33 179 F
34 130 F
35 177 F
36 110 F
37 183 F
38 170 F
39 170 F
40 178 F
41 185 F
42 179 F
43 194 F
44 204 F
45 180 F
46 170 F
47 152 F
48 166 F

=====
1613 F

=====
1591 F

=====
78 F

=====
212 F

=====
175 F

GROUP 5
BARE#8 #1
49 161 F
50 164 F
51 175 F
52 175 F
53 194 F
54 190 F
55 193 F
56 191 F
57 190 F
58 183 F
59 189 F
60 179 F
61 176 F
62 173 F
63 165 F
64 162 F
65 180 F
66 163 F
67 175 F
68 177 F
69 201 F
70 223 F
71 188 F
72 175 F
73 131 F
74 115 F

=====
176 F

GROUP 6
CNDT#2 SUR
75 193 F
76 168 F
77 199 F
78 214 F
79 229 F
80 213 F
81 202 F
82 274 F
83 327 F
84 305 F
85 607 F
86 486 F
87 125 F

=====
272 F

GROUP 7
7c/12 #2
88 126 F
89 143 F
90 182 F
91 172 F
92 205 F
93 194 F
94 217 F
95 206 F
101 220 F
102 229 F
103 219 F
104 241 F
105 232 F
106 244 F
107 262 F
108 245 F
109 255 F
110 224 F
111 225 F
112 213 F
113 320 F
114 273 F
115 201 F
116 199 F
118 259 F

=====
220 F

GROUP 8
BARE#8 #2
97 303 F
98 252 F
99 272 F
100 -95 F
119 174 F
120 162 F
121 194 F
122 187 F
123 210 F
124 207 F
125 219 F
126 233 F
127 224 F
128 234 F
129 287 F
130 268 F
131 266 F
132 234 F
133 262 F
134 261 F
135 316 F
136 276 F
137 300 F
138 287 F
139 331 F

=====
248 F

GROUP 9
DUMMY
96 433 F
117 343 F

=====
386 F

74 MINUTES

GROUP 0
FURNACE

1	1611 F
2	1643 F
3	1627 F
4	1604 F

GROUP 1
FURNACE 2

5	0 F
6	1585 F
7	1626 F
8	1610 F
9	1578 F
10	0 F

GROUP 2
AMBIENT

11 78 F

GROUP 3
CNDT#1 SUR

12	117 F
13	200 F
14	216 F
15	219 F
16	227 F
17	207 F
18	233 F
19	251 F
20	272 F
21	302 F
22	126 F

GROUP 4
7c/12 #1

23	172 F
24	161 F
25	169 F
26	-33 F
27	187 F
28	-41 F
29	201 F
30	194 F
31	-37 F
32	192 F
33	186 F
34	188 F
35	185 F
36	111 F
37	196 F
38	179 F
39	181 F
40	188 F
41	194 F
42	186 F
43	202 F
44	211 F
45	187 F
46	171 F
47	157 F
48	175 F

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GROUP 5
BARE#8 #1

49	164 F
50	169 F
51	177 F
52	177 F
53	196 F
54	191 F
55	194 F
56	193 F
57	196 F
58	189 F
59	196 F
60	187 F
61	183 F
62	181 F
63	174 F
64	173 F
65	188 F
66	170 F
67	180 F
68	182 F
69	197 F
70	223 F
71	194 F
72	181 F
73	139 F
74	119 F

GROUP 6
CNDT#2 SUR

75	196 F
76	171 F
77	201 F
78	213 F
79	227 F
80	222 F
81	203 F
82	266 F
83	321 F
84	297 F
85	637 F
86	503 F
87	127 F

GROUP 7
7c/12 #2

88	131 F
89	145 F
90	193 F
91	178 F
92	214 F
93	200 F
94	226 F
95	211 F
101	233 F
102	234 F
103	217 F
104	229 F
105	223 F
106	240 F
107	260 F
108	230 F
109	247 F
110	212 F
111	218 F
112	204 F
113	317 F
114	268 F
115	195 F
116	188 F
118	222 F

GROUP 8
BARE#8 #2

97	325 F
98	280 F
99	283 F
100	117 F
119	183 F
120	171 F
121	200 F
122	193 F
123	216 F
124	214 F
125	226 F
126	245 F
127	230 F
128	240 F
129	303 F
130	272 F
131	265 F
132	226 F
133	274 F
134	264 F
135	326 F
136	282 F
137	294 F
138	281 F
139	298 F

GROUP 9
DUMMY

96	374 F
117	295 F

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76 MINUTES

GROUP 0

FURNACE

1 1619°F
 2 1649°F
 3 1635°F
 4 1610°F

GROUP 1

FURNACE 2

5 0°F
 6 1592°F
 7 1634°F
 8 1618°F
 9 1565°F
 10 0°F

GROUP 2

AMBIENT

11 80°F

GROUP 3

CNDT#1 SUR

12 118°F
 13 200°F
 14 217°F
 15 217°F
 16 229°F
 17 209°F
 18 236°F
 19 252°F
 20 286°F
 21 309°F
 22 124°F

GROUP 4

7c/12 #1

23 174°F
 24 163°F
 25 171°F
 26 -38°F
 27 188°F
 28 -42°F
 29 203°F
 30 196°F
 31 -40°F
 32 195°F
 33 190°F
 34 192°F
 35 191°F
 36 115°F
 37 204°F
 38 186°F
 39 186°F
 40 195°F
 41 198°F
 42 190°F
 43 204°F
 44 217°F
 45 190°F
 46 172°F
 47 162°F
 48 182°F

=====
1628°F

=====
1607°F

=====
80°F

=====
218°F

=====
185°F

GROUP 5

BARE#8 #1

49 165°F
 50 171°F
 51 178°F
 52 179°F
 53 199°F
 54 192°F
 55 196°F
 56 193°F
 57 200°F
 58 193°F
 59 200°F
 60 192°F
 61 187°F
 62 185°F
 63 179°F
 64 177°F
 65 193°F
 66 174°F
 67 181°F
 68 182°F
 69 199°F
 70 223°F
 71 201°F
 72 186°F
 73 145°F
 74 123°F

=====
184°F

GROUP 6

CNDT#2 SUR

75 196°F
 76 172°F
 77 201°F
 78 212°F
 79 232°F
 80 226°F
 81 202°F
 82 262°F
 83 309°F
 84 277°F
 85 650°F
 86 510°F
 87 125°F

=====
275°F

GROUP 7

7c/12 #2

88 133°F
 89 147°F
 90 195°F
 91 180°F
 92 217°F
 93 202°F
 94 227°F
 95 212°F
 101 240°F
 102 238°F
 103 216°F
 104 220°F
 105 218°F
 106 237°F
 107 254°F
 108 221°F
 109 237°F
 110 203°F
 111 214°F
 112 199°F
 113 310°F
 114 263°F
 115 193°F
 116 177°F
 118 199°F

=====
214°F

GROUP 8

BARE#8 #2

97 323°F
 98 296°F
 99 283°F
 100 -124°F
 119 187°F
 120 174°F
 121 203°F
 122 195°F
 123 219°F
 124 217°F
 125 231°F
 126 250°F
 127 232°F
 128 240°F
 129 304°F
 130 266°F
 131 260°F
 132 222°F
 133 278°F
 134 262°F
 135 322°F
 136 279°F
 137 284°F
 138 274°F
 139 269°F

=====
253°F

GROUP 9

DUMMY

96 463°F
 117 270°F

=====
367°F

78 MINUTES

GROUP 0

FURNACE

1	1637 F
2	1662 F
3	1644 F
4	1626 F

GROUP 1

FURNACE 2

5	0 F
6	1608 F
7	1648 F
8	1634 F
9	1604 F

GROUP 2

AMBIENT

11 79 F

GROUP 3

CNDT#1 SUR

12	120 F
13	200 F
14	216 F
15	219 F
16	231 F
17	210 F
18	243 F
19	255 F
20	304 F
21	329 F
22	127 F

GROUP 4

7c/12 #1

23	176 F
24	167 F
25	173 F
26	-47 F
27	191 F
28	-43 F
29	207 F
30	199 F
31	-45 F
32	199 F
33	197 F
34	200 F
35	200 F
36	119 F
37	220 F
38	201 F
39	197 F
40	204 F
41	206 F
42	197 F
43	211 F
44	223 F
45	199 F
46	178 F
47	166 F
48	186 F

=====
1642 F

=====
1624 F

=====
79 F

=====
223 F

=====
192 F

GROUP 5
BARE#B #1

49	167 F
50	173 F
51	181 F
52	181 F
53	202 F
54	194 F
55	199 F
56	196 F
57	206 F
58	199 F
59	205 F
60	199 F
61	193 F
62	189 F
63	186 F
64	184 F
65	201 F
66	180 F
67	184 F
68	187 F
69	201 F
70	232 F
71	214 F
72	198 F
73	155 F
74	129 F

=====
190 F

GROUP 6
CNDT#2 SUR

75	198 F
76	175 F
77	203 F
78	210 F
79	244 F
80	230 F
81	202 F
82	263 F
83	309 F
84	271 F
85	666 F
86	514 F
87	128 F

=====
278 F

GROUP 7
7c/12 #2

88	137 F
89	153 F
90	196 F
91	182 F
92	218 F
93	202 F
94	227 F
95	213 F
101	242 F
102	242 F
103	215 F
104	209 F
105	214 F
106	226 F
107	233 F
108	209 F
109	222 F
110	191 F
111	210 F
112	195 F
113	290 F
114	249 F
115	177 F
116	164 F
118	168 F

=====
207 F

GROUP 8
BARE#B #2

97	315 F
98	300 F
99	282 F
100	-118 F
119	194 F
120	178 F
121	207 F
122	198 F
123	222 F
124	222 F
125	235 F
126	251 F
127	233 F
128	234 F
129	300 F
130	254 F
131	251 F
132	217 F
133	281 F
134	255 F
135	307 F
136	282 F
137	266 F
138	262 F
139	233 F

=====
249 F

GROUP 9
DUMMY

96	454 F
117	211 F

=====
333 F

80 MINUTES

GROUP 0

FURNACE	
1	1648 F
2	1656 F
3	1650 F
4	1639 F

GROUP 1

FURNACE 2	
5	0 F
6	1615 F
7	1615 F
8	1647 F
9	1613 F
10	0 F

GROUP 2

AMBIENT	
11	81 F

GROUP 3

CNDT#1 SUR	
12	119 F
13	200 F
14	215 F
15	222 F
16	232 F
17	211 F
18	246 F
19	264 F
20	307 F
21	333 F
22	123 F

GROUP 4

7c/12 #1	
23	178 F
24	170 F
25	175 F
26	-58 F
27	193 F
28	-46 F
29	210 F
30	202 F
31	-52 F
32	205 F
33	206 F
34	209 F
35	209 F
36	120 F
37	228 F
38	204 F
39	200 F
40	211 F
41	215 F
42	203 F
43	217 F
44	231 F
45	201 F
46	184 F
47	171 F
48	191 F

=====
1651 F

=====
1633 F

=====
81 F

=====
225 F

=====
197 F

GROUP 5
BARE#8 #1

49	171 F
50	177 F
51	185 F
52	183 F
53	205 F
54	195 F
55	202 F
56	199 F
57	212 F
58	205 F
59	209 F
60	205 F
61	198 F
62	194 F
63	190 F
64	189 F
65	210 F
66	184 F
67	187 F
68	193 F
69	205 F
70	241 F
71	224 F
72	208 F
73	163 F
74	136 F

=====
195 F

GROUP 6
CNDT#2 SUR

75	199 F
76	179 F
77	204 F
78	208 F
79	240 F
80	231 F
81	203 F
82	259 F
83	307 F
84	266 F
85	680 F
86	521 F
87	136 F

=====
279 F

GROUP 7
7c/12 #2

88	139 F
89	159 F
90	196 F
91	183 F
92	212 F
93	203 F
94	223 F
95	214 F
101	237 F
102	239 F
103	215 F
104	203 F
105	215 F
106	219 F
107	212 F
108	200 F
109	205 F
110	187 F
111	208 F
112	193 F
113	266 F
114	229 F
115	166 F
116	156 F
118	154 F

=====
201 F

GROUP 8
BARE#8 #2

97	291 F
98	284 F
99	277 F
100	-92 F
119	201 F
120	180 F
121	211 F
122	200 F
123	226 F
124	228 F
125	235 F
126	250 F
127	234 F
128	229 F
129	288 F
130	241 F
131	244 F
132	213 F
133	280 F
134	236 F
135	289 F
136	280 F
137	256 F
138	257 F
139	201 F

=====
243 F

GROUP 9
DUMMY

96	377 F
117	179 F

=====
278 F

32 MINUTES

GROUP 0

FURNACE	
1	1659 F
2	1673 F
3	1660 F
4	1649 F

GROUP 1 FURNACE 2	
5	1622 F
6	1622 F
7	1685 F
8	1657 F
9	1622 F
10	1676 F

GROUP 2 AMBIENT	
11	79 F

GROUP 3 CNDT#1 SUR	
12	119 F
13	201 F
14	206 F
15	223 F
16	233 F
17	213 F
18	247 F
19	283 F
20	315 F
21	350 F
22	124 F

GROUP 4 7c/12 #1	
23	181 F
24	171 F
25	179 F
26	-61 F
27	196 F
28	-48 F
29	213 F
30	205 F
31	-57 F
32	209 F
33	212 F
34	215 F
35	211 F
36	122 F
37	221 F
38	206 F
39	205 F
40	217 F
41	222 F
42	211 F
43	224 F
44	240 F
45	199 F
46	190 F
47	174 F
48	189 F

=====
1660 F

=====
1648 F

=====
79 F

=====
229 F

=====
201 F

GROUP 5 BARE#8 #1	
49	171 F
50	178 F
51	189 F
52	186 F
53	210 F
54	198 F
55	203 F
56	199 F
57	217 F
58	210 F
59	212 F
60	208 F
61	200 F
62	196 F
63	194 F
64	192 F
65	218 F
66	189 F
67	191 F
68	198 F
69	209 F
70	255 F
71	239 F
72	214 F
73	170 F
74	142 F

=====
200 F

GROUP 6 CNDT#2 SUR	
75	202 F
76	183 F
77	204 F
78	207 F
79	238 F
80	235 F
81	207 F
82	256 F
83	310 F
84	259 F
85	702 F
86	531 F
87	136 F

=====
282 F

GROUP 7 7c/12 #2	
88	142 F
89	162 F
90	195 F
91	180 F
92	204 F
93	200 F
94	219 F
95	208 F
101	226 F
102	235 F
103	212 F
104	196 F
105	210 F
106	211 F
107	197 F
108	190 F
109	194 F
110	187 F
111	202 F
112	198 F
113	239 F
114	208 F
115	161 F
116	147 F
118	145 F

=====
195 F

GROUP 8 BARE#8 #2	
97	250 F
98	268 F
99	278 F
100	-57 F
119	203 F
120	179 F
121	203 F
122	198 F
123	226 F
124	232 F
125	231 F
126	241 F
127	228 F
128	214 F
129	264 F
130	224 F
131	230 F
132	204 F
133	277 F
134	220 F
135	275 F
136	275 F
137	242 F
138	250 F
139	160 F

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232 F

GROUP 9 DUMMY	
96	392 F
117	158 F

=====
275 F

84 MINUTES
GROUP 0
FURNACE

1 1667 F
2 1679 F
3 1667 F
4 1660 F

GROUP 1
FURNACE 2
5 1712 F
6 1629 F
7 1673 F
8 1667 F
9 1629 F
10 1663 F

GROUP 2
AMBIENT
11 78 F

GROUP 3
CNDT#1 SUR
12 120 F
13 202 F
14 206 F
15 223 F
16 231 F
17 213 F
18 259 F
19 299 F
20 322 F
21 357 F
22 123 F

GROUP 4
7c/12 #1
23 179 F
24 172 F
25 182 F
26 -66 F
27 199 F
28 -50 F
29 216 F
30 207 F
31 -59 F
32 211 F
33 217 F
34 219 F
35 214 F
36 128 F
37 217 F
38 211 F
39 216 F
40 220 F
41 227 F
42 218 F
43 226 F
44 249 F
45 201 F
46 197 F
47 179 F
48 187 F

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1668 F

=====
1666 F

=====
78 F

=====
232 F

=====
204 F

GROUP 5
BARE#B #1
49 175 F
50 182 F
51 192 F
52 189 F
53 214 F
54 200 F
55 205 F
56 200 F
57 218 F
58 212 F
59 213 F
60 211 F
61 203 F
62 200 F
63 197 F
64 196 F
65 224 F
66 193 F
67 194 F
68 204 F
69 214 F
70 272 F
71 252 F
72 222 F
73 177 F
74 148 F

=====
204 F

GROUP 6
CNDT#2 SUR
75 202 F
76 186 F
77 205 F
78 206 F
79 234 F
80 239 F
81 208 F
82 261 F
83 303 F
84 255 F
85 717 F
86 536 F
87 130 F

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283 F

GROUP 7
7c/12 #2
88 148 F
89 152 F
90 203 F
91 187 F
92 196 F
93 194 F
94 208 F
95 200 F
101 208 F
102 220 F
103 205 F
104 190 F
105 201 F
106 201 F
107 183 F
108 183 F
109 184 F
110 192 F
111 193 F
112 197 F
113 223 F
114 187 F
115 161 F
116 143 F
118 143 F

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188 F

GROUP 8
BARE#B #2
97 218 F
98 246 F
99 265 F
100 -19 F
119 210 F
120 190 F
121 205 F
122 201 F
123 224 F
124 238 F
125 219 F
126 227 F
127 218 F
128 208 F
129 232 F
130 207 F
131 223 F
132 207 F
133 262 F
134 208 F
135 240 F
136 253 F
137 227 F
138 237 F
139 139 F

=====
221 F

GROUP 9
DUMMY
96 316 F
117 141 F

=====
229 F

86 MINUTES

GROUP 0
FURNACE

1	1678 F
2	1686 F
3	1675 F
4	1669 F

GROUP 1
FURNACE 2

5	1721 F
6	1637 F
7	1681 F
8	1677 F
9	1639 F
10	1695 F

GROUP 2
AMBIENT

11 80 F

GROUP 3
CNDT#1 SUR

12	121 F
13	202 F
14	206 F
15	222 F
16	231 F
17	214 F
18	277 F
19	308 F
20	329 F
21	364 F
22	124 F

GROUP 4
7c/12 #1

23	183 F
24	176 F
25	184 F
26	-66 F
27	200 F
28	0 F
29	217 F
30	209 F
31	-61 F
32	214 F
33	220 F
34	224 F
35	218 F
36	127 F
37	212 F
38	216 F
39	217 F
40	215 F
41	228 F
42	224 F
43	225 F
44	254 F
45	200 F
46	205 F
47	180 F
48	179 F

=====
1677 F

=====
1675 F

=====
80 F

=====
236 F

=====
206 F

GROUP 5
BARE#8 #1

49	177 F
50	184 F
51	193 F
52	190 F
53	215 F
54	200 F
55	207 F
56	202 F
57	220 F
58	214 F
59	213 F
60	212 F
61	207 F
62	204 F
63	200 F
64	199 F
65	226 F
66	196 F
67	198 F
68	208 F
69	215 F
70	278 F
71	233 F
72	221 F
73	180 F
74	156 F

=====
206 F

GROUP 6
CNDT#2 SUR

75	203 F
76	187 F
77	206 F
78	207 F
79	224 F
80	236 F
81	211 F
82	268 F
83	309 F
84	276 F
85	738 F
86	547 F
87	121 F

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287 F

GROUP 7
7c/12 #2

88	153 F
89	149 F
90	200 F
91	187 F
92	193 F
93	189 F
94	199 F
95	190 F
101	198 F
102	207 F
103	197 F
104	188 F
105	196 F
106	195 F
107	177 F
108	178 F
109	176 F
110	193 F
111	188 F
112	194 F
113	208 F
114	180 F
115	161 F
116	145 F
118	136 F

=====
183 F

GROUP 8
BARE#8 #2

97	176 F
98	211 F
99	237 F
100	-11 F
119	205 F
120	188 F
121	204 F
122	202 F
123	214 F
124	231 F
125	208 F
126	210 F
127	211 F
128	196 F
129	212 F
130	198 F
131	210 F
132	206 F
133	243 F
134	205 F
135	211 F
136	230 F
137	197 F
138	204 F
139	116 F

=====
205 F

GROUP 9
DUMMY

96	286 F
117	119 F

=====
203 F

88 MINUTES

GROUP 0
FURNACE

1 1684°F
2 1690°F
3 1680°F
4 1677°F

GROUP 1
FURNACE 2

5 1725°F
6 1642°F
7 1686°F
8 1683°F
9 1644°F
10 1701°F

GROUP 2
AMBIENT

11 80°F

GROUP 3
CNDT#1 SUR

12 122°F
13 202°F
14 206°F
15 222°F
16 235°F
17 213°F
18 278°F
19 311°F
20 306°F
21 366°F
22 126°F

GROUP 4
7c/12 #1

23 183°F
24 175°F
25 185°F
26 163°F
27 201°F
28 201°F
29 217°F
30 211°F
31 161°F
32 216°F
33 221°F
34 227°F
35 219°F
36 131°F
37 211°F
38 219°F
39 212°F
40 212°F
41 228°F
42 226°F
43 222°F
44 253°F
45 200°F
46 207°F
47 180°F
48 173°F

=====
1683°F

=====
1680°F

=====
80°F

=====
237°F

=====
205°F

GROUP 5
BARE#8 #1

49 176°F
50 183°F
51 193°F
52 191°F
53 216°F
54 201°F
55 207°F
56 203°F
57 222°F
58 216°F
59 214°F
60 213°F
61 208°F
62 205°F
63 201°F
64 200°F
65 226°F
66 197°F
67 199°F
68 210°F
69 216°F
70 267°F
71 231°F
72 222°F
73 182°F
74 160°F

=====
206°F

GROUP 6
CNDT#2 SUR

75 203°F
76 188°F
77 206°F
78 209°F
79 224°F
80 243°F
81 212°F
82 260°F
83 311°F
84 274°F
85 749°F
86 552°F
87 115°F

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288°F

GROUP 7
7c/12 #2

88 155°F
89 151°F
90 197°F
91 185°F
92 189°F
93 185°F
94 193°F
95 183°F
101 191°F
102 198°F
103 192°F
104 188°F
105 192°F
106 190°F
107 174°F
108 174°F
109 175°F
110 191°F
111 182°F
112 191°F
113 200°F
114 171°F
115 159°F
116 140°F
118 126°F

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179°F

GROUP 8
BARE#8 #2

97 152°F
98 189°F
99 212°F
100 -12°F
119 201°F
120 187°F
121 201°F
122 203°F
123 207°F
124 224°F
125 202°F
126 202°F
127 203°F
128 188°F
129 202°F
130 192°F
131 198°F
132 202°F
133 229°F
134 202°F
135 194°F
136 212°F
137 181°F
138 185°F
139 100°F

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195°F

GROUP 9
DUMMY

96 317°F
117 104°F

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211°F

GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 5	GROUP 6	GROUP 7	GROUP 8	GROUP 9
FURNACE	FURNACE 2	AMBIENT	CNDT#1 SUR	7c/12 #1	CNDT#2 SUR	7c/12 #2	BARE#8 #2	7c/12 #3
1 1695°F	5 1736°F	11 83°F	12 125°F	23 180°F				
2 1698°F	6 1651°F		13 203°F	24 176°F				
3 1687°F	7 1695°F		14 206°F	25 187°F				
4 1686°F	8 1692°F		15 222°F	26 -56°F				
	9 1654°F		16 233°F	27 202°F				
	10 1711°F		17 213°F	28 202°F				
			18 274°F	29 217°F				
			19 317°F	30 213°F				
			20 332°F	31 213°F				
			21 364°F	32 218°F				
			22 123°F	33 223°F				
				34 228°F				
				35 222°F				
				36 138°F				
				37 209°F				
				38 225°F				
				39 214°F				
				40 207°F				
				41 231°F				
				42 228°F				
				43 217°F				
				44 250°F				
				45 202°F				
				46 210°F				
				47 182°F				
				48 164°F				

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1692°F 1690°F 83°F 237°F 206°F

GROUP 5	GROUP 6	GROUP 7	GROUP 8	GROUP 9
BARE#8 #1	CNDT#2 SUR	7c/12 #2	BARE#8 #2	DUMMY
49 179°F	75 202°F	88 160°F	97 110°F	96 289°F
50 185°F	76 186°F	89 154°F	98 149°F	117 76°F
51 194°F	77 206°F	90 193°F	99 171°F	
52 194°F	78 210°F	91 182°F	100 -31°F	
53 218°F	79 228°F	92 180°F	119 194°F	
54 202°F	80 256°F	93 179°F	120 183°F	
55 209°F	81 211°F	94 180°F	121 195°F	
56 205°F	82 260°F	95 173°F	122 199°F	
57 222°F	83 319°F	101 180°F	123 196°F	
58 217°F	84 257°F	102 184°F	124 214°F	
59 214°F	85 765°F	103 183°F	125 193°F	
60 215°F	86 556°F	104 184°F	126 188°F	
61 210°F	87 119°F	105 185°F	127 192°F	
62 207°F		106 176°F	128 175°F	
63 204°F		107 168°F	129 185°F	
64 203°F		108 167°F	130 177°F	
65 226°F		109 167°F	131 177°F	
66 198°F		110 186°F	132 184°F	
67 200°F		111 171°F	133 203°F	
68 214°F		112 180°F	134 191°F	
69 218°F		113 185°F	135 168°F	
70 268°F		114 157°F	136 185°F	
71 235°F		115 164°F	137 153°F	
72 225°F		116 130°F	138 159°F	
73 184°F		118 110°F	139 77°F	
74 166°F				

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208°F 290°F 171°F 176°F 183°F

92 MINUTES

GROUP 0
FURNACE

1	1707°F
2	1707°F
3	1696°F
4	1697°F

GROUP 1
FURNACE 2

5	1745°F
6	1662°F
7	1703°F
8	1703°F
9	1666°F
10	1724°F

GROUP 2

AMBIENT
11 82°F

GROUP 3
CNDT#1 SUR

12	123°F
13	202°F
14	206°F
15	222°F
16	233°F
17	214°F
18	266°F
19	318°F
20	327°F
21	366°F
22	128°F

GROUP 4
7c/12 #1

23	184°F
24	180°F
25	188°F
26	-52°F
27	203°F
28	203°F
29	215°F
30	213°F
31	213°F
32	220°F
33	223°F
34	229°F
35	223°F
36	0°F
37	207°F
38	227°F
39	212°F
40	202°F
41	230°F
42	228°F
43	217°F
44	246°F
45	204°F
46	211°F
47	181°F
48	156°F

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1702°F

=====

1701°F

=====

82°F

=====

237°F

=====

209°F

GROUP 5
BARE#B #1

49	178°F
50	185°F
51	194°F
52	194°F
53	218°F
54	202°F
55	210°F
56	206°F
57	221°F
58	216°F
59	214°F
60	215°F
61	210°F
62	208°F
63	205°F
64	203°F
65	225°F
66	198°F
67	202°F
68	214°F
69	218°F
70	266°F
71	232°F
72	220°F
73	183°F
74	170°F

=====

208°F

GROUP 6
CNDT#2 SUR

75	202°F
76	185°F
77	206°F
78	210°F
79	226°F
80	267°F
81	214°F
82	256°F
83	320°F
84	256°F
85	779°F
86	556°F
87	127°F

GROUP 7
7c/12 #2

88	164°F
89	162°F
90	191°F
91	181°F
92	174°F
93	175°F
94	170°F
95	169°F
101	171°F
102	176°F
103	174°F
104	172°F
105	173°F
106	166°F
107	162°F
108	159°F
109	155°F
110	173°F
111	153°F
112	165°F
113	158°F
114	136°F
115	148°F
116	121°F
118	90°F

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162°F

GROUP 8
BARE#B #2

97	95°F
98	114°F
99	136°F
100	-23°F
119	190°F
120	179°F
121	189°F
122	194°F
123	197°F
124	213°F
125	185°F
126	178°F
127	182°F
128	160°F
129	173°F
130	160°F
131	161°F
132	157°F
133	181°F
134	171°F
135	141°F
136	164°F
137	129°F
138	137°F
139	59°F

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160°F

GROUP 9
DUMMY

96	312°F
117	44°F

=====

178°F

94 MINUTES

GROUP 0

FURNACE	
1	1713 F
2	1712 F
3	1731 F
4	1705 F

GROUP 1
FURNACE 2

5	1749 F
6	1667 F
7	1708 F
8	1711 F
9	1671 F
10	1726 F

GROUP 2
AMBIENT

11 81 F

GROUP 3
CNDT#1 SUR

12	124 F
13	202 F
14	206 F
15	222 F
16	212 F
17	214 F
18	262 F
19	317 F
20	334 F
21	366 F
22	135 F

GROUP 4
7c/12 #1

23	183 F
24	181 F
25	188 F
26	-50 F
27	205 F
28	204 F
29	217 F
30	214 F
31	215 F
32	221 F
33	225 F
34	231 F
35	224 F
36	151 F
37	205 F
38	231 F
39	216 F
40	205 F
41	233 F
42	231 F
43	219 F
44	245 F
45	204 F
46	209 F
47	182 F
48	148 F

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1708 F

=====

1705 F

=====

81 F

=====

238 F

=====

207 F

GROUP 5
BARE#8 #1

49	181 F
50	185 F
51	193 F
52	194 F
53	217 F
54	203 F
55	210 F
56	206 F
57	219 F
58	215 F
59	214 F
60	214 F
61	212 F
62	209 F
63	210 F
64	206 F
65	222 F
66	201 F
67	203 F
68	217 F
69	218 F
70	257 F
71	219 F
72	217 F
73	178 F
74	177 F

=====

208 F

GROUP 6
CNDT#2 SUR

75	202 F
76	187 F
77	206 F
78	211 F
79	226 F
80	270 F
81	212 F
82	258 F
83	303 F
84	269 F
85	790 F
86	549 F
87	137 F

=====

293 F

GROUP 7
7c/12 #2

88	170 F
89	173 F
90	190 F
91	182 F
92	171 F
93	176 F
94	167 F
95	171 F
101	166 F
102	173 F
103	170 F
104	166 F
105	171 F
106	161 F
107	160 F
108	157 F
109	150 F
110	173 F
111	153 F
112	157 F
113	144 F
114	125 F
115	127 F
116	120 F
118	89 F

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158 F

GROUP 8
BARE#8 #2

97	95 F
98	98 F
99	114 F
100	167 F
119	191 F
120	180 F
121	189 F
122	190 F
123	196 F
124	212 F
125	180 F
126	171 F
127	175 F
128	156 F
129	168 F
130	141 F
131	162 F
132	158 F
133	172 F
134	160 F
135	123 F
136	159 F
137	120 F
138	125 F
139	59 F

=====

154 F

GROUP 9
DUMMY

96	253 F
117	52 F

=====

153 F

96 MINUTES

GROUP 0
FURNACE

1 1718 F
2 1715 F
3 1700 F
4 1711 F

GROUP 1
FURNACE 2

5 1751 F
6 1676 F
7 1709 F
8 1717 F
9 1682 F
10 1734 F

GROUP 2
AMBIENT

11 83 F

GROUP 3
CNDT#1 SUR

12 124 F
13 203 F
14 206 F
15 220 F
16 232 F
17 214 F
18 258 F
19 311 F
20 331 F
21 363 F
22 136 F

GROUP 4
7c/12 #1

23 182 F
24 181 F
25 191 F
26 -50 F
27 207 F
28 206 F
29 212 F
30 215 F
31 217 F
32 221 F
33 225 F
34 231 F
35 227 F
36 157 F
37 207 F
38 236 F
39 219 F
40 205 F
41 234 F
42 230 F
43 221 F
44 243 F
45 201 F
46 208 F
47 182 F
48 146 F

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1711 F

=====
1712 F

=====
83 F

=====
236 F

=====
208 F

GROUP 5
BARE#8 #1

49 181 F
50 185 F
51 195 F
52 198 F
53 219 F
54 205 F
55 211 F
56 208 F
57 220 F
58 216 F
59 216 F
60 217 F
61 214 F
62 212 F
63 214 F
64 208 F
65 222 F
66 203 F
67 205 F
68 219 F
69 218 F
70 246 F
71 222 F
72 215 F
73 173 F
74 185 F

GROUP 6
CNDT#2 SUR

75 203 F
76 189 F
77 206 F
78 210 F
79 227 F
80 275 F
81 214 F
82 257 F
83 276 F
84 267 F
85 793 F
86 539 F
87 138 F

GROUP 7
7c/12 #2

88 173 F
89 176 F
90 189 F
91 183 F
92 170 F
93 177 F
94 166 F
95 171 F
101 163 F
102 168 F
103 169 F
104 160 F
105 170 F
106 161 F
107 158 F
108 158 F
109 152 F
110 172 F
111 149 F
112 147 F
113 138 F
114 122 F
115 116 F
116 123 F
118 87 F

GROUP 8
BARE#8 #2

97 100 F
98 80 F
99 105 F
100 251 F
119 188 F
120 181 F
121 188 F
122 186 F
123 189 F
124 204 F
125 176 F
126 168 F
127 174 F
128 155 F
129 166 F
130 131 F
131 164 F
132 158 F
133 168 F
134 158 F
135 120 F
136 151 F
137 122 F
138 124 F
139 70 F

GROUP 9
DUMMY

96 332 F
117 64 F

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209 F

=====
292 F

=====
157 F

=====
155 F

=====
198 F

98 MINUTES

GROUP 0
FURNACE

1 1726 F
2 1721 F
3 1705 F
4 1718 F

GROUP 1
FURNACE 2

5 1759 F
6 1683 F
7 1713 F
8 1722 F
9 1689 F
10 1741 F

GROUP 2
AMBIENT

11 80 F

GROUP 3
CNDT#1 SUR

12 122 F
13 202 F
14 206 F
15 221 F
16 232 F
17 214 F
18 250 F
19 315 F
20 320 F
21 357 F
22 139 F

GROUP 4
7c/12 #1

23 182 F
24 179 F
25 192 F
26 150 F
27 208 F
28 208 F
29 211 F
30 216 F
31 210 F
32 224 F
33 226 F
34 231 F
35 228 F
36 156 F
37 207 F
38 239 F
39 222 F
40 208 F
41 234 F
42 230 F
43 219 F
44 240 F
45 204 F
46 206 F
47 184 F
48 139 F

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1718 F

=====

1718 F

=====

83 F

=====

235 F

=====

208 F

GROUP 5
BARE#8 #1

49 182 F
50 186 F
51 195 F
52 199 F
53 220 F
54 206 F
55 211 F
56 210 F
57 218 F
58 217 F
59 216 F
60 220 F
61 215 F
62 216 F
63 220 F
64 210 F
65 223 F
66 207 F
67 208 F
68 224 F
69 222 F
70 244 F
71 243 F
72 209 F
73 166 F
74 196 F

=====

211 F

GROUP 6
CNDT#2 SUR

75 203 F
76 188 F
77 206 F
78 211 F
79 229 F
80 278 F
81 216 F
82 258 F
83 263 F
84 281 F
85 811 F
86 530 F
87 139 F

=====

293 F

GROUP 7
7c/12 #2

88 176 F
89 171 F
90 186 F
91 182 F
92 171 F
93 177 F
94 166 F
95 167 F
101 157 F
102 160 F
103 170 F
104 158 F
105 170 F
106 162 F
107 156 F
108 160 F
109 155 F
110 175 F
111 148 F
112 154 F
113 138 F
114 124 F
115 117 F
116 132 F
118 93 F

=====

157 F

GROUP 8
BARE#8 #2

97 105 F
98 62 F
99 94 F
100 305 F
119 182 F
120 179 F
121 186 F
122 182 F
123 165 F
124 192 F
125 173 F
126 162 F
127 172 F
128 154 F
129 162 F
130 127 F
131 161 F
132 160 F
133 163 F
134 156 F
135 117 F
136 141 F
137 120 F
138 125 F
139 73 F

=====

153 F

GROUP 9
DUMMY

96 302 F
117 86 F

=====

194 F

100 MINUTES

GROUP 0

FURNACE

1 1729 F
 2 1735 F
 3 1709 F
 4 1722 F

GROUP 1

FURNACE 1

5 1762 F
 6 1687 F
 7 1719 F
 8 1727 F
 9 1693 F
 10 1742 F

GROUP 2

AMBIENT

11 82 F

GROUP 3

CNDT#1 SUR

12 124 F
 13 202 F
 14 206 F
 15 222 F
 16 232 F
 17 214 F
 18 251 F
 19 307 F
 20 325 F
 21 357 F
 22 144 F

GROUP 4

7c/12 #1

23 181 F
 24 179 F
 25 192 F
 26 151 F
 27 208 F
 28 206 F
 29 210 F
 30 216 F
 31 212 F
 32 225 F
 33 226 F
 34 231 F
 35 229 F
 36 154 F
 37 209 F
 38 239 F
 39 219 F
 40 207 F
 41 234 F
 42 229 F
 43 218 F
 44 237 F
 45 203 F
 46 205 F
 47 185 F
 48 139 F

=====
1722 F

=====
1722 F

=====
82 F

=====
235 F

=====
208 F

GROUP 5
BARE#8 #1

49 182 F
 50 186 F
 51 194 F
 52 198 F
 53 219 F
 54 206 F
 55 210 F
 56 210 F
 57 216 F
 58 217 F
 59 217 F
 60 220 F
 61 216 F
 62 216 F
 63 221 F
 64 212 F
 65 221 F
 66 207 F
 67 209 F
 68 226 F
 69 219 F
 70 238 F
 71 241 F
 72 205 F
 73 164 F
 74 215 F

=====
211 F

GROUP 6
CNDT#2 SUR

75 202 F
 76 188 F
 77 206 F
 78 210 F
 79 229 F
 80 277 F
 81 219 F
 82 260 F
 83 264 F
 84 286 F
 85 815 F
 86 521 F
 87 139 F

=====
294 F

GROUP 7
7c/12 #2

88 178 F
 89 171 F
 90 186 F
 91 181 F
 92 172 F
 93 178 F
 94 165 F
 95 167 F
 101 157 F
 102 161 F
 103 169 F
 104 161 F
 105 171 F
 106 163 F
 107 157 F
 108 162 F
 109 157 F
 110 174 F
 111 150 F
 112 153 F
 113 139 F
 114 127 F
 115 102 F
 116 133 F
 118 100 F

=====
157 F

GROUP 8
BARE#8 #2

97 107 F
 98 42 F
 99 87 F
 100 293 F
 119 179 F
 120 179 F
 121 184 F
 122 180 F
 123 173 F
 124 199 F
 125 168 F
 126 158 F
 127 170 F
 128 153 F
 129 158 F
 130 135 F
 131 157 F
 132 154 F
 133 159 F
 134 151 F
 135 112 F
 136 138 F
 137 121 F
 138 123 F
 139 82 F

=====
150 F

GROUP 9
DUMMY

96 287 F
 117 96 F

=====
192 F

102 MINUTES

GROUP 0
FURNACE

1	1734 F
2	1730 F
3	1715 F
4	1729 F

GROUP 1
FURNACE 2

5	1765 F
6	1692 F
7	1724 F
8	1734 F
9	1697 F
10	1747 F

GROUP 2
AMBIENT

11 83 F

GROUP 3
CNDT#1 SUR

12	123 F
13	203 F
14	207 F
15	222 F
16	231 F
17	213 F
18	253 F
19	301 F
20	325 F
21	361 F
22	146 F

GROUP 4
7c/12 #1

23	182 F
24	180 F
25	193 F
26	-50 F
27	209 F
28	206 F
29	210 F
30	217 F
31	213 F
32	225 F
33	228 F
34	232 F
35	230 F
36	154 F
37	209 F
38	237 F
39	218 F
40	207 F
41	234 F
42	227 F
43	218 F
44	233 F
45	203 F
46	203 F
47	184 F
48	137 F

=====
1727 F

=====
1727 F

=====
83 F

=====
235 F

=====
208 F

GROUP 5
BARE#8 #1

49	184 F
50	187 F
51	196 F
52	200 F
53	219 F
54	207 F
55	211 F
56	211 F
57	213 F
58	218 F
59	218 F
60	221 F
61	218 F
62	218 F
63	227 F
64	213 F
65	218 F
66	208 F
67	210 F
68	228 F
69	219 F
70	224 F
71	197 F
72	201 F
73	167 F
74	235 F

=====
210 F

GROUP 6
CNDT#2 SUR

75	202 F
76	190 F
77	209 F
78	211 F
79	230 F
80	281 F
81	223 F
82	259 F
83	260 F
84	284 F
85	812 F
86	507 F
87	141 F

=====
293 F

GROUP 7
7c/12 #2

88	179 F
89	174 F
90	185 F
91	181 F
92	175 F
93	181 F
94	171 F
95	171 F
101	161 F
102	166 F
103	171 F
104	168 F
105	171 F
106	165 F
107	159 F
108	164 F
109	161 F
110	172 F
111	156 F
112	158 F
113	140 F
114	131 F
115	73 F
116	140 F
118	104 F

=====
159 F

GROUP 8
BARE#8 #2

97	115 F
98	27 F
99	92 F
100	213 F
119	173 F
120	180 F
121	180 F
122	177 F
123	182 F
124	207 F
125	160 F
126	158 F
127	168 F
128	152 F
129	159 F
130	128 F
131	161 F
132	138 F
133	158 F
134	146 F
135	110 F
136	137 F
137	129 F
138	128 F
139	91 F

=====
147 F

GROUP 9
DUMMY

96	254 F
117	105 F

=====
180 F

104 MINUTES

GROUP 0

FURNACE

1 1732 F
2 1732 F
3 1732 F
4 1732 F

GROUP 1
FURNACE 2

5 1732 F
6 1694 F
7 1732 F
8 1732 F
9 1732 F
10 1732 F

GROUP 2
AMBIENT

11 84 F

GROUP 3
CNDT#1 SUR

12 182 F
13 202 F
14 206 F
15 204 F
16 200 F
17 214 F
18 147 F
19 208 F
20 212 F
21 182 F
22 148 F

GROUP 4
7c/12 #1

23 182 F
24 179 F
25 194 F
26 149 F
27 204 F
28 206 F
29 204 F
30 218 F
31 218 F
32 226 F
33 218 F
34 220 F
35 230 F
36 108 F
37 208 F
38 206 F
39 217 F
40 204 F
41 234 F
42 228 F
43 218 F
44 229 F
45 203 F
46 201 F
47 181 F
48 137 F

=====
1732 F

=====
1732 F

=====
84 F

=====
232 F

=====
207 F

GROUP 5
BARE#8 #1

49 182 F
50 186 F
51 195 F
52 199 F
53 217 F
54 207 F
55 210 F
56 211 F
57 211 F
58 217 F
59 217 F
60 221 F
61 217 F
62 218 F
63 230 F
64 214 F
65 215 F
66 208 F
67 212 F
68 229 F
69 222 F
70 227 F
71 232 F
72 199 F
73 181 F
74 249 F

=====
212 F

GROUP 6
CNDT#2 SUR

75 203 F
76 187 F
77 209 F
78 210 F
79 230 F
80 282 F
81 221 F
82 259 F
83 262 F
84 276 F
85 827 F
86 496 F
87 147 F

=====
293 F

GROUP 7
7c/12 #2

88 182 F
89 174 F
90 188 F
91 184 F
92 179 F
93 182 F
94 173 F
95 175 F
101 168 F
102 172 F
103 172 F
104 172 F
105 173 F
106 168 F
107 163 F
108 166 F
109 164 F
110 166 F
111 159 F
112 161 F
113 145 F
114 137 F
115 103 F
116 146 F
118 104 F

=====
163 F

GROUP 8
BARE#8 #2

97 121 F
98 -6 F
99 96 F
100 143 F
119 170 F
120 179 F
121 175 F
122 174 F
123 191 F
124 203 F
125 154 F
126 160 F
127 163 F
128 151 F
129 155 F
130 124 F
131 163 F
132 118 F
133 163 F
134 137 F
135 108 F
136 141 F
137 136 F
138 136 F
139 99 F

=====
148 F

GROUP 9
DUMMY

96 273 F
117 108 F

=====
191 F

106 MINUTES

GROUP 0

FURNACE

1 1736 F
 2 1730 F
 3 1715 F
 4 1735 F

GROUP 1

FURNACE 2

5 1764 F
 6 1695 F
 7 1723 F
 8 1737 F
 9 1702 F
 10 1740 F

GROUP 2

AMBIENT

11 81 F

GROUP 3

CNDT#1 SUR

12 126 F
 13 201 F
 14 206 F
 15 223 F
 16 229 F
 17 214 F
 18 241 F
 19 282 F
 20 302 F
 21 344 F
 22 149 F

GROUP 4

7c/12 #1

23 184 F
 24 181 F
 25 194 F
 26 148 F
 27 209 F
 28 206 F
 29 210 F
 30 217 F
 31 215 F
 32 226 F
 33 217 F
 34 202 F
 35 211 F
 36 158 F
 37 208 F
 38 241 F
 39 220 F
 40 207 F
 41 234 F
 42 228 F
 43 217 F
 44 228 F
 45 206 F
 46 202 F
 47 181 F
 48 139 F

=====
1729 F

=====
1727 F

=====
81 F

=====
229 F

=====
208 F

GROUP 5

BARE#B #1

49 185 F
 50 188 F
 51 195 F
 52 200 F
 53 216 F
 54 207 F
 55 210 F
 56 212 F
 57 209 F
 58 215 F
 59 216 F
 60 220 F
 61 216 F
 62 217 F
 63 234 F
 64 215 F
 65 211 F
 66 209 F
 67 212 F
 68 229 F
 69 217 F
 70 218 F
 71 226 F
 72 194 F
 73 159 F
 74 259 F

GROUP 6

CNDT#2 SUR

75 205 F
 76 188 F
 77 209 F
 78 211 F
 79 231 F
 80 284 F
 81 222 F
 82 258 F
 83 257 F
 84 271 F
 85 583 F
 86 215 F
 87 150 F

GROUP 7

7c/12 #2

88 183 F
 89 176 F
 90 188 F
 91 186 F
 92 181 F
 93 185 F
 94 175 F
 95 179 F
 101 174 F
 102 176 F
 103 172 F
 104 174 F
 105 173 F
 106 171 F
 107 166 F
 108 168 F
 109 166 F
 110 163 F
 111 163 F
 112 163 F
 113 148 F
 114 142 F
 115 117 F
 116 151 F
 118 102 F

GROUP 8

BARE#B #2

97 134 F
 98 4 F
 99 96 F
 100 133 F
 119 173 F
 120 182 F
 121 170 F
 122 171 F
 123 204 F
 124 202 F
 125 156 F
 126 163 F
 127 161 F
 128 154 F
 129 155 F
 130 129 F
 131 167 F
 132 118 F
 133 168 F
 134 136 F
 135 113 F
 136 146 F
 137 145 F
 138 146 F
 139 109 F

GROUP 9

DUMMY

96 269 F
 117 99 F

=====
211 F

=====
253 F

=====
166 F

=====
145 F

=====
184 F

108 MINUTES

GROUP 0
FURNACE

1	1733 F
2	1731 F
3	1716 F
4	1736 F

GROUP 1
FURNACE 2

5	1760 F
6	1698 F
7	1726 F
8	1736 F
9	1763 F
10	1742 F

GROUP 2
AMBIENT

11 82 F

GROUP 3
CNDT#1 SUR

12	124 F
13	201 F
14	206 F
15	224 F
16	229 F
17	214 F
18	206 F
19	181 F
20	310 F
21	333 F
22	149 F

GROUP 4
7c/12 #1

23	184 F
24	180 F
25	195 F
26	-47 F
27	211 F
28	207 F
29	211 F
30	218 F
31	218 F
32	227 F
33	229 F
34	234 F
35	231 F
36	158 F
37	208 F
38	236 F
39	220 F
40	204 F
41	233 F
42	228 F
43	218 F
44	226 F
45	200 F
46	200 F
47	181 F
48	141 F

=====
1729 F

=====
1728 F

=====
82 F

=====
228 F

=====
208 F

GROUP 5
BARE#8 #1

49	185 F
50	189 F
51	198 F
52	202 F
53	217 F
54	209 F
55	211 F
56	214 F
57	208 F
58	216 F
59	216 F
60	219 F
61	217 F
62	218 F
63	235 F
64	216 F
65	210 F
66	210 F
67	213 F
68	230 F
69	219 F
70	222 F
71	224 F
72	189 F
73	158 F
74	264 F

=====
212 F

GROUP 6
CNDT#2 SUR

75	205 F
76	188 F
77	209 F
78	211 F
79	231 F
80	288 F
81	222 F
82	257 F
83	259 F
84	270 F
85	609 F
86	217 F
87	158 F

=====
256 F

GROUP 7
7c/12 #2

88	184 F
89	178 F
90	189 F
91	187 F
92	183 F
93	187 F
94	179 F
95	182 F
101	178 F
102	178 F
103	173 F
104	178 F
105	174 F
106	173 F
107	168 F
108	170 F
109	168 F
110	167 F
111	165 F
112	163 F
113	150 F
114	146 F
115	127 F
116	153 F
118	97 F

=====
168 F

GROUP 8
BARE#8 #2

97	141 F
98	39 F
99	96 F
100	41 F
119	178 F
120	184 F
121	169 F
122	168 F
123	205 F
124	198 F
125	158 F
126	165 F
127	158 F
128	157 F
129	157 F
130	143 F
131	166 F
132	167 F
133	172 F
134	137 F
135	120 F
136	151 F
137	148 F
138	151 F
139	119 F

=====
148 F

GROUP 9
DUMMY

96	284 F
117	94 F

=====
189 F

110 MINUTES

GROUP 0

FURNACE

1	1741 F
2	1740 F
3	1725 F
4	1743 F

GROUP 1

FURNACE 2

5	1770 F
6	1706 F
7	1733 F
8	1744 F
9	1711 F
10	1750 F

GROUP 2

AMBIENT

11 82 F

GROUP 3

CNDT#1 SUR

12	126 F
13	201 F
14	206 F
15	224 F
16	228 F
17	214 F
18	233 F
19	277 F
20	294 F
21	334 F
22	151 F

GROUP 4

7c/12 #1

23	188 F
24	183 F
25	195 F
26	146 F
27	209 F
28	205 F
29	211 F
30	217 F
31	218 F
32	227 F
33	228 F
34	235 F
35	232 F
36	158 F
37	208 F
38	234 F
39	219 F
40	204 F
41	231 F
42	228 F
43	218 F
44	225 F
45	203 F
46	203 F
47	180 F
48	143 F

=====
1737 F

=====
1736 F

=====
82 F

=====
226 F

=====
208 F

GROUP 5
BARE#B #1

49	184 F
50	188 F
51	195 F
52	199 F
53	212 F
54	208 F
55	209 F
56	213 F
57	206 F
58	213 F
59	215 F
60	218 F
61	216 F
62	218 F
63	235 F
64	214 F
65	208 F
66	211 F
67	214 F
68	230 F
69	218 F
70	221 F
71	220 F
72	184 F
73	158 F
74	266 F

=====
211 F

GROUP 6
CNDT#2 SUR

75	205 F
76	187 F
77	209 F
78	210 F
79	231 F
80	292 F
81	222 F
82	257 F
83	257 F
84	258 F
85	632 F
86	219 F
87	159 F

=====
257 F

GROUP 7
7c/12 #2

88	185 F
89	180 F
90	190 F
91	189 F
92	184 F
93	187 F
94	180 F
95	185 F
101	181 F
102	178 F
103	168 F
104	181 F
105	175 F
106	174 F
107	170 F
108	171 F
109	170 F
110	171 F
111	167 F
112	164 F
113	153 F
114	149 F
115	136 F
116	153 F
118	97 F

=====
170 F

GROUP 8
BARE#B #2

97	149 F
98	64 F
99	84 F
100	44 F
119	179 F
120	186 F
121	167 F
122	164 F
123	196 F
124	194 F
125	161 F
126	165 F
127	155 F
128	160 F
129	161 F
130	163 F
131	165 F
132	192 F
133	171 F
134	140 F
135	129 F
136	153 F
137	148 F
138	156 F
139	123 F

=====
151 F

GROUP 9
DUMMY

96	220 F
117	92 F

=====
156 F

112 MINUTES

GROUP 0
FURNACE

1	1743 F
2	1742 F
3	1729 F
4	1751 F

GROUP 1
FURNACE 2

5	1771 F
6	1708 F
7	1736 F
8	1749 F
9	1712 F
10	1750 F

GROUP 2
AMBIENT

11 80 F

GROUP 3
CNDT#1 SUR

12	126 F
13	201 F
14	207 F
15	224 F
16	230 F
17	215 F
18	231 F
19	276 F
20	305 F
21	308 F
22	155 F

GROUP 4
7c/12 #1

23	188 F
24	183 F
25	196 F
26	-45 F
27	211 F
28	207 F
29	213 F
30	218 F
31	220 F
32	229 F
33	229 F
34	237 F
35	232 F
36	158 F
37	209 F
38	233 F
39	219 F
40	204 F
41	232 F
42	231 F
43	220 F
44	225 F
45	204 F
46	201 F
47	180 F
48	142 F

=====

=====

=====

=====

=====

GROUP 5
BARE#8 #1

49	187 F
50	191 F
51	197 F
52	201 F
53	213 F
54	210 F
55	210 F
56	214 F
57	206 F
58	213 F
59	214 F
60	216 F
61	216 F
62	219 F
63	235 F
64	215 F
65	208 F
66	210 F
67	215 F
68	230 F
69	218 F
70	219 F
71	214 F
72	181 F
73	157 F
74	272 F

=====

GROUP 6
CNDT#2 SUR

75	205 F
76	186 F
77	209 F
78	210 F
79	231 F
80	295 F
81	222 F
82	255 F
83	259 F
84	254 F
85	232 F
86	220 F
87	163 F

=====

GROUP 7
7c/12 #2

88	185 F
89	182 F
90	191 F
91	189 F
92	186 F
93	188 F
94	181 F
95	185 F
101	181 F
102	177 F
103	169 F
104	182 F
105	175 F
106	175 F
107	171 F
108	171 F
109	171 F
110	172 F
111	169 F
112	164 F
113	153 F
114	150 F
115	138 F
116	153 F
118	101 F

=====

GROUP 8
BARE#8 #2

97	150 F
98	78 F
99	79 F
100	12 F
119	180 F
120	186 F
121	167 F
122	161 F
123	192 F
124	192 F
125	163 F
126	165 F
127	155 F
128	163 F
129	161 F
130	167 F
131	164 F
132	186 F
133	173 F
134	146 F
135	135 F
136	153 F
137	149 F
138	160 F
139	125 F

=====

GROUP 9
DUMMY

96	277 F
117	90 F

=====

114 MINUTES

GROUP 0
FURNACE

1	1751 F
2	1749 F
3	1738 F
4	1757 F

GROUP 1
FURNACE 2

5	1780 F
6	1715 F
7	1744 F
8	1758 F
9	1720 F
10	1758 F

GROUP 2
AMBIENT

11 81 F

GROUP 3
CNDT#1 SUR

12	127 F
13	200 F
14	210 F
15	224 F
16	224 F
17	216 F
18	232 F
19	275 F
20	293 F
21	332 F
22	156 F

GROUP 4
7c/12 #1

23	192 F
24	187 F
25	197 F
26	-44 F
27	213 F
28	208 F
29	213 F
30	220 F
31	222 F
32	231 F
33	230 F
34	238 F
35	233 F
36	160 F
37	210 F
38	235 F
39	219 F
40	206 F
41	231 F
42	232 F
43	222 F
44	225 F
45	207 F
46	200 F
47	181 F
48	146 F

=====
1748 F

=====
1746 F

=====
81 F

=====
227 F

=====
210 F

GROUP 5
BARE#8 #1

49	188 F
50	190 F
51	200 F
52	204 F
53	213 F
54	212 F
55	212 F
56	217 F
57	205 F
58	213 F
59	212 F
60	215 F
61	216 F
62	219 F
63	238 F
64	215 F
65	205 F
66	212 F
67	216 F
68	230 F
69	218 F
70	216 F
71	204 F
72	172 F
73	155 F
74	298 F

=====
211 F

GROUP 6
CNDT#2 SUR

75	206 F
76	189 F
77	210 F
78	211 F
79	232 F
80	302 F
81	224 F
82	257 F
83	263 F
84	251 F
85	651 F
86	222 F
87	160 F

=====
260 F

GROUP 7
7c/12 #2

88	186 F
89	185 F
90	192 F
91	190 F
92	188 F
93	190 F
94	183 F
95	187 F
101	184 F
102	178 F
103	171 F
104	182 F
105	180 F
106	177 F
107	174 F
108	174 F
109	172 F
110	176 F
111	174 F
112	167 F
113	156 F
114	154 F
115	144 F
116	154 F
118	104 F

=====
173 F

GROUP 8
BARE#8 #2

97	158 F
98	90 F
99	70 F
100	-12 F
119	181 F
120	187 F
121	169 F
122	159 F
123	185 F
124	187 F
125	166 F
126	166 F
127	161 F
128	167 F
129	165 F
130	167 F
131	165 F
132	184 F
133	174 F
134	156 F
135	145 F
136	155 F
137	150 F
138	163 F
139	126 F

=====
158 F

GROUP 9
DUMMY

96	235 F
117	91 F

=====
163 F

116 MINUTES

GROUP 0
FURNACE

1	1753 F
2	1754 F
3	1740 F
4	1759 F

GROUP 1
FURNACE 2

5	1782 F
6	1720 F
7	1746 F
8	1762 F
9	1724 F
10	1750 F

GROUP 2
AMBIENT

11 83 F

GROUP 3
CNDT#1 SUR

12	130 F
13	201 F
14	226 F
15	224 F
16	237 F
17	216 F
18	220 F
19	267 F
20	204 F
21	225 F
22	153 F

GROUP 4
7c/12 #1

23	194 F
24	189 F
25	200 F
26	-42 F
27	215 F
28	210 F
29	214 F
30	221 F
31	220 F
32	233 F
33	231 F
34	239 F
35	235 F
36	188 F
37	212 F
38	232 F
39	218 F
40	207 F
41	228 F
42	229 F
43	222 F
44	221 F
45	202 F
46	203 F
47	181 F
48	146 F

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1754 F

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1749 F

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83 F

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228 F

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211 F

GROUP 5
BARE#8 #1

49	189 F
50	191 F
51	202 F
52	205 F
53	210 F
54	213 F
55	211 F
56	217 F
57	204 F
58	213 F
59	208 F
60	208 F
61	214 F
62	219 F
63	237 F
64	210 F
65	197 F
66	208 F
67	212 F
68	227 F
69	215 F
70	217 F
71	193 F
72	164 F
73	155 F
74	313 F

=====
210 F

GROUP 6
CNDT#2 SUR

75	205 F
76	192 F
77	209 F
78	211 F
79	232 F
80	308 F
81	224 F
82	256 F
83	261 F
84	248 F
85	664 F
86	223 F
87	157 F

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261 F

GROUP 7
7c/12 #2

88	184 F
89	191 F
90	190 F
91	188 F
92	186 F
93	188 F
94	184 F
95	188 F
101	185 F
102	180 F
103	172 F
104	182 F
105	182 F
106	178 F
107	174 F
108	172 F
109	172 F
110	182 F
111	179 F
112	167 F
113	159 F
114	156 F
115	148 F
116	156 F
418	104 F

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174 F

GROUP 8
BARE#8 #2

97	158 F
98	91 F
99	64 F
100	-18 F
119	178 F
120	186 F
121	170 F
122	158 F
123	167 F
124	187 F
125	169 F
126	167 F
127	173 F
128	173 F
129	168 F
130	175 F
131	166 F
132	184 F
133	181 F
134	160 F
135	151 F
136	156 F
137	151 F
138	167 F
139	125 F

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159 F

GROUP 9
DUMMY

96	276 F
117	97 F

=====
187 F

118 MINUTES

GROUP 0
FURNACE
1 1759°F
2 1760°F
3 1747°F
4 1785°F

GROUP 1
FURNACE 2
5 1787°F
6 1726°F
7 1756°F
8 1773°F
9 1731°F
10 1766°F

GROUP 2
AMBIENT
11 83°F

GROUP 3
CNDT#1 SUR
12 130°F
13 201°F
14 221°F
15 224°F
16 237°F
17 216°F
18 230°F
19 257°F
20 290°F
21 314°F
22 158°F

GROUP 4
7c/12 #1
23 190°F
24 191°F
25 205°F
26 -40°F
27 219°F
28 213°F
29 215°F
30 222°F
31 224°F
32 234°F
33 229°F
34 238°F
35 233°F
36 164°F
37 212°F
38 232°F
39 218°F
40 206°F
41 226°F
42 225°F
43 219°F
44 219°F
45 203°F
46 203°F
47 174°F
48 150°F

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1763°F

=====
1757°F

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83°F

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225°F

=====
211°F

GROUP 5
BARE#B #1
49 195°F
50 196°F
51 205°F
52 208°F
53 211°F
54 215°F
55 210°F
56 218°F
57 203°F
58 211°F
59 203°F
60 206°F
61 211°F
62 218°F
63 232°F
64 208°F
65 193°F
66 208°F
67 208°F
68 222°F
69 209°F
70 213°F
71 192°F
72 158°F
73 148°F
74 358°F

GROUP 6
CNDT#2 SUR
75 206°F
76 200°F
77 209°F
78 211°F
79 232°F
80 315°F
81 226°F
82 255°F
83 259°F
84 249°F
85 682°F
86 224°F
87 160°F

GROUP 7
7c/12 #2
88 184°F
89 192°F
90 188°F
91 187°F
92 186°F
93 188°F
94 184°F
95 188°F
101 185°F
102 181°F
103 176°F
104 185°F
105 184°F
106 179°F
107 173°F
108 172°F
109 171°F
110 186°F
111 181°F
112 171°F
113 168°F
114 160°F
115 153°F
116 158°F
118 103°F

GROUP 8
BARE#B #2
97 180°F
98 85°F
99 72°F
100 181°F
119 177°F
120 185°F
121 172°F
122 158°F
123 188°F
124 198°F
125 173°F
126 170°F
127 179°F
128 177°F
129 172°F
130 168°F
131 166°F
132 183°F
133 190°F
134 166°F
135 159°F
136 160°F
137 153°F
138 171°F
139 130°F

GROUP 9
DUMMY
96 292°F
117 98°F

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210°F

=====
264°F

=====
175°F

=====
161°F

=====
195°F

120 MINUTES

GROUP 0
FURNACE

1	1777°F
2	1773°F
3	1763°F
4	1808°F

GROUP 1
FURNACE 2

5	1804°F
6	1739°F
7	1772°F
8	1791°F
9	1726°F
10	1779°F

GROUP 2
AMBIENT

11 81°F

GROUP 3
CNDT#1 SUR

12	128°F
13	202°F
14	218°F
15	225°F
16	240°F
17	215°F
18	231°F
19	245°F
20	275°F
21	295°F
22	161°F

GROUP 4
7c/12 #1

23	192°F
24	194°F
25	209°F
26	142°F
27	221°F
28	215°F
29	215°F
30	222°F
31	226°F
32	228°F
33	200°F
34	236°F
35	232°F
36	166°F
37	213°F
38	230°F
39	219°F
40	207°F
41	221°F
42	220°F
43	218°F
44	215°F
45	203°F
46	200°F
47	170°F
48	152°F

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1780°F

=====
1772°F

=====
81°F

=====
221°F

=====
210°F

GROUP 5
BARE#8 #1

49	196°F
50	198°F
51	207°F
52	209°F
53	208°F
54	216°F
55	207°F
56	215°F
57	201°F
58	208°F
59	194°F
60	203°F
61	209°F
62	217°F
63	228°F
64	206°F
65	190°F
66	205°F
67	205°F
68	218°F
69	207°F
70	208°F
71	188°F
72	158°F
73	139°F
74	363°F

=====
208°F

GROUP 6
CNDT#2 SUR

75	205°F
76	203°F
77	208°F
78	213°F
79	232°F
80	322°F
81	227°F
82	253°F
83	262°F
84	250°F
85	692°F
86	226°F
87	163°F

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266°F

GROUP 7
7c/12 #2

88	183°F
89	193°F
90	190°F
91	187°F
92	186°F
93	189°F
94	184°F
95	188°F
101	186°F
102	184°F
103	182°F
104	188°F
105	188°F
106	180°F
107	173°F
108	174°F
109	173°F
110	187°F
111	183°F
112	175°F
113	173°F
114	163°F
115	156°F
116	160°F
118	108°F

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177°F

GROUP 8
BARE#8 #2

97	161°F
98	86°F
99	79°F
100	6°F
119	178°F
120	185°F
121	176°F
122	158°F
123	166°F
124	192°F
125	177°F
126	174°F
127	182°F
128	179°F
129	176°F
130	168°F
131	164°F
132	170°F
133	200°F
134	177°F
135	167°F
136	164°F
137	157°F
138	174°F
139	131°F

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158°F

GROUP 9
DUMMY

96	238°F
117	100°F

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169°F

122 MINUTES
GROUP 0
FURNACE

1 1786°F
2 1783°F
3 1768°F
4 1815°F

GROUP 1
FURNACE 2

5 1813°F
6 1747°F
7 1778°F
8 1799°F
9 1755°F
10 1737°F

GROUP 2
AMBIENT
11 84°F

GROUP 3
CNDT#1 SUR

12 134°F
13 202°F
14 229°F
15 227°F
16 244°F
17 216°F
18 231°F
19 237°F
20 254°F
21 283°F
22 160°F

GROUP 4
7c/12 #1

23 194°F
24 195°F
25 213°F
26 -43°F
27 219°F
28 214°F
29 213°F
30 220°F
31 207°F
32 234°F
33 229°F
34 232°F
35 231°F
36 173°F
37 212°F
38 225°F
39 222°F
40 207°F
41 218°F
42 213°F
43 212°F
44 212°F
45 199°F
46 194°F
47 168°F
48 158°F

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1788°F

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1780°F

=====
84°F

=====
220°F

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209°F

GROUP 5
BARE#B #1

49 198°F
50 199°F
51 208°F
52 209°F
53 205°F
54 214°F
55 205°F
56 212°F
57 201°F
58 206°F
59 190°F
60 199°F
61 206°F
62 215°F
63 225°F
64 204°F
65 186°F
66 201°F
67 199°F
68 210°F
69 202°F
70 203°F
71 188°F
72 159°F
73 132°F
74 405°F

=====
207°F

GROUP 6
CNDT#2 SUR

75 206°F
76 205°F
77 208°F
78 213°F
79 232°F
80 326°F
81 228°F
82 252°F
83 258°F
84 248°F
85 718°F
86 228°F
87 160°F

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268°F

GROUP 7
7c/12 #2

88 184°F
89 192°F
90 192°F
91 186°F
92 187°F
93 189°F
94 186°F
95 190°F
101 186°F
102 186°F
103 186°F
104 190°F
105 191°F
106 181°F
107 175°F
108 178°F
109 174°F
110 190°F
111 186°F
112 179°F
113 173°F
114 167°F
115 155°F
116 161°F
118 111°F

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179°F

GROUP 8
BARE#B #2

97 167°F
98 82°F
99 82°F
100 1°F
119 180°F
120 186°F
121 179°F
122 159°F
123 169°F
124 191°F
125 178°F
126 177°F
127 185°F
128 183°F
129 180°F
130 169°F
131 161°F
132 168°F
133 204°F
134 184°F
135 172°F
136 165°F
137 158°F
138 175°F
139 132°F

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159°F

GROUP 9
DUMMY

96 279°F
117 101°F

=====
190°F

124 MINUTES

GROUP 0
FURNACE

1 1789 F
2 1789 F
3 1773 F
4 1813 F

GROUP 1
FURNACE 2

5 1819 F
6 1750 F
7 1782 F
8 1803 F
9 1757 F
10 1792 F

GROUP 2
AMBIENT

11 84 F

GROUP 3
CNDT#1 SUR

12 172 F
13 203 F
14 217 F
15 227 F
16 246 F
17 216 F
18 233 F
19 273 F
20 249 F
21 274 F
22 166 F

GROUP 4
7c/12 #1

23 195 F
24 197 F
25 213 F
26 -43 F
27 217 F
28 213 F
29 208 F
30 218 F
31 229 F
32 232 F
33 227 F
34 230 F
35 230 F
36 169 F
37 211 F
38 221 F
39 223 F
40 207 F
41 216 F
42 209 F
43 208 F
44 212 F
45 196 F
46 192 F
47 166 F
48 154 F

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1792 F

=====
1784 F

=====
84 F

=====
218 F

=====
208 F

GROUP 5
BARE#8 #1

49 199 F
50 199 F
51 207 F
52 208 F
53 203 F
54 212 F
55 204 F
56 211 F
57 199 F
58 203 F
59 188 F
60 197 F
61 203 F
62 211 F
63 221 F
64 200 F
65 185 F
66 199 F
67 195 F
68 204 F
69 196 F
70 200 F
71 180 F
72 157 F
73 128 F
74 493 F

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208 F

GROUP 6
CNDT#2 SUR

75 205 F
76 205 F
77 207 F
78 213 F
79 233 F
80 329 F
81 230 F
82 251 F
83 258 F
84 251 F
85 723 F
86 229 F
87 159 F

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269 F

GROUP 7
7c/12 #2

88 185 F
89 194 F
90 192 F
91 189 F
92 187 F
93 189 F
94 187 F
95 191 F
101 188 F
102 187 F
103 188 F
104 191 F
105 193 F
106 182 F
107 177 F
108 180 F
109 176 F
110 194 F
111 187 F
112 180 F
113 172 F
114 169 F
115 155 F
116 162 F
118 112 F

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180 F

GROUP 8
BARE#8 #2

97 169 F
98 81 F
99 87 F
100 -1 F
119 181 F
120 186 F
121 180 F
122 161 F
123 170 F
124 193 F
125 180 F
126 179 F
127 186 F
128 185 F
129 183 F
130 172 F
131 159 F
132 159 F
133 207 F
134 186 F
135 175 F
136 167 F
137 159 F
138 178 F
139 140 F

=====
168 F

GROUP 9
DUMMY

96 182 F
117 101 F

=====
142 F

126 MINUTES

GROUP 0
FURNACE

1 1793 F
2 1794 F
3 1780 F
4 1824 F

GROUP 1
FURNACE 2

5 1822 F
6 1754 F
7 1788 F
8 1808 F
9 1761 F
10 1793 F

GROUP 2
AMBIENT ---
11 82 F

GROUP 3
CNDT#1 SUR
12 133 F
13 204 F
14 223 F
15 230 F
16 248 F
17 218 F
18 234 F
19 229 F
20 239 F
21 263 F
22 171 F

GROUP 4
7c/12 #1
23 196 F
24 198 F
25 213 F
26 -41 F
27 215 F
28 211 F
29 205 F
30 215 F
31 226 F
32 229 F
33 225 F
34 224 F
35 226 F
36 166 F
37 210 F
38 217 F
39 220 F
40 207 F
41 212 F
42 201 F
43 204 F
44 210 F
45 189 F
46 187 F
47 158 F
48 154 F

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GROUP 5
BARE#B #1

49 199 F
50 200 F
51 205 F
52 206 F
53 200 F
54 209 F
55 201 F
56 206 F
57 195 F
58 198 F
59 186 F
60 193 F
61 199 F
62 208 F
63 210 F
64 195 F
65 182 F
66 198 F
67 188 F
68 190 F
69 187 F
70 198 F
71 177 F
72 158 F
73 127 F
74 623 F

GROUP 6
CNDT#2 SUR

75 205 F
76 205 F
77 207 F
78 215 F
79 232 F
80 331 F
81 233 F
82 249 F
83 261 F
84 249 F
85 739 F
86 231 F
87 157 F

GROUP 7
7c/12 #2

88 185 F
89 195 F
90 193 F
91 190 F
92 189 F
93 189 F
94 188 F
95 193 F
101 189 F
102 189 F
103 192 F
104 193 F
105 196 F
106 183 F
107 181 F
108 184 F
109 179 F
110 199 F
111 191 F
112 182 F
113 172 F
114 173 F
115 156 F
116 168 F
118 114 F

GROUP 8
BARE#B #2

97 174 F
98 79 F
99 91 F
100 3 F
119 183 F
120 187 F
121 182 F
122 165 F
123 173 F
124 194 F
125 165 F
126 181 F
127 189 F
128 189 F
129 188 F
130 179 F
131 162 F
132 158 F
133 211 F
134 189 F
135 178 F
136 170 F
137 166 F
138 182 F
139 137 F

GROUP 9
DUMMY
96 262 F
117 103 F

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128 MINUTES

GROUP 0
FURNACE

1	1799°F
2	1803°F
3	1786°F
4	1830°F

GROUP 1
FURNACE 2

5	1829°F
6	1761°F
7	1795°F
8	1814°F
9	1768°F
10	1800°F

GROUP 2
AMBIENT

11 83°F

GROUP 3
CNDT#1 SUR

12	135°F
13	204°F
14	226°F
15	239°F
16	251°F
17	219°F
18	237°F
19	226°F
20	236°F
21	261°F
22	172°F

GROUP 4
7c/12 #1

23	197°F
24	198°F
25	210°F
26	-36°F
27	211°F
28	207°F
29	204°F
30	212°F
31	216°F
32	225°F
33	220°F
34	217°F
35	220°F
36	169°F
37	209°F
38	210°F
39	211°F
40	205°F
41	208°F
42	194°F
43	195°F
44	205°F
45	180°F
46	181°F
47	156°F
48	154°F

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1805°F

=====
1795°F

=====
83°F

=====
219°F

=====
201°F

GROUP 5
BARE#B #1

49	196°F
50	198°F
51	202°F
52	203°F
53	200°F
54	205°F
55	196°F
56	201°F
57	192°F
58	194°F
59	185°F
60	189°F
61	194°F
62	203°F
63	196°F
64	191°F
65	184°F
66	195°F
67	180°F
68	180°F
69	175°F
70	196°F
71	175°F
72	158°F
73	121°F
74	699°F

=====
208°F

GROUP 6
CNDT#2 SUR

75	205°F
76	205°F
77	206°F
78	215°F
79	232°F
80	336°F
81	234°F
82	248°F
83	268°F
84	252°F
85	752°F
86	233°F
87	157°F

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273°F

GROUP 7
7c/12 #2

88	186°F
89	195°F
90	193°F
91	191°F
92	190°F
93	190°F
94	189°F
95	194°F
101	190°F
102	190°F
103	195°F
104	194°F
105	198°F
106	185°F
107	186°F
108	189°F
109	185°F
110	206°F
111	193°F
112	185°F
113	172°F
114	176°F
115	157°F
116	171°F
118	118°F

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185°F

GROUP 8
BARE#B #2

97	178°F
98	180°F
99	94°F
100	5°F
119	183°F
120	188°F
121	183°F
122	169°F
123	176°F
124	196°F
125	189°F
126	183°F
127	192°F
128	193°F
129	194°F
130	186°F
131	167°F
132	161°F
133	214°F
134	192°F
135	181°F
136	170°F
137	168°F
138	185°F
139	137°F

=====
167°F

GROUP 9
DUMMY

96	204°F
117	167°F

=====
154°F

130 MINUTES

GROUP 0
FURNACE

1 1805 F
2 1809 F
3 1790 F
4 1836 F

GROUP 1
FURNACE 2

5 1835 F
6 1766 F
7 1799 F
8 1819 F
9 1773 F
10 1804 F

GROUP 2
AMBIENT

11 83 F

GROUP 3
CNDT#1 SUR

12 136 F
13 204 F
14 218 F
15 248 F
16 253 F
17 221 F
18 239 F
19 226 F
20 233 F
21 254 F
22 174 F

GROUP 4
7c/12 #1

23 197 F
24 199 F
25 207 F
26 -34 F
27 205 F
28 203 F
29 202 F
30 208 F
31 209 F
32 217 F
33 212 F
34 211 F
35 212 F
36 168 F
37 207 F
38 203 F
39 202 F
40 204 F
41 204 F
42 187 F
43 188 F
44 201 F
45 175 F
46 178 F
47 152 F
48 154 F

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1810 F

=====
1799 F

=====
83 F

=====
219 F

=====
196 F

GROUP 5
BARE#B #1

49 194 F
50 199 F
51 200 F
52 201 F
53 200 F
54 202 F
55 192 F
56 198 F
57 189 F
58 190 F
59 185 F
60 190 F
61 192 F
62 200 F
63 147 F
64 188 F
65 189 F
66 192 F
67 178 F
68 176 F
69 169 F
70 199 F
71 180 F
72 171 F
73 125 F
74 551 F

=====
200 F

GROUP 6
CNDT#2 SUR

75 204 F
76 203 F
77 204 F
78 214 F
79 234 F
80 343 F
81 236 F
82 242 F
83 270 F
84 254 F
85 768 F
86 235 F
87 155 F

=====
274 F

GROUP 7
7c/12 #2

88 187 F
89 196 F
90 194 F
91 192 F
92 193 F
93 191 F
94 192 F
95 196 F
101 193 F
102 191 F
103 197 F
104 197 F
105 201 F
106 187 F
107 192 F
108 196 F
109 193 F
110 213 F
111 195 F
112 189 F
113 176 F
114 181 F
115 161 F
116 175 F
118 120 F

=====
188 F

GROUP 8
BARE#B #2

97 182 F
98 78 F
99 98 F
100 14 F
119 187 F
120 189 F
121 185 F
122 172 F
123 178 F
124 198 F
125 193 F
126 185 F
127 195 F
128 197 F
129 202 F
130 189 F
131 173 F
132 189 F
133 216 F
134 196 F
135 183 F
136 172 F
137 169 F
138 188 F
139 146 F

=====
171 F

GROUP 9
DUMMY

96 172 F
117 114 F

=====
143 F

NOTES
GROUP 0
FURNACE

1 1809°F
2 1813°F
3 1794°F
4 1841°F

GROUP 1
FURNACE 2

5 1839°F
6 1771°F
7 1803°F
8 1823°F
9 1778°F
10 1808°F

GROUP 2
AMBIENT

11 85°F

GROUP 3
SUR

12 137°F
13 204°F
14 206°F
15 258°F
16 258°F
17 221°F
18 241°F
19 225°F
20 232°F
21 255°F
22 174°F

GROUP 4
7c/12 #1

23 198°F
24 199°F
25 203°F
26 -33°F
27 200°F
28 200°F
29 198°F
30 203°F
31 206°F
32 209°F
33 206°F
34 206°F
35 205°F
36 168°F
37 206°F
38 199°F
39 199°F
40 203°F
41 199°F
42 184°F
43 184°F
44 198°F
45 176°F
46 177°F
47 155°F
48 152°F

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1814°F

=====
1804°F

=====
85°F

=====
219°F

=====
193°F

GROUP 5
BARE#B #1

49 196°F
50 201°F
51 198°F
52 198°F
53 202°F
54 198°F
55 191°F
56 197°F
57 189°F
58 188°F
59 189°F
60 198°F
61 195°F
62 202°F
63 155°F
64 191°F
65 192°F
66 225°F
67 174°F
68 176°F
69 173°F
70 201°F
71 181°F
72 167°F
73 132°F
74 422°F

=====
197°F

GROUP 6
CNDT#2 SUR

75 204°F
76 202°F
77 204°F
78 215°F
79 233°F
80 351°F
81 239°F
82 243°F
83 277°F
84 256°F
85 779°F
86 237°F
87 156°F

=====
277°F

GROUP 7
7c/12 #2

88 189°F
89 196°F
90 194°F
91 193°F
92 194°F
93 192°F
94 193°F
95 198°F
101 195°F
102 193°F
103 199°F
104 198°F
105 203°F
106 191°F
107 197°F
108 201°F
109 199°F
110 220°F
111 195°F
112 191°F
113 178°F
114 186°F
115 164°F
116 178°F
118 122°F

=====
190°F

GROUP 8
BARE#B #2

97 184°F
98 79°F
99 99°F
100 15°F
119 187°F
120 191°F
121 186°F
122 176°F
123 181°F
124 201°F
125 196°F
126 187°F
127 196°F
128 200°F
129 216°F
130 194°F
131 181°F
132 197°F
133 217°F
134 199°F
135 187°F
136 177°F
137 170°F
138 190°F
139 153°F

=====
174°F

GROUP 9
DUMMY

96 183°F
117 120°F

=====
152°F

134 MINUTES

GROUP 0

FURNACE

1	1812 F
2	1819 F
3	1801 F
4	1844 F

GROUP 1

FURNACE 2

5	1843 F
6	1776 F
7	1809 F
8	1827 F
9	1782 F
10	1813 F

GROUP 2

AMBIENT

11 84 F

GROUP 3

CNDT#1 SUR

12	138 F
13	206 F
14	205 F
15	270 F
16	259 F
17	222 F
18	241 F
19	226 F
20	234 F
21	254 F
22	174 F

GROUP 4

7c/12 #1

23	200 F
24	200 F
25	200 F
26	-34 F
27	198 F
28	199 F
29	197 F
30	201 F
31	205 F
32	205 F
33	201 F
34	205 F
35	202 F
36	166 F
37	207 F
38	198 F
39	199 F
40	203 F
41	197 F
42	183 F
43	181 F
44	197 F
45	177 F
46	179 F
47	163 F
48	156 F

===== 1819 F

===== 1808 F

===== 84 F

===== 221 F

===== 193 F

GROUP 5
BARE#8 #1

49	199 F
50	203 F
51	202 F
52	197 F
53	203 F
54	195 F
55	192 F
56	199 F
57	190 F
58	191 F
59	194 F
60	203 F
61	199 F
62	204 F
63	206 F
64	205 F
65	197 F
66	310 F
67	190 F
68	187 F
69	179 F
70	200 F
71	185 F
72	166 F
73	162 F
74	321 F

===== 203 F

GROUP 6
CNDT#2 SUR

75	204 F
76	201 F
77	204 F
78	216 F
79	235 F
80	360 F
81	243 F
82	244 F
83	273 F
84	255 F
85	780 F
86	239 F
87	154 F

===== 278 F

GROUP 7
7c/12 #2

88	188 F
89	198 F
90	194 F
91	194 F
92	195 F
93	194 F
94	194 F
95	199 F
101	198 F
102	195 F
103	200 F
104	198 F
105	202 F
106	194 F
107	204 F
108	208 F
109	206 F
110	225 F
111	197 F
112	193 F
113	181 F
114	191 F
115	165 F
116	181 F
118	123 F

===== 193 F

GROUP 8
BARE#8 #2

97	184 F
98	79 F
99	101 F
100	23 F
119	188 F
120	192 F
121	187 F
122	181 F
123	181 F
124	204 F
125	197 F
126	188 F
127	198 F
128	203 F
129	229 F
130	203 F
131	191 F
132	205 F
133	218 F
134	202 F
135	189 F
136	180 F
137	172 F
138	192 F
139	157 F

===== 178 F

GROUP 9
DUMMY

96	185 F
117	125 F

===== 155 F

136 MINUTES

GROUP 0
FURNACE

1 1816 F
2 1824 F
3 1808 F
4 1847 F

GROUP 1
FURNACE 2

5 1848 F
6 1781 F
7 1815 F
8 1832 F
9 1767 F
10 1817 F

GROUP 2
AMBIENT

11 86 F

GROUP 3
CNDT#1 SUR

12 142 F
13 208 F
14 221 F
15 246 F
16 263 F
17 224 F
18 244 F
19 224 F
20 200 F
21 256 F
22 170 F

GROUP 4
7c/12 #1

23 201 F
24 201 F
25 199 F
26 -34 F
27 197 F
28 200 F
29 197 F
30 201 F
31 207 F
32 203 F
33 198 F
34 205 F
35 201 F
36 173 F
37 206 F
38 199 F
39 199 F
40 201 F
41 191 F
42 183 F
43 178 F
44 195 F
45 180 F
46 183 F
47 163 F
48 161 F

=====
1824 F

=====
1813 F

=====
86 F

=====
221 F

=====
193 F

GROUP 5
BARE#8 #1

49 204 F
50 204 F
51 210 F
52 209 F
53 204 F
54 193 F
55 195 F
56 201 F
57 192 F
58 195 F
59 196 F
60 206 F
61 202 F
62 206 F
63 215 F
64 209 F
65 199 F
66 347 F
67 203 F
68 197 F
69 184 F
70 201 F
71 185 F
72 173 F
73 188 F
74 236 F

=====
206 F

GROUP 6
CNDT#2 SUR

75 205 F
76 202 F
77 202 F
78 216 F
79 236 F
80 367 F
81 246 F
82 243 F
83 281 F
84 261 F
85 788 F
86 241 F
87 152 F

=====
280 F

GROUP 7
7c/12 #2

88 188 F
89 198 F
90 196 F
91 196 F
92 197 F
93 198 F
94 195 F
95 199 F
101 200 F
102 196 F
103 201 F
104 200 F
105 204 F
106 199 F
107 211 F
108 214 F
109 217 F
110 235 F
111 198 F
112 195 F
113 183 F
114 190 F
115 166 F
116 185 F
118 128 F

=====
196 F

GROUP 8
BARE#8 #2

97 186 F
98 82 F
99 106 F
100 28 F
119 191 F
120 194 F
121 189 F
122 186 F
123 184 F
124 207 F
125 200 F
126 191 F
127 200 F
128 206 F
129 241 F
130 212 F
131 208 F
132 222 F
133 222 F
134 205 F
135 192 F
136 185 F
137 175 F
138 194 F
139 154 F

=====
182 F

GROUP 9
DUMMY

96 178 F
117 131 F

=====
155 F

138 MINUTES

GROUP 0

FURNACE

1 1819 F
 2 1827 F
 3 1809 F
 4 1850 F

GROUP 1
FURNACE 2

5 1851 F
 6 1783 F
 7 1816 F
 8 1837 F
 9 1790 F
 10 1819 F

GROUP 2
AMBIENT

11 85 F

GROUP 3
CNDT#1 SUR

12 143 F
 13 208 F
 14 228 F
 15 242 F
 16 268 F
 17 225 F
 18 243 F
 19 225 F
 20 228 F
 21 259 F
 22 175 F

GROUP 4
7c/12 #1

23 200 F
 24 202 F
 25 199 F
 26 -33 F
 27 197 F
 28 201 F
 29 198 F
 30 203 F
 31 207 F
 32 203 F
 33 198 F
 34 206 F
 35 201 F
 36 169 F
 37 204 F
 38 201 F
 39 200 F
 40 200 F
 41 188 F
 42 184 F
 43 179 F
 44 196 F
 45 182 F
 46 183 F
 47 170 F
 48 164 F

=====
1826 F

=====
1815 F

=====
85 F

=====
222 F

=====
193 F

GROUP 5
BARE#B #1

49 206 F
 50 205 F
 51 212 F
 52 201 F
 53 204 F
 54 194 F
 55 197 F
 56 201 F
 57 192 F
 58 197 F
 59 197 F
 60 208 F
 61 203 F
 62 207 F
 63 209 F
 64 215 F
 65 200 F
 66 284 F
 67 208 F
 68 201 F
 69 186 F
 70 200 F
 71 187 F
 72 176 F
 73 184 F
 74 210 F

=====
203 F

GROUP 6
CNDT#2 SUR

75 204 F
 76 202 F
 77 204 F
 78 218 F
 79 237 F
 80 372 F
 81 249 F
 82 244 F
 83 281 F
 84 254 F
 85 298 F
 86 242 F
 87 155 F

=====
282 F

GROUP 7
7c/12 #2

88 188 F
 89 198 F
 90 196 F
 91 196 F
 92 197 F
 93 198 F
 94 196 F
 95 199 F
 101 201 F
 102 198 F
 103 201 F
 104 201 F
 105 205 F
 106 199 F
 107 216 F
 108 218 F
 109 228 F
 110 240 F
 111 199 F
 112 197 F
 113 183 F
 114 191 F
 115 165 F
 116 187 F
 118 130 F

=====
197 F

GROUP 8
BARE#B #2

97 186 F
 98 81 F
 99 108 F
 100 30 F
 119 192 F
 120 194 F
 121 190 F
 122 188 F
 123 185 F
 124 207 F
 125 201 F
 126 192 F
 127 201 F
 128 206 F
 129 248 F
 130 219 F
 131 220 F
 132 236 F
 133 224 F
 134 206 F
 135 193 F
 136 187 F
 137 175 F
 138 194 F
 139 156 F

=====
185 F

GROUP 9
DUMMY

96 191 F
 117 133 F

=====
162 F

40 MINUTES

GROUP 0
FURNACE

1 1824 F
2 1831 F
3 1813 F
4 1851 F

GROUP 1
FURNACE 2

5 1852 F
6 1788 F
7 1820 F
8 1835 F
9 1795 F
10 1821 F

GROUP 2
AMBIENT

11 83 F

GROUP 3
CNDT#1 SUR

12 141 F
13 209 F
14 256 F
15 247 F
16 274 F
17 226 F
18 245 F
19 223 F
20 227 F
21 251 F
22 176 F

GROUP 4
7c/12 #1

23 203 F
24 204 F
25 199 F
26 172 F
27 199 F
28 202 F
29 199 F
30 204 F
31 209 F
32 204 F
33 200 F
34 206 F
35 200 F
36 168 F
37 203 F
38 203 F
39 200 F
40 200 F
41 185 F
42 187 F
43 180 F
44 195 F
45 184 F
46 186 F
47 169 F
48 162 F

=====
1830 F

=====
1819 F

=====
83 F

=====
225 F

=====
194 F

GROUP 5
BARE#8 #1

49 208 F
50 206 F
51 217 F
52 213 F
53 206 F
54 205 F
55 199 F
56 202 F
57 193 F
58 199 F
59 196 F
60 210 F
61 206 F
62 213 F
63 210 F
64 219 F
65 202 F
66 236 F
67 246 F
68 209 F
69 191 F
70 201 F
71 189 F
72 180 F
73 188 F
74 200 F

GROUP 6
CNDT#2 SUR

75 205 F
76 202 F
77 203 F
78 218 F
79 238 F
80 381 F
81 254 F
82 251 F
83 291 F
84 263 F
85 818 F
86 245 F
87 153 F

GROUP 7
7c/12 #2

88 188 F
89 198 F
90 198 F
91 198 F
92 199 F
93 200 F
94 196 F
95 201 F
101 203 F
102 199 F
103 202 F
104 202 F
105 208 F
106 202 F
107 225 F
108 226 F
109 244 F
110 250 F
111 201 F
112 200 F
113 182 F
114 194 F
115 166 F
116 190 F
118 131 F

GROUP 8
BARE#8 #2

97 187 F
98 84 F
99 110 F
100 33 F
119 194 F
120 195 F
121 192 F
122 190 F
123 187 F
124 218 F
125 203 F
126 193 F
127 203 F
128 211 F
129 261 F
130 233 F
131 236 F
132 254 F
133 230 F
134 209 F
135 196 F
136 190 F
137 175 F
138 196 F
139 159 F

GROUP 9
DUMMY

96 202 F
117 133 F

=====
206 F

=====
286 F

=====
200 F

=====
190 F

=====
168 F

142 MINUTES

GROUP 0
FURNACE
1 1828 F
2 1835 F
3 1818 F
4 1857 F

GROUP 1
FURNACE 2
5 1856 F
6 1793 F
7 1826 F
8 1842 F
9 1801 F
10 1824 F

GROUP 2
AMBIENT
11 86 F

GROUP 3
CNDT#1 SUR
12 146 F
13 210 F
14 267 F
15 246 F
16 282 F
17 227 F
18 245 F
19 221 F
20 225 F
21 256 F
22 177 F

GROUP 4
7c/12 #1
23 205 F
24 205 F
25 200 F
26 -32 F
27 200 F
28 203 F
29 200 F
30 205 F
31 210 F
32 204 F
33 204 F
34 208 F
35 201 F
36 172 F
37 203 F
38 203 F
39 200 F
40 199 F
41 184 F
42 189 F
43 183 F
44 194 F
45 183 F
46 185 F
47 172 F
48 163 F

=====
1835 F

=====
1824 F

=====
86 F

=====
227 F

=====
195 F

GROUP 5
BARE#B #1
49 209 F
50 205 F
51 221 F
52 215 F
53 206 F
54 206 F
55 201 F
56 204 F
57 192 F
58 199 F
59 196 F
60 211 F
61 207 F
62 225 F
63 209 F
64 218 F
65 200 F
66 219 F
67 193 F
68 213 F
69 191 F
70 202 F
71 195 F
72 184 F
73 178 F
74 185 F

=====
203 F

GROUP 6
CNDT#2 SUR
75 205 F
76 202 F
77 205 F
78 218 F
79 239 F
80 391 F
81 258 F
82 252 F
83 307 F
84 263 F
85 837 F
86 247 F
87 150 F

=====
290 F

GROUP 7
7c/12 #2
88 188 F
89 200 F
90 199 F
91 199 F
92 200 F
93 201 F
94 198 F
95 203 F
101 204 F
102 200 F
103 203 F
104 201 F
105 210 F
106 203 F
107 233 F
108 235 F
109 258 F
110 260 F
111 203 F
112 203 F
113 182 F
114 197 F
115 166 F
116 194 F
118 131 F

=====
203 F

GROUP 8
BARE#B #2
97 189 F
98 85 F
99 108 F
100 37 F
119 196 F
120 197 F
121 194 F
122 192 F
123 189 F
124 214 F
125 203 F
126 194 F
127 205 F
128 218 F
129 273 F
130 245 F
131 248 F
132 262 F
133 239 F
134 219 F
135 198 F
136 191 F
137 176 F
138 196 F
139 163 F

=====
193 F

GROUP 9
DUMMY
96 185 F
117 131 F

=====
158 F

144 MINUTES

GROUP 0
FURNACE

1 1834°F
2 1840°F
3 1822°F
4 1851°F

GROUP 1
FURNACE 2

5 1861°F
6 2701°F
7 1830°F
8 1847°F
9 1807°F
10 1830°F

GROUP 2
AMBIENT

11 84°F

GROUP 3
CNDT#1 SUR

12 146°F
13 211°F
14 269°F
15 251°F
16 299°F
17 229°F
18 247°F
19 220°F
20 228°F
21 255°F
22 175°F

GROUP 4
7c/12 #1

23 206°F
24 206°F
25 202°F
26 -30°F
27 202°F
28 205°F
29 200°F
30 207°F
31 213°F
32 206°F
33 207°F
34 209°F
35 202°F
36 166°F
37 207°F
38 203°F
39 202°F
40 197°F
41 190°F
42 192°F
43 188°F
44 194°F
45 182°F
46 186°F
47 178°F
48 164°F

=====
1839°F

=====
1979°F

=====
84°F

=====
230°F

=====
197°F

GROUP 5
BARE#8 #1

49 209°F
50 207°F
51 221°F
52 214°F
53 208°F
54 207°F
55 202°F
56 206°F
57 193°F
58 199°F
59 196°F
60 211°F
61 206°F
62 224°F
63 210°F
64 214°F
65 202°F
66 212°F
67 232°F
68 216°F
69 193°F
70 201°F
71 194°F
72 186°F
73 174°F
74 193°F

GROUP 6
CNDT#2 SUR

75 206°F
76 203°F
77 212°F
78 219°F
79 238°F
80 399°F
81 264°F
82 253°F
83 320°F
84 271°F
85 856°F
86 249°F
87 154°F

GROUP 7
7c/12 #2

88 188°F
89 201°F
90 199°F
91 200°F
92 201°F
93 202°F
94 199°F
95 203°F
101 205°F
102 200°F
103 205°F
104 203°F
105 214°F
106 206°F
107 241°F
108 244°F
109 270°F
110 269°F
111 204°F
112 206°F
113 182°F
114 199°F
115 164°F
116 195°F
118 186°F

GROUP 8
BARE#8 #2

97 190°F
98 85°F
99 107°F
100 41°F
119 197°F
120 199°F
121 197°F
122 195°F
123 191°F
124 216°F
125 204°F
126 194°F
127 209°F
128 226°F
129 284°F
130 257°F
131 260°F
132 272°F
133 248°F
134 230°F
135 201°F
136 190°F
137 175°F
138 198°F
139 166°F

GROUP 9
DUMMY

96 196°F
117 131°F

=====
205°F

=====
296°F

=====
205°F

=====
197°F

=====
164°F

146 MINUTES

GROUP 0
FURNACE

1	1837 F
2	1843 F
3	1825 F
4	1862 F

GROUP 1
FURNACE 2

5	1862 F
6	1803 F
7	1803 F
8	1849 F
9	1811 F
10	1832 F

GROUP 2
AMBIENT

11 86 F

GROUP 3
CNDT#1 SUR

12	145 F
13	213 F
14	279 F
15	260 F
16	301 F
17	231 F
18	248 F
19	220 F
20	229 F
21	247 F
22	177 F

GROUP 4
7c/12 #1

23	206 F
24	207 F
25	204 F
26	-29 F
27	203 F
28	205 F
29	201 F
30	208 F
31	217 F
32	211 F
33	210 F
34	211 F
35	203 F
36	169 F
37	213 F
38	205 F
39	204 F
40	196 F
41	198 F
42	194 F
43	191 F
44	197 F
45	183 F
46	186 F
47	175 F
48	161 F

=====

1842 F

=====

1832 F

=====

86 F

=====

232 F

=====

198 F

GROUP 5
BARE#8 #1

49	209 F
50	207 F
51	220 F
52	212 F
53	208 F
54	208 F
55	204 F
56	203 F
57	194 F
58	200 F
59	197 F
60	212 F
61	206 F
62	219 F
63	209 F
64	213 F
65	203 F
66	210 F
67	245 F
68	218 F
69	197 F
70	203 F
71	193 F
72	189 F
73	171 F
74	181 F

=====

205 F

GROUP 6
CNDT#2 SUR

75	207 F
76	205 F
77	231 F
78	219 F
79	239 F
80	408 F
81	269 F
82	258 F
83	329 F
84	273 F
85	847 F
86	251 F
87	149 F

=====

299 F

GROUP 7
7c/12 #2

88	189 F
89	203 F
90	202 F
91	200 F
92	202 F
93	203 F
94	202 F
95	204 F
101	207 F
102	201 F
103	205 F
104	202 F
105	217 F
106	205 F
107	247 F
108	253 F
109	283 F
110	278 F
111	208 F
112	212 F
113	180 F
114	196 F
115	161 F
116	194 F
118	134 F

=====

208 F

GROUP 8
BARE#8 #2

97	190 F
98	82 F
99	106 F
100	40 F
119	199 F
120	199 F
121	198 F
122	194 F
123	192 F
124	213 F
125	205 F
126	195 F
127	215 F
128	234 F
129	294 F
130	269 F
131	272 F
132	281 F
133	257 F
134	241 F
135	200 F
136	193 F
137	177 F
138	197 F
139	170 F

=====

201 F

GROUP 9
DUMMY

96	152 F
117	130 F

=====

141 F

148 MINUTES

GROUP 0
FURNACE

1	1840 F
2	1846 F
3	1828 F
4	1868 F

GROUP 1
FURNACE 2

5	1866 F
6	1806 F
7	1835 F
8	1851 F
9	1814 F
10	1836 F

GROUP 2
AMBIENT
11 85 F

GROUP 3
CNDT#1 SUR

12	142 F
13	215 F
14	287 F
15	279 F
16	319 F
17	234 F
18	249 F
19	220 F
20	226 F
21	236 F
22	177 F

GROUP 4
7c/12 #1

23	205 F
24	209 F
25	205 F
26	-30 F
27	204 F
28	205 F
29	202 F
30	211 F
31	223 F
32	219 F
33	212 F
34	212 F
35	204 F
36	169 F
37	215 F
38	209 F
39	206 F
40	197 F
41	205 F
42	198 F
43	194 F
44	200 F
45	185 F
46	187 F
47	182 F
48	163 F

=====
1846 F

=====
1835 F

=====
85 F

=====
235 F

=====
201 F

GROUP 5
BARE#B #1

49	210 F
50	208 F
51	216 F
52	211 F
53	209 F
54	209 F
55	205 F
56	204 F
57	194 F
58	201 F
59	198 F
60	212 F
61	206 F
62	217 F
63	210 F
64	212 F
65	204 F
66	207 F
67	243 F
68	218 F
69	199 F
70	204 F
71	194 F
72	189 F
73	171 F
74	185 F

=====
205 F

GROUP 6
CNDT#2 SUR

75	208 F
76	207 F
77	257 F
78	219 F
79	240 F
80	117 F
81	275 F
82	262 F
83	341 F
84	268 F
85	828 F
86	252 F
87	150 F

=====
302 F

GROUP 7
7c/12 #2

88	189 F
89	203 F
90	204 F
91	202 F
92	204 F
93	204 F
94	203 F
95	203 F
101	208 F
102	202 F
103	205 F
104	203 F
105	218 F
106	213 F
107	257 F
108	261 F
109	295 F
110	288 F
111	211 F
112	217 F
113	179 F
114	197 F
115	153 F
116	195 F
118	133 F

=====
210 F

GROUP 8
BARE#B #2

97	190 F
98	74 F
99	109 F
100	44 F
119	200 F
120	200 F
121	197 F
122	193 F
123	193 F
124	214 F
125	205 F
126	197 F
127	222 F
128	243 F
129	304 F
130	283 F
131	286 F
132	293 F
133	266 F
134	253 F
135	202 F
136	196 F
137	178 F
138	198 F
139	171 F

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204 F

GROUP 9
DUMMY

96	156 F
117	130 F

=====
143 F

GROUP 0 FURNACE	GROUP 1 FURNACE 2	GROUP 2 AMBIENT	GROUP 3 CNDT#1 SUR	GROUP 4 7c/12 #1
1 1845°F	5 1870°F	11 88°F	12 143°F	23 205°F
2 1850°F	6 1810°F		13 216°F	24 210°F
3 1834°F	7 1840°F		14 287°F	25 207°F
4 1872°F	8 1857°F		15 290°F	26 -31°F
	9 1818°F		16 328°F	27 205°F
	10 1840°F		17 237°F	28 206°F
			18 251°F	29 203°F
			19 220°F	30 213°F
			20 226°F	31 230°F
			21 230°F	32 225°F
			22 177°F	33 214°F
				34 214°F
				35 205°F
				36 171°F
				37 215°F
				38 210°F
				39 208°F
				40 199°F
				41 208°F
				42 201°F
				43 196°F
				44 200°F
				45 187°F
				46 188°F
				47 181°F
				48 166°F

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1850°F 1839°F 88°F 237°F 203°F

GROUP 5 BARE#B #1	GROUP 6 CNDT#2 SUR	GROUP 7 7c/12 #2	GROUP 8 BARE#B #2	GROUP 9 DUMMY
49 210°F	75 210°F	88 190°F	97 192°F	96 167°F
50 209°F	76 209°F	89 203°F	98 74°F	117 132°F
51 214°F	77 273°F	90 205°F	99 108°F	
52 211°F	78 219°F	91 203°F	100 48°F	
53 210°F	79 241°F	92 205°F	119 201°F	
54 210°F	80 425°F	93 206°F	120 200°F	
55 206°F	81 280°F	94 205°F	121 197°F	
56 205°F	82 266°F	95 203°F	122 194°F	
57 194°F	83 347°F	101 206°F	123 194°F	
58 201°F	84 265°F	102 202°F	124 215°F	
59 199°F	85 828°F	103 206°F	125 206°F	
60 213°F	86 253°F	104 204°F	126 196°F	
61 205°F	87 157°F	105 221°F	127 227°F	
62 216°F		106 219°F	128 249°F	
63 212°F		107 264°F	129 312°F	
64 213°F		108 267°F	130 290°F	
65 206°F		109 303°F	131 301°F	
66 207°F		110 294°F	132 307°F	
67 244°F		111 217°F	133 270°F	
68 219°F		112 222°F	134 259°F	
69 201°F		113 181°F	135 203°F	
70 204°F		114 198°F	136 199°F	
71 194°F		115 155°F	137 177°F	
72 188°F		116 198°F	138 199°F	
73 168°F		118 134°F	139 169°F	
74 183°F				

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205°F 306°F 212°F 207°F 150°F

152 MINUTES

GROUP 0
FURNACE

1	1849 F
2	1855 F
3	1839 F
4	1876 F

GROUP 1
FURNACE 2

5	1874 F
6	203 F
7	1846 F
8	1861 F
9	1821 F
10	1844 F

GROUP 2
AMBIENT

11 87 F

GROUP 3
CNDT#1 SUR

12	146 F
13	218 F
14	294 F
15	305 F
16	351 F
17	243 F
18	252 F
19	219 F
20	221 F
21	217 F
22	173 F

GROUP 4
7c/12 #1

23	205 F
24	211 F
25	208 F
26	-32 F
27	207 F
28	207 F
29	204 F
30	218 F
31	240 F
32	236 F
33	216 F
34	216 F
35	206 F
36	171 F
37	215 F
38	213 F
39	211 F
40	199 F
41	211 F
42	205 F
43	199 F
44	202 F
45	189 F
46	191 F
47	181 F
48	168 F

=====

1855 F

=====

1575 F

=====

87 F

=====

240 F

=====

205 F

GROUP 5
BARE#B #1

49	211 F
50	209 F
51	212 F
52	212 F
53	210 F
54	211 F
55	207 F
56	207 F
57	195 F
58	201 F
59	200 F
60	213 F
61	204 F
62	216 F
63	212 F
64	214 F
65	205 F
66	208 F
67	238 F
68	219 F
69	204 F
70	205 F
71	194 F
72	189 F
73	171 F
74	186 F

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206 F

GROUP 6
CNDT#2 SUR

75	213 F
76	210 F
77	293 F
78	219 F
79	241 F
80	435 F
81	287 F
82	270 F
83	356 F
84	260 F
85	840 F
86	256 F
87	149 F

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310 F

GROUP 7
7c/12 #2

88	191 F
89	203 F
90	204 F
91	204 F
92	205 F
93	206 F
94	205 F
95	203 F
101	204 F
102	203 F
103	204 F
104	207 F
105	223 F
106	229 F
107	274 F
108	276 F
109	315 F
110	305 F
111	227 F
112	235 F
113	182 F
114	199 F
115	149 F
116	199 F
118	135 F

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215 F

GROUP 8
BARE#B #2

97	193 F
98	78 F
99	109 F
100	49 F
119	202 F
120	201 F
121	197 F
122	196 F
123	193 F
124	214 F
125	206 F
126	196 F
127	234 F
128	257 F
129	325 F
130	301 F
131	313 F
132	315 F
133	281 F
134	271 F
135	216 F
136	205 F
137	180 F
138	198 F
139	172 F

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212 F

GROUP 9
DUMMY

96	224 F
117	133 F

=====

179 F

154 MINUTES

GROUP 0
FURNACE

1	1852°F
2	1859°F
3	1846°F
4	1880°F

GROUP 1
FURNACE 2

5	1877°F
6	5°F
7	1853°F
8	1867°F
9	1827°F
10	1846°F

GROUP 2
AMBIENT

11 84°F

GROUP 3
CNDT#1 SUR

12	144°F
13	223°F
14	301°F
15	319°F
16	371°F
17	251°F
18	258°F
19	222°F
20	217°F
21	217°F
22	173°F

GROUP 4
7c/12 #1

23	205°F
24	211°F
25	209°F
26	-35°F
27	209°F
28	208°F
29	207°F
30	209°F
31	251°F
32	247°F
33	218°F
34	221°F
35	207°F
36	171°F
37	215°F
38	215°F
39	213°F
40	201°F
41	212°F
42	207°F
43	201°F
44	204°F
45	195°F
46	195°F
47	186°F
48	176°F

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GROUP 5
BARE#B #1

49	211°F
50	209°F
51	211°F
52	212°F
53	210°F
54	212°F
55	206°F
56	208°F
57	196°F
58	201°F
59	201°F
60	213°F
61	204°F
62	217°F
63	214°F
64	216°F
65	204°F
66	210°F
67	237°F
68	220°F
69	207°F
70	207°F
71	197°F
72	195°F
73	173°F
74	188°F

GROUP 6
CNDT#2 SUR

75	216°F
76	210°F
77	305°F
78	218°F
79	241°F
80	448°F
81	297°F
82	278°F
83	362°F
84	259°F
85	841°F
86	258°F
87	155°F

GROUP 7
7c/12 #2

88	192°F
89	204°F
90	199°F
91	204°F
92	207°F
93	208°F
94	205°F
95	202°F
101	206°F
102	202°F
103	205°F
104	205°F
105	224°F
106	232°F
107	284°F
108	286°F
109	325°F
110	317°F
111	238°F
112	246°F
113	184°F
114	198°F
115	151°F
116	200°F
118	136°F

GROUP 8
BARE#B #2

97	193°F
98	83°F
99	110°F
100	50°F
119	203°F
120	201°F
121	198°F
122	198°F
123	194°F
124	213°F
125	206°F
126	197°F
127	242°F
128	267°F
129	337°F
130	315°F
131	321°F
132	317°F
133	292°F
134	285°F
135	232°F
136	218°F
137	183°F
138	200°F
139	174°F

GROUP 9
DUMMY

96	199°F
117	135°F

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156 MINUTES

GROUP 0
FURNACE

1 1858 F
2 1864 F
3 1847 F
4 1891 F

GROUP 1
FURNACE 2

5 1883 F
6 3048 F
7 1854 F
8 1869 F
9 1832 F
10 1853 F

GROUP 2
AMBIENT

11 86 F

GROUP 3
CNDT#1 SUR

12 140 F
13 226 F
14 313 F
15 332 F
16 396 F
17 260 F
18 262 F
19 225 F
20 217 F
21 217 F
22 172 F

GROUP 4
7c/12 #1

23 204 F
24 211 F
25 210 F
26 -36 F
27 211 F
28 208 F
29 208 F
30 209 F
31 262 F
32 259 F
33 222 F
34 229 F
35 208 F
36 172 F
37 215 F
38 218 F
39 213 F
40 203 F
41 214 F
42 208 F
43 203 F
44 208 F
45 199 F
46 196 F
47 186 F
48 172 F

=====
1863 F

=====
2057 F

=====
86 F

=====
251 F

=====
210 F

GROUP 5
BARE#8 #1

49 211 F
50 209 F
51 210 F
52 212 F
53 210 F
54 213 F
55 207 F
56 209 F
57 197 F
58 202 F
59 203 F
60 214 F
61 204 F
62 216 F
63 213 F
64 216 F
65 206 F
66 207 F
67 232 F
68 221 F
69 208 F
70 209 F
71 196 F
72 191 F
73 174 F
74 184 F

=====
207 F

GROUP 6
CNDT#2 SUR

75 219 F
76 211 F
77 315 F
78 219 F
79 242 F
80 459 F
81 310 F
82 283 F
83 364 F
84 254 F
85 816 F
86 260 F
87 150 F

=====
316 F

GROUP 7
7c/12 #2

88 193 F
89 204 F
90 199 F
91 204 F
92 206 F
93 207 F
94 205 F
95 200 F
101 204 F
102 203 F
103 205 F
104 207 F
105 229 F
106 237 F
107 293 F
108 295 F
109 332 F
110 329 F
111 252 F
112 256 F
113 187 F
114 197 F
115 158 F
116 200 F
118 135 F

=====
221 F

GROUP 8
BARE#8 #2

97 193 F
98 89 F
99 111 F
100 54 F
119 203 F
120 201 F
121 198 F
122 199 F
123 195 F
124 212 F
125 206 F
126 197 F
127 250 F
128 275 F
129 351 F
130 325 F
131 334 F
132 328 F
133 304 F
134 298 F
135 246 F
136 236 F
137 185 F
138 201 F
139 179 F

=====
223 F

GROUP 9
DUMMY

96 163 F
117 136 F

=====
150 F

158 MINUTES

GROUP 0

FURNACE

1 1860°F
 2 1867°F
 3 1857°F
 4 1883°F

GROUP 1

FURNACE 2

5 1885°F
 6 0°F
 7 1859°F
 8 1872°F
 9 1836°F
 10 1854°F

GROUP 2

AMBIENT

11 86°F

GROUP 3

CNDT#1 SUR

12 148°F
 13 226°F
 14 334°F
 15 345°F
 16 410°F
 17 271°F
 18 266°F
 19 230°F
 20 215°F
 21 218°F
 22 172°F

GROUP 4

7c/12 #1

23 206°F
 24 212°F
 25 210°F
 26 -38°F
 27 212°F
 28 209°F
 29 208°F
 30 210°F
 31 274°F
 32 271°F
 33 228°F
 34 239°F
 35 209°F
 36 170°F
 37 213°F
 38 220°F
 39 214°F
 40 205°F
 41 215°F
 42 210°F
 43 203°F
 44 210°F
 45 200°F
 46 198°F
 47 186°F
 48 170°F

=====
1866°F

=====
1861°F

=====
86°F

=====
258°F

=====
212°F

GROUP 5
BARE#8 #1

49 212°F
 50 209°F
 51 210°F
 52 212°F
 53 210°F
 54 213°F
 55 208°F
 56 209°F
 57 197°F
 58 203°F
 59 204°F
 60 214°F
 61 205°F
 62 215°F
 63 214°F
 64 217°F
 65 205°F
 66 210°F
 67 232°F
 68 221°F
 69 208°F
 70 208°F
 71 195°F
 72 192°F
 73 174°F
 74 183°F

=====
207°F

GROUP 6
CNDT#2 SUR

75 221°F
 76 211°F
 77 326°F
 78 224°F
 79 245°F
 80 473°F
 81 322°F
 82 286°F
 83 374°F
 84 255°F
 85 836°F
 86 262°F
 87 152°F

=====
322°F

GROUP 7
7c/12 #2

88 194°F
 89 204°F
 90 200°F
 91 204°F
 92 205°F
 93 209°F
 94 201°F
 95 200°F
 101 201°F
 102 203°F
 103 205°F
 104 209°F
 105 234°F
 106 246°F
 107 298°F
 108 305°F
 109 342°F
 110 339°F
 111 267°F
 112 266°F
 113 188°F
 114 195°F
 115 166°F
 116 200°F
 118 135°F

=====
225°F

GROUP 8
BARE#8 #2

97 195°F
 98 89°F
 99 114°F
 100 60°F
 119 204°F
 120 201°F
 121 198°F
 122 201°F
 123 197°F
 124 212°F
 125 206°F
 126 198°F
 127 259°F
 128 285°F
 129 365°F
 130 336°F
 131 347°F
 132 338°F
 133 316°F
 134 310°F
 135 259°F
 136 250°F
 137 188°F
 138 202°F
 139 181°F

=====
228°F

GROUP 9
DUMMY

96 172°F
 117 135°F

=====
154°F

120 MINUTES

GROUP 1
FURNACE

1	1868 F
2	1875 F
3	1881 F
4	1889 F

GROUP 2
FURNACE 2

5	1893 F
6	1908 F
7	1867 F
8	1879 F
9	1844 F
10	1861 F

GROUP 3
AMBIENT

11 85 F

GROUP 4
CNDT#1 SUR

12	145 F
13	226 F
14	267 F
15	377 F
16	454 F
17	296 F
18	272 F
19	235 F
20	215 F
21	201 F
22	171 F

GROUP 4
7c/12 #1

23	202 F
24	212 F
25	211 F
26	140 F
27	210 F
28	225 F
29	212 F
30	204 F
31	244 F
32	294 F
33	241 F
34	254 F
35	211 F
36	170 F
37	218 F
38	225 F
39	217 F
40	208 F
41	217 F
42	211 F
43	204 F
44	211 F
45	203 F
46	199 F
47	184 F
48	172 F

=====
1873 F

=====
1608 F

=====
85 F

=====
269 F

=====
217 F

GROUP 5
BARE#8 #1

49	212 F
50	209 F
51	210 F
52	212 F
53	210 F
54	212 F
55	208 F
56	209 F
57	198 F
58	203 F
59	204 F
60	213 F
61	204 F
62	212 F
63	212 F
64	216 F
65	205 F
66	209 F
67	227 F
68	219 F
69	207 F
70	205 F
71	192 F
72	191 F
73	168 F
74	183 F

=====
206 F

GROUP 6
CNDT#2 SUR

75	228 F
76	211 F
77	335 F
78	230 F
79	252 F
80	498 F
81	332 F
82	294 F
83	384 F
84	249 F
85	819 F
86	264 F
87	145 F

=====
326 F

GROUP 7
7c/12 #2

88	196 F
89	205 F
90	202 F
91	205 F
92	207 F
93	208 F
94	200 F
95	201 F
101	201 F
102	203 F
103	204 F
104	214 F
105	246 F
106	255 F
107	314 F
108	320 F
109	359 F
110	358 F
111	288 F
112	285 F
113	199 F
114	195 F
115	178 F
116	196 F
118	136 F

=====
231 F

GROUP 8
BARE#8 #2

97	195 F
98	97 F
99	114 F
100	72 F
119	205 F
120	201 F
121	200 F
122	206 F
123	197 F
124	209 F
125	207 F
126	199 F
127	275 F
128	298 F
129	383 F
130	351 F
131	369 F
132	356 F
133	334 F
134	331 F
135	276 F
136	269 F
137	191 F
138	203 F
139	185 F

=====
237 F

GROUP 9
DUMMY

96	183 F
117	136 F

=====
160 F

164 MINUTES

GROUP 0
FURNACE

1 1873 F
2 1879 F
3 1865 F
4 1894 F

GROUP 1
FURNACE 2

5 1897 F
6 217 F
7 1871 F
8 1883 F
9 1848 F
10 1867 F

GROUP 2
AMBIENT

11 86 F

GROUP 3
CNDT#1 SUR

12 147 F
13 230 F
14 373 F
15 392 F
16 447 F
17 308 F
18 277 F
19 239 F
20 218 F
21 224 F
22 171 F

GROUP 4
7c/12 #1

23 203 F
24 208 F
25 211 F
26 -48 F
27 217 F
28 207 F
29 268 F
30 255 F
31 207 F
32 206 F
33 250 F
34 264 F
35 213 F
36 169 F
37 214 F
38 228 F
39 220 F
40 210 F
41 218 F
42 212 F
43 204 F
44 212 F
45 208 F
46 194 F
47 184 F
48 180 F

=====
1878 F

=====
1597 F

=====
86 F

=====
275 F

=====
222 F

GROUP 5
BARE#B #1

49 212 F
50 208 F
51 210 F
52 212 F
53 211 F
54 212 F
55 208 F
56 209 F
57 199 F
58 203 F
59 205 F
60 213 F
61 205 F
62 210 F
63 211 F
64 215 F
65 206 F
66 209 F
67 224 F
68 218 F
69 205 F
70 203 F
71 189 F
72 189 F
73 170 F
74 183 F

GROUP
CNDT#2 SUR

75 230 F
76 211 F
77 343 F
78 235 F
79 259 F
80 513 F
81 359 F
82 299 F
83 388 F
84 247 F
85 837 F
86 266 F
87 144 F

GROUP 7
7c/12 #2

88 197 F
89 205 F
90 202 F
91 205 F
92 207 F
93 208 F
94 200 F
95 201 F
101 201 F
102 202 F
103 204 F
104 218 F
105 256 F
106 269 F
107 325 F
108 277 F
109 370 F
11 370 F
111 298 F
112 297 F
113 205 F
114 196 F
115 185 F
116 196 F
118 137 F

GROUP 8
BARE#B #2

97 195 F
98 100 F
99 114 F
100 74 F
119 206 F
120 201 F
121 201 F
122 209 F
123 195 F
124 208 F
125 206 F
126 198 F
127 285 F
128 307 F
129 396 F
130 366 F
131 386 F
132 369 F
133 345 F
134 343 F
135 285 F
136 279 F
137 192 F
138 204 F
139 188 F

GROUP 9
DUMMY

96 165 F
117 136 F

=====
205 F

=====
333 F

=====
235 F

=====
242 F

=====
151 F

166 MINUTES

GROUP 0

FURNACE	
1	1877 F
2	1887 F
3	1869 F
4	1900 F

GROUP 1

FURNACE 2	
5	1900 F
6	0 F
7	1876 F
8	1888 F
9	1853 F
10	1859 F

GROUP 2

AMBIENT	
11	85 F

GROUP 3

CNDT#1 SUR	
12	148 F
13	226 F
14	416 F
15	417 F
16	459 F
17	314 F
18	282 F
19	244 F
20	217 F
21	223 F
22	174 F

GROUP 4

7c/12 #1	
23	203 F
24	209 F
25	211 F
26	-58 F
27	213 F
28	209 F
29	295 F
30	274 F
31	319 F
32	319 F
33	258 F
34	273 F
35	218 F
36	178 F
37	214 F
38	235 F
39	226 F
40	212 F
41	216 F
42	212 F
43	204 F
44	214 F
45	207 F
46	196 F
47	189 F
48	181 F

=====
1882 F

=====
1877 F

=====
85 F

=====
284 F

=====
227 F

GROUP 5
BARE#B #1

49	212 F
50	208 F
51	210 F
52	211 F
53	211 F
54	212 F
55	209 F
56	209 F
57	199 F
58	204 F
59	207 F
60	212 F
61	206 F
62	209 F
63	210 F
64	213 F
65	206 F
66	206 F
67	220 F
68	217 F
69	204 F
70	202 F
71	187 F
72	187 F
73	166 F
74	180 F

=====
205 F

GROUP 6
CNDT#2 SUR

75	232 F
76	211 F
77	351 F
78	240 F
79	266 F
80	530 F
81	372 F
82	308 F
83	393 F
84	248 F
85	824 F
86	267 F
87	144 F

=====
337 F

GROUP 7
7c/12 #2

88	198 F
89	205 F
90	202 F
91	204 F
92	207 F
93	209 F
94	200 F
95	200 F
101	200 F
102	201 F
103	204 F
104	221 F
105	267 F
106	285 F
107	335 F
108	337 F
109	380 F
110	383 F
111	309 F
112	307 F
113	213 F
114	197 F
115	189 F
116	186 F
118	138 F

=====
239 F

GROUP 8
BARE#B #2

97	196 F
98	103 F
99	117 F
100	77 F
119	207 F
120	201 F
121	203 F
122	210 F
123	196 F
124	209 F
125	207 F
126	198 F
127	296 F
128	317 F
129	408 F
130	377 F
131	402 F
132	383 F
133	356 F
134	354 F
135	294 F
136	287 F
137	196 F
138	204 F
139	189 F

=====
247 F

GROUP 9
DUMMY

96	173 F
117	136 F

=====
155 F

168 MINUTES

GROUP 0

FURNACE

1 1860 F
 2 1883 F
 3 1673 F
 4 1900 F

GROUP 1

FURNACE 2

5 1905 F
 6 2373 F
 7 1879 F
 8 1891 F
 9 1856 F
 10 1874 F

GROUP 2

AMBIENT

11 87 F

GROUP 3

CNDT#1 SUR

12 146 F
 13 224 F
 14 444 F
 15 433 F
 16 479 F
 17 319 F
 18 288 F
 19 250 F
 20 223 F
 21 225 F
 22 176 F

GROUP 4

7c/12 #1

23 203 F
 24 208 F
 25 211 F
 26 -65 F
 27 213 F
 28 209 F
 29 215 F
 30 293 F
 31 332 F
 32 331 F
 33 267 F
 34 282 F
 35 226 F
 36 176 F
 37 213 F
 38 237 F
 39 230 F
 40 213 F
 41 215 F
 42 212 F
 43 204 F
 44 216 F
 45 209 F
 46 195 F
 47 187 F
 48 181 F

=====
1885 F

=====
1963 F

=====
87 F

=====
292 F

=====
231 F

GROUP 5

BARE#8 #1

49 212 F
 50 208 F
 51 210 F
 52 211 F
 53 212 F
 54 213 F
 55 213 F
 56 213 F
 57 200 F
 58 203 F
 59 212 F
 60 210 F
 61 202 F
 62 201 F
 63 209 F
 64 212 F
 65 205 F
 66 203 F
 67 216 F
 68 215 F
 69 202 F
 70 201 F
 71 186 F
 72 186 F
 73 159 F
 74 180 F

=====
204 F

GROUP 6

CNDT#2 SUR

75 227 F
 76 211 F
 77 357 F
 78 243 F
 79 275 F
 80 549 F
 81 402 F
 82 315 F
 83 389 F
 84 245 F
 85 716 F
 86 266 F
 87 138 F

=====
333 F

GROUP 7

7c/12 #2

88 198 F
 89 206 F
 90 203 F
 91 205 F
 92 214 F
 93 209 F
 94 199 F
 95 200 F
 101 200 F
 102 198 F
 103 203 F
 104 225 F
 105 278 F
 106 297 F
 107 348 F
 108 348 F
 109 389 F
 110 394 F
 111 318 F
 112 316 F
 113 220 F
 114 199 F
 115 194 F
 116 197 F
 118 138 F

=====
244 F

GROUP 8

BARE#8 #2

97 196 F
 98 105 F
 99 118 F
 100 82 F
 119 207 F
 120 201 F
 121 204 F
 122 212 F
 123 197 F
 124 204 F
 125 206 F
 126 196 F
 127 307 F
 128 327 F
 129 422 F
 130 389 F
 131 417 F
 132 397 F
 133 366 F
 134 362 F
 135 302 F
 136 296 F
 137 195 F
 138 204 F
 139 190 F

=====
252 F

GROUP 9

DUMMY

96 188 F
 117 138 F

=====
163 F

170 MINUTES

GROUP 0
FURNACE

1	1885 F
2	1873 F
3	1876 F
4	1905 F

GROUP 1
FURNACE 2

5	1911 F
6	1870 F
7	1867 F
8	1874 F
9	1861 F
10	1861 F

GROUP 2
AMBIENT

11 88 F

GROUP 3
CNDT#1 SUR

12	147 F
13	200 F
14	490 F
15	452 F
16	513 F
17	332 F
18	294 F
19	254 F
20	221 F
21	227 F
22	177 F

GROUP 4
7c/12 #1

23	235 F
24	209 F
25	211 F
26	172 F
27	225 F
28	210 F
29	223 F
30	312 F
31	343 F
32	344 F
33	277 F
34	292 F
35	224 F
36	174 F
37	213 F
38	242 F
39	233 F
40	213 F
41	213 F
42	211 F
43	204 F
44	215 F
45	208 F
46	193 F
47	189 F
48	182 F

=====
1890 F

=====
1617 F

=====
88 F

=====
303 F

=====
235 F

GROUP 5
BARE#8 #1

49	212 F
50	207 F
51	209 F
52	211 F
53	241 F
54	260 F
55	271 F
56	273 F
57	200 F
58	203 F
59	227 F
60	207 F
61	201 F
62	205 F
63	209 F
64	210 F
65	204 F
66	200 F
67	213 F
68	213 F
69	201 F
70	201 F
71	186 F
72	186 F
73	160 F
74	177 F

=====
211 F

GROUP 6
CNDT#2 SUR

75	229 F
76	211 F
77	368 F
78	247 F
79	283 F
80	569 F
81	417 F
82	319 F
83	393 F
84	243 F
85	622 F
86	266 F
87	131 F

=====
331 F

GROUP 7
7c/12 #2

88	198 F
89	206 F
90	204 F
91	205 F
92	235 F
93	209 F
94	199 F
95	201 F
101	200 F
102	200 F
103	205 F
104	229 F
105	291 F
106	310 F
107	358 F
108	360 F
109	399 F
110	405 F
111	327 F
112	326 F
113	228 F
114	212 F
115	197 F
116	197 F
118	140 F

=====
250 F

GROUP 8
BARE#8 #2

97	196 F
98	107 F
99	120 F
100	85 F
119	207 F
120	201 F
121	207 F
122	212 F
123	199 F
124	210 F
125	208 F
126	197 F
127	319 F
128	340 F
129	435 F
130	402 F
131	431 F
132	412 F
133	377 F
134	371 F
135	309 F
136	301 F
137	197 F
138	204 F
139	190 F

=====
257 F

GROUP 9
DUMMY

96	132 F
117	140 F

=====
136 F

172 MINUTES

GROUP 0
FURNACE

1	1886 F
2	1894 F
3	1883 F
4	1908 F

GROUP 1
FURNACE 2

5	1911 F
6	134 F
7	1888 F
8	1897 F
9	1863 F
10	1880 F

GROUP 2
AMBIENT

11 83 F

GROUP 3
CNDT#1 SUR

12	142 F
13	223 F
14	527 F
15	470 F
16	537 F
17	356 F
18	301 F
19	260 F
20	220 F
21	227 F
22	177 F

GROUP 4
7c/12 #1

23	205 F
24	205 F
25	210 F
26	-80 F
27	251 F
28	213 F
29	351 F
30	330 F
31	353 F
32	361 F
33	286 F
34	303 F
35	244 F
36	175 F
37	215 F
38	247 F
39	238 F
40	213 F
41	213 F
42	211 F
43	204 F
44	215 F
45	208 F
46	193 F
47	191 F
48	182 F

=====

1893 F

=====

1596 F

=====

83 F

=====

313 F

=====

241 F

GROUP 5
BARE#8 #1

49	208 F
50	203 F
51	209 F
52	210 F
53	301 F
54	312 F
55	318 F
56	311 F
57	227 F
58	206 F
59	236 F
60	210 F
61	206 F
62	213 F
63	210 F
64	210 F
65	204 F
66	199 F
67	212 F
68	213 F
69	201 F
70	200 F
71	189 F
72	185 F
73	158 F
74	174 F

=====

220 F

GROUP 6
CNDT#2 SUR

75	235 F
76	210 F
77	383 F
78	251 F
79	290 F
80	589 F
81	412 F
82	323 F
83	387 F
84	245 F
85	605 F
86	267 F
87	133 F

=====

333 F

GROUP 7
7c/12 #2

88	198 F
89	206 F
90	205 F
91	205 F
92	260 F
93	210 F
94	200 F
95	202 F
101	201 F
102	199 F
103	206 F
104	234 F
105	305 F
106	322 F
107	368 F
108	374 F
109	409 F
110	415 F
111	335 F
112	335 F
113	236 F
114	222 F
115	198 F
116	196 F
118	140 F

=====

255 F

GROUP 8
BARE#8 #2

97	196 F
98	108 F
99	121 F
100	88 F
119	207 F
120	202 F
121	209 F
122	214 F
123	202 F
124	210 F
125	210 F
126	199 F
127	336 F
128	356 F
129	444 F
130	415 F
131	444 F
132	424 F
133	385 F
134	379 F
135	316 F
136	312 F
137	199 F
138	205 F
139	191 F

=====

263 F

GROUP 9
DUMMY

96	130 F
117	141 F

=====

136 F

174 MINUTES

GROUP 0
FURNACE

1 1893 F
2 1900 F
3 1886 F
4 1913 F

GROUP 1
FURNACE 2

5 1918 F
6 1532 F
7 1892 F
8 1903 F
9 1870 F
10 1888 F

GROUP 2
AMBIENT

11 88 F

GROUP 3
CNDT#1 SUR

12 141 F
13 224 F
14 546 F
15 485 F
16 565 F
17 368 F
18 307 F
19 264 F
20 221 F
21 226 F
22 176 F

GROUP 4
7c/12 #1

23 206 F
24 207 F
25 210 F
26 -89 F
27 272 F
28 257 F
29 368 F
30 346 F
31 362 F
32 379 F
33 297 F
34 316 F
35 254 F
36 175 F
37 219 F
38 253 F
39 241 F
40 214 F
41 213 F
42 211 F
43 204 F
44 214 F
45 208 F
46 192 F
47 191 F
48 183 F

1898 F

1834 F

88 F

320 F

248 F

GROUP 5
BARE#B #1

49 207 F
50 203 F
51 209 F
52 210 F
53 334 F
54 340 F
55 346 F
56 338 F
57 258 F
58 219 F
59 243 F
60 213 F
61 214 F
62 218 F
63 211 F
64 211 F
65 205 F
66 200 F
67 214 F
68 214 F
69 202 F
70 200 F
71 189 F
72 186 F
73 160 F
74 173 F

GROUP 6
CNDT#2 SUR

75 239 F
76 210 F
77 388 F
78 256 F
79 296 F
80 606 F
81 391 F
82 326 F
83 386 F
84 243 F
85 557 F
86 267 F
87 127 F

GROUP 7
7c/12 #2

88 198 F
89 206 F
90 205 F
91 206 F
92 274 F
93 254 F
94 201 F
95 202 F
101 202 F
102 201 F
103 210 F
104 240 F
105 321 F
106 335 F
107 379 F
108 388 F
109 423 F
110 426 F
111 342 F
112 344 F
113 244 F
114 229 F
115 198 F
116 195 F
118 144 F

GROUP 8
BARE#B #2

97 196 F
98 108 F
99 122 F
100 90 F
119 207 F
120 201 F
121 212 F
122 215 F
123 205 F
124 214 F
125 213 F
126 198 F
127 351 F
128 372 F
129 462 F
130 432 F
131 457 F
132 438 F
133 394 F
134 386 F
135 325 F
136 321 F
137 202 F
138 206 F
139 190 F

GROUP 9
DUMMY

96 156 F
117 144 F

228 F

330 F

263 F

269 F

150 F

176 MINUTES

GROUP 0
FURNACE

1	1897 F
2	1902 F
3	1888 F
4	1915 F

GROUP 1
FURNACE 2

5	1921 F
6	1810 F
7	1894 F
8	1903 F
9	1874 F
10	1891 F

GROUP 2
AMBIENT

11 87 F

GROUP 3
CNDT#1 SUR

12	144 F
13	225 F
14	556 F
15	493 F
16	576 F
17	365 F
18	311 F
19	267 F
20	221 F
21	225 F
22	176 F

GROUP 4
7c/12 #1

23	207 F
24	207 F
25	210 F
26	-94 F
27	286 F
28	277 F
29	377 F
30	357 F
31	369 F
32	388 F
33	303 F
34	323 F
35	259 F
36	179 F
37	225 F
38	257 F
39	243 F
40	215 F
41	214 F
42	212 F
43	205 F
44	214 F
45	208 F
46	193 F
47	190 F
48	183 F

=====
1901 F

=====
1816 F

=====
87 F

=====
324 F

=====
252 F

GROUP 5
BARE#B #1

49	207 F
50	203 F
51	210 F
52	211 F
53	349 F
54	353 F
55	360 F
56	352 F
57	278 F
58	240 F
59	257 F
60	214 F
61	227 F
62	222 F
63	215 F
64	211 F
65	205 F
66	201 F
67	215 F
68	215 F
69	202 F
70	200 F
71	190 F
72	189 F
73	161 F
74	171 F

=====
233 F

GROUP 6
CNDT#2 SUR

75	243 F
76	210 F
77	390 F
78	259 F
79	300 F
80	616 F
81	399 F
82	328 F
83	386 F
84	246 F
85	544 F
86	268 F
87	128 F

=====
332 F

GROUP 7
7c/12 #2

88	199 F
89	207 F
90	205 F
91	204 F
92	280 F
93	278 F
94	201 F
95	202 F
101	202 F
102	201 F
103	213 F
104	243 F
105	330 F
106	343 F
107	387 F
108	399 F
109	432 F
110	436 F
111	347 F
112	349 F
113	247 F
114	234 F
115	196 F
116	194 F
118	146 F

=====
267 F

GROUP 8
BARE#B #2

97	195 F
98	109 F
99	121 F
100	91 F
119	207 F
120	202 F
121	213 F
122	215 F
123	206 F
124	215 F
125	215 F
126	199 F
127	362 F
128	383 F
129	472 F
130	442 F
131	465 F
132	447 F
133	400 F
134	392 F
135	330 F
136	326 F
137	204 F
138	207 F
139	190 F

=====
272 F

GROUP 9
DUMMY

96	126 F
117	146 F

=====
136 F

178 MINUTES

GROUP 0
FURNACE

1 1901 F
2 1907 F
3 1893 F
4 1920 F

GROUP 1
FURNACE 2

5 1925 F
6 1755 F
7 1899 F
8 1910 F
9 1877 F
10 1895 F

GROUP 2
AMBIENT

11 87 F

GROUP 3
CNDT#1 SUR

12 149 F
13 227 F
14 555 F
15 510 F
16 606 F
17 365 F
18 316 F
19 271 F
20 220 F
21 224 F
22 174 F

GROUP 4
7c/12 #1

23 206 F
24 206 F
25 210 F
26 -103 F
27 306 F
28 312 F
29 391 F
30 375 F
31 382 F
32 402 F
33 315 F
34 335 F
35 269 F
36 176 F
37 238 F
38 263 F
39 247 F
40 215 F
41 214 F
42 213 F
43 205 F
44 213 F
45 210 F
46 195 F
47 190 F
48 184 F

=====
1905 F

=====
1877 F

=====
87 F

=====
329 F

=====
259 F

GROUP 5
BARE#8 #1

49 206 F
50 202 F
51 211 F
52 213 F
53 369 F
54 371 F
55 379 F
56 372 F
57 309 F
58 282 F
59 272 F
60 218 F
61 241 F
62 233 F
63 212 F
64 213 F
65 206 F
66 205 F
67 216 F
68 217 F
69 204 F
70 200 F
71 194 F
72 190 F
73 162 F
74 167 F

=====
241 F

GROUP 6
CNDT#2 SUR

75 243 F
76 210 F
77 388 F
78 265 F
79 307 F
80 635 F
81 425 F
82 332 F
83 389 F
84 240 F
85 547 F
86 269 F
87 132 F

=====
337 F

GROUP 7
7c/12 #2

88 199 F
89 207 F
90 206 F
91 206 F
92 285 F
93 289 F
94 202 F
95 203 F
101 203 F
102 202 F
103 218 F
104 252 F
105 345 F
106 358 F
107 400 F
108 417 F
109 448 F
110 451 F
111 355 F
112 358 F
113 253 F
114 243 F
115 200 F
116 194 F
118 148 F

=====
274 F

GROUP 8
BARE#8 #2

97 194 F
98 109 F
99 122 F
100 93 F
119 208 F
120 202 F
121 214 F
122 215 F
123 208 F
124 213 F
125 218 F
126 201 F
127 381 F
128 403 F
129 490 F
130 459 F
131 481 F
132 463 F
133 408 F
134 401 F
135 336 F
136 332 F
137 210 F
138 210 F
139 190 F

=====
278 F

GROUP 9
DUMMY

96 163 F
117 149 F

=====
156 F

180 MINUTES

GROUP 0
FURNACE

1 1906°F
2 1911°F
3 1896°F
4 1923°F

GROUP 1
FURNACE 2

5 1930°F
6 1907°F
7 1902°F
8 1913°F
9 1882°F
10 1900°F

GROUP 2
AMBIENT

11 89°F

GROUP 3
CNDT#1 SUR

12 147°F
13 226°F
14 566°F
15 528°F
16 636°F
17 370°F
18 323°F
19 275°F
20 220°F
21 223°F
22 173°F

GROUP 4
7c/12 #1

23 208°F
24 205°F
25 210°F
26 -111°F
27 325°F
28 339°F
29 404°F
30 351°F
31 397°F
32 413°F
33 371°F
34 347°F
35 279°F
36 184°F
37 246°F
38 270°F
39 252°F
40 216°F
41 214°F
42 213°F
43 205°F
44 213°F
45 209°F
46 194°F
47 191°F
48 185°F

=====
1909°F

=====
1905°F

=====
89°F

=====
335°F

=====
266°F

GROUP 5
BARE#8 #1

49 205°F
50 201°F
51 211°F
52 221°F
53 386°F
54 388°F
55 396°F
56 389°F
57 336°F
58 315°F
59 290°F
60 250°F
61 254°F
62 244°F
63 214°F
64 215°F
65 207°F
66 207°F
67 218°F
68 217°F
69 205°F
70 200°F
71 195°F
72 193°F
73 163°F
74 167°F

=====
250°F

GROUP 6
CNDT#2 SUR

75 245°F
76 210°F
77 400°F
78 268°F
79 312°F
80 642°F
81 441°F
82 336°F
83 395°F
84 239°F
85 524°F
86 269°F
87 146°F

=====
341°F

GROUP 7
7c/12 #2

88 200°F
89 208°F
90 206°F
91 207°F
92 292°F
93 297°F
94 201°F
95 202°F
101 202°F
102 200°F
103 232°F
104 266°F
105 361°F
106 372°F
107 416°F
108 434°F
109 466°F
110 467°F
111 363°F
112 367°F
113 261°F
114 252°F
115 201°F
116 194°F
118 148°F

=====
281°F

GROUP 8
BARE#8 #2

97 194°F
98 110°F
99 123°F
100 92°F
119 208°F
120 202°F
121 216°F
122 213°F
123 208°F
124 215°F
125 221°F
126 200°F
127 403°F
128 424°F
129 509°F
130 478°F
131 498°F
132 480°F
133 418°F
134 411°F
135 342°F
136 337°F
137 221°F
138 222°F
139 191°F

=====
285°F

GROUP 9
DUMMY

96 181°F
117 151°F

=====
166°F

182 MINUTES

GROUP 0
FURNACE

1 1909 F
2 1916 F
3 1901 F
4 1926 F

GROUP 1
FURNACE 2

5 1924 F
6 1992 F
7 1907 F
8 1915 F
9 1885 F
10 1905 F

GROUP 2
AMBIENT

11 88 F

GROUP 3
CNDT#1 SUR

12 148 F
13 239 F
14 590 F
15 551 F
16 663 F
17 377 F
18 330 F
19 280 F
20 221 F
21 224 F
22 174 F

GROUP 4
7c/12 #1

23 207 F
24 205 F
25 210 F
26 -122 F
27 339 F
28 360 F
29 418 F
30 406 F
31 411 F
32 405 F
33 346 F
34 358 F
35 269 F
36 181 F
37 154 F
38 277 F
39 256 F
40 217 F
41 214 F
42 213 F
43 204 F
44 212 F
45 210 F
46 196 F
47 191 F
48 188 F

=====
1913 F

=====
1923 F

=====
88 F

=====
345 F

=====
271 F

GROUP 5
BARE#8 #1

49 205 F
50 201 F
51 211 F
52 235 F
53 405 F
54 407 F
55 411 F
56 405 F
57 359 F
58 339 F
59 309 F
60 281 F
61 266 F
62 255 F
63 216 F
64 217 F
65 208 F
66 209 F
67 217 F
68 218 F
69 204 F
70 200 F
71 196 F
72 193 F
73 164 F
74 165 F

GROUP 6
CNDT#2 SUR

75 246 F
76 209 F
77 409 F
78 273 F
79 318 F
80 653 F
81 439 F
82 340 F
83 401 F
84 242 F
85 500 F
86 272 F
87 142 F

GROUP 7
7c/12 #2

88 200 F
89 207 F
90 206 F
91 207 F
92 301 F
93 306 F
94 200 F
95 200 F
101 205 F
102 198 F
103 255 F
104 282 F
105 376 F
106 385 F
107 433 F
108 455 F
109 480 F
110 482 F
111 371 F
112 374 F
113 267 F
114 259 F
115 201 F
116 196 F
118 150 F

GROUP 8
BARE#8 #2

97 194 F
98 112 F
99 125 F
100 94 F
119 208 F
120 203 F
121 219 F
122 213 F
123 208 F
124 218 F
125 236 F
126 199 F
127 425 F
128 446 F
129 528 F
130 496 F
131 513 F
132 496 F
133 429 F
134 419 F
135 351 F
136 348 F
137 231 F
138 232 F
139 192 F

GROUP 9
DUMMY

96 172 F
117 154 F

=====
258 F

=====
342 F

=====
288 F

=====
293 F

=====
163 F

2 MINUTES

GROUP 0
 BAD TC'S
 26 74°F
 28 74°F
 31 76°F
 36 75°F

=====
 75°F

GROUP 1
 CNDT-1 TSI
 25 71°F
 27 71°F
 29 70°F
 30 72°F
 32 72°F
 33 73°F
 34 73°F

=====
 72°F

GROUP 2
 INTERFACE 1
 35 73°F

=====
 73°F

GROUP 3
 CNDT-1 3M
 37 73°F
 38 73°F
 39 73°F
 40 71°F
 41 72°F
 42 72°F
 43 72°F
 44 72°F
 45 73°F
 46 73°F

=====
 72°F

GROUP 4
 CDT2 TSI S
 90 72°F
 91 72°F
 92 71°F
 93 71°F

=====
 72°F

GROUP 5
 INTRFCE 2S
 94 71°F
 95 71°F

=====
 71°F

GROUP 6
 CNDT2 3M S
 101 70°F
 102 70°F
 103 70°F
 104 70°F

=====
 70°F

GROUP 7
 INTRFCE 2C
 105 70°F
 106 70°F

=====
 70°F

GROUP 8
 CDT2 TSI N
 107 70°F
 108 70°F
 109 70°F
 110 73°F

=====
 71°F

GROUP 9
 INTRFCE 2N
 111 73°F
 112 73°F

=====
 73°F

GROUP 10
 CNDT2 3M N
 113 74°F
 114 74°F
 115 74°F
 116 74°F

=====
 74°F

4 MINUTES

GROUP 0
 BAD TC'S
 26 74°F
 28 75°F
 31 76°F
 36 75°F

=====
 75°F

GROUP 1
 CNDT-1 TSI
 25 71°F
 27 71°F
 29 70°F
 30 72°F
 32 72°F
 33 72°F
 34 72°F

=====
 71°F

GROUP 2
 INTERFACE 1
 35 73°F

=====
 73°F

GROUP 3
 CNDT-1 3M
 37 73°F
 38 73°F
 39 73°F
 40 72°F
 41 72°F
 42 72°F
 43 73°F
 44 72°F
 45 73°F
 46 73°F

=====
 73°F

GROUP 4
 CDT2 TSI S
 90 72°F
 91 72°F
 92 71°F
 93 71°F

=====
 72°F

GROUP 5
 INTRFCE 2S
 94 71°F
 95 71°F

=====
 71°F

GROUP 6
 CNDT2 3M S
 101 70°F
 102 70°F
 103 70°F
 104 70°F

=====
 70°F

GROUP 7
 INTRFCE 2C
 105 70°F
 106 70°F

=====
 70°F

GROUP 8
 CDT2 TSI N
 107 70°F
 108 70°F
 109 71°F
 110 73°F

=====
 71°F

GROUP 9
 INTRFCE 2N
 111 73°F
 112 73°F

=====
 73°F

GROUP 10
 CNDT2 3M N
 113 74°F
 114 74°F
 115 74°F
 116 74°F

=====
 74°F

448

6 MINUTES

GROUP 0
BAD TC'S
26 75°F
29 75°F
31 77°F
36 75°F

GROUP 1
CNDT-1 TSI
25 71°F
27 71°F
29 70°F
30 72°F
32 72°F
33 73°F
34 73°F

GROUP 2
INTERFCE 1
35 73°F

GROUP 3
CNDT-1 3M
37 73°F
38 73°F
39 73°F
40 72°F
41 72°F
42 72°F
43 73°F
44 73°F
45 73°F
46 73°F

GROUP 4
CDT2 TSI S
90 72°F
91 72°F
92 71°F
93 71°F

=====
76°F

=====
72°F

=====
73°F

=====
73°F

=====
72°F

GROUP 5
INTRFCE 2S
94 71°F
95 71°F

GROUP 6
CNDT2 3M S
101 70°F
102 70°F
103 70°F
104 70°F

GROUP 7
INTRFCE 2C
105 70°F
106 70°F

GROUP 8
CDT2 TSI N
107 71°F
108 70°F
109 71°F
110 73°F

GROUP 9
INTRFCE 2N
111 73°F
112 73°F

=====
71°F

=====
70°F

=====
70°F

=====
71°F

=====
73°F

GROUP 10
CNDT2 3M N
113 74°F
114 72°F
115 74°F
116 74°F

=====
74°F

8 MINUTES

GROUP 0
BAD TC'S
26 75°F
28 75°F
31 77°F
36 76°F

GROUP 1
CNDT-1 TSI
25 72°F
27 71°F
29 71°F
30 72°F
32 72°F
33 73°F
34 73°F

GROUP 2
INTERFCE 1
35 73°F

GROUP 3
CNDT-1 3M
37 73°F
38 73°F
39 73°F
40 72°F
41 72°F
42 72°F
43 73°F
44 73°F
45 73°F
46 73°F

GROUP 4
CDT2 TSI S
90 72°F
91 72°F
92 71°F
93 71°F

=====
76°F

=====
72°F

=====
73°F

=====
73°F

=====
72°F

GROUP 5
INTRFCE 2S
94 71°F
95 71°F

GROUP 6
CNDT2 3M S
101 70°F
102 70°F
103 70°F
104 70°F

GROUP 7
INTRFCE 2C
105 70°F
106 70°F

GROUP 8
CDT2 TSI N
107 70°F
108 70°F
109 71°F
110 73°F

GROUP 9
INTRFCE 2N
111 74°F
112 74°F

=====
71°F

=====
70°F

=====
70°F

=====
71°F

=====
74°F

GROUP 10
CNDT2 3M N
113 74°F
114 74°F
115 75°F
116 75°F

=====
75°F

GROUP							
BAD TC'S		CNDT-1 TSI		INTERFCE 1		CNDT-1 3M	CDT2 TSI S
26	75°F	25	72°F	35	73°F	37	73°F
28	75°F	27	71°F			38	73°F
31	77°F	29	71°F			39	73°F
36	76°F	30	72°F			40	72°F
		32	72°F			41	72°F
		33	73°F			42	72°F
		34	73°F			43	73°F
						44	73°F
						45	73°F
						46	73°F

=====		=====		=====		=====	
76°F		72°F		73°F		73°F	72°F

GROUP 5		GROUP 6		GROUP 7		GROUP 8		GROUP 9
INTRFCE 2S		CNDT2 3M S		INTRFCE 2C		CDT2 TSI N		INTRFCE 2N
94	70°F	101	70°F	105	70°F	107	70°F	111
95	70°F	102	70°F	106	70°F	108	70°F	112
		103	70°F			109	70°F	
		104	70°F			110	73°F	

=====		=====		=====		=====		=====
70°F		70°F		70°F		71°F		73°F

GROUP 10
 CNDT2 3M N
 113 74°F
 114 74°F
 115 75°F
 116 75°F
 =====
 75°F

12 MINUTES

GROUP 0		GROUP 1		GROUP 2		GROUP 3		GROUP 4
BAD TC'S		CNDT-1 TSI		INTERFCE 1		CNDT-1 3M		CDT2 TSI S
26	75°F	25	71°F	35	72°F	37	72°F	90
28	75°F	27	71°F			38	72°F	91
31	77°F	29	70°F			39	72°F	92
36	75°F	30	72°F			40	71°F	93
		32	72°F			41	72°F	
		33	72°F			42	72°F	
		34	72°F			43	72°F	
						44	72°F	
						45	73°F	
						46	73°F	

=====		=====		=====		=====		=====
76°F		71°F		72°F		72°F		72°F

GROUP 5		GROUP 6		GROUP 7		GROUP 8		GROUP 9
INTRFCE 2S		CNDT2 3M S		INTRFCE 2C		CDT2 TSI N		INTRFCE 2N
94	70°F	101	70°F	105	70°F	107	70°F	111
95	70°F	102	70°F	106	70°F	108	70°F	112
		103	70°F			109	70°F	
		104	70°F			110	73°F	

=====		=====		=====		=====		=====
70°F		70°F		70°F		71°F		73°F

GROUP 10
 CNDT2 3M N
 113 74°F
 114 74°F
 115 74°F
 116 74°F
 =====
 74°F

14 MINUTES

GROUP 0 BAD TC'S	GROUP 1 CNDT-1 TSI	GROUP 2 INTERFCE 1	GROUP 3 CNDT-1 3M	GROUP 4 CNDT2 TSI S
26 76°F	25 71°F	35 72°F	37 73°F	90 73°F
28 75°F	27 71°F		38 72°F	91 72°F
31 77°F	29 71°F		39 73°F	92 71°F
36 76°F	30 72°F		40 71°F	93 71°F
	32 73°F		41 72°F	
	33 72°F		42 72°F	
	34 72°F		43 72°F	
			44 72°F	
			45 73°F	
			46 73°F	

=====	=====	=====	=====	=====
76°F	72°F	72°F	72°F	72°F

GROUP 5 INTRFCE 2S	GROUP 6 CNDT2 3M S	GROUP 7 INTRFCE 2C	GROUP 8 CNDT2 TSI N	GROUP 9 INTRFCE 2N
94 71°F	101 70°F	105 70°F	107 70°F	111 73°F
95 71°F	102 70°F	106 70°F	108 70°F	112 73°F
	103 70°F		109 71°F	
	104 70°F		110 73°F	

=====	=====	=====	=====	=====
71°F	70°F	70°F	71°F	73°F

GROUP 10
CNDT2 3M N
113 74°F
114 74°F
115 74°F
116 74°F
=====
74°F

16 MINUTES

GROUP 0 BAD TC'S	GROUP 1 CNDT-1 TSI	GROUP 2 INTERFCE 1	GROUP 3 CNDT-1 3M	GROUP 4 CNDT2 TSI S
26 76°F	25 71°F	35 72°F	37 73°F	90 73°F
28 75°F	27 71°F		38 73°F	91 72°F
31 77°F	29 71°F		39 73°F	92 72°F
36 76°F	30 73°F		40 71°F	93 72°F
	32 73°F		41 72°F	
	33 73°F		42 72°F	
	34 73°F		43 72°F	
			44 72°F	
			45 73°F	
			46 73°F	

=====	=====	=====	=====	=====
76°F	72°F	72°F	72°F	72°F

GROUP 5 INTRFCE 2S	GROUP 6 CNDT2 3M S	GROUP 7 INTRFCE 2C	GROUP 8 CNDT2 TSI N	GROUP 9 INTRFCE 2N
94 71°F	101 70°F	105 70°F	107 71°F	111 73°F
95 71°F	102 70°F	106 70°F	108 71°F	112 73°F
	103 70°F		109 71°F	
	104 70°F		110 74°F	

=====	=====	=====	=====	=====
71°F	70°F	70°F	72°F	73°F

GROUP 10
CNDT2 3M N
113 74°F
114 74°F
115 74°F
116 74°F
=====
74°F

18 MINUTES

GROUP 0	GROUP 1	GROUP 2	GROUP 3	GROUP 4
BAD TC'S	CNDT-1 TSI	INTERFACE 1	CNDT-1 3M	CDT2 TSI S
26 77°F	25 71°F	35 72°F	37 72°F	90 74°F
28 75°F	27 71°F		38 72°F	91 72°F
31 77°F	29 72°F		39 73°F	92 72°F
36 76°F	30 73°F		40 71°F	93 72°F
	32 74°F		41 72°F	
	33 73°F		42 72°F	
	34 73°F		43 73°F	
			44 72°F	
			45 73°F	
			46 73°F	

=====	=====	=====	=====	=====
76°F	72°F	72°F	72°F	73°F

GROUP 5	GROUP 6	GROUP 7	GROUP 8	GROUP 9
INTRFCE 2S	CNDT2 3M S	INTRFCE 2C	CDT2 TSI N	INTRFCE 2N
94 71°F	101 70°F	105 71°F	107 71°F	111 73°F
95 71°F	102 70°F	106 71°F	108 71°F	112 73°F
	103 70°F		109 71°F	
	104 70°F		110 74°F	

=====	=====	=====	=====	=====
71°F	70°F	71°F	72°F	73°F

GROUP 10
 CNDT2 3M N
 113 74°F
 114 74°F
 115 74°F
 116 74°F
 =====
 74°F

20 MINUTES

GROUP 0	GROUP 1	GROUP 2	GROUP 3	GROUP 4
BAD TC'S	CNDT-1 TSI	INTERFACE 1	CNDT-1 3M	CDT2 TSI S
26 77°F	25 72°F	35 72°F	37 72°F	90 75°F
28 74°F	27 72°F		38 72°F	91 72°F
31 76°F	29 73°F		39 73°F	92 73°F
36 76°F	30 74°F		40 71°F	93 73°F
	32 75°F		41 72°F	
	33 73°F		42 72°F	
	34 73°F		43 72°F	
			44 72°F	
			45 73°F	
			46 73°F	

=====	=====	=====	=====	=====
76°F	73°F	72°F	72°F	73°F

GROUP 5	GROUP 6	GROUP 7	GROUP 8	GROUP 9
INTRFCE 2S	CNDT2 3M S	INTRFCE 2C	CDT2 TSI N	INTRFCE 2N
94 71°F	101 70°F	105 71°F	107 71°F	111 74°F
95 71°F	102 70°F	106 71°F	108 71°F	112 74°F
	103 70°F		109 73°F	
	104 70°F		110 75°F	

=====	=====	=====	=====	=====
71°F	70°F	71°F	73°F	74°F

GROUP 10
 CNDT2 3M N
 113 74°F
 114 74°F
 115 75°F
 116 75°F
 =====
 75°F

22 MINUTES

GROUP 0
BAD TC'S
26 77°F
28 73°F
31 75°F
36 76°F

GROUP 1
CNDT-1 TSI
25 73°F
27 73°F
29 75°F
30 75°F
32 76°F
33 74°F
34 74°F

GROUP 2
INTERFCE 1
35 73°F

GROUP 3
CNDT-1 3M
37 72°F
38 73°F
39 73°F
40 72°F
41 72°F
42 72°F
43 73°F
44 72°F
45 73°F
46 73°F

GROUP 4
CDT2 TSI S
90 76°F
91 72°F
92 74°F
93 75°F

=====
75°F

=====
74°F

=====
73°F

=====
73°F

=====
74°F

GROUP 5
INTRFCE 2S
94 71°F
95 71°F

GROUP 6
CNDT2 3M S
101 70°F
102 70°F
103 70°F
104 70°F

GROUP 7
INTRFCE 2C
105 73°F
106 73°F

GROUP 8
CDT2 TSI N
107 72°F
108 72°F
109 74°F
110 76°F

GROUP 9
INTRFCE 2N
111 74°F
112 74°F

=====
71°F

=====
70°F

=====
73°F

=====
74°F

=====
74°F

GROUP 10
CNDT2 3M N
113 74°F
114 74°F
115 76°F
116 76°F

=====
75°F

24 MINUTES

GROUP 0
BAD TC'S
26 77°F
28 71°F
31 74°F
36 77°F

GROUP 1
CNDT-1 TSI
25 74°F
27 75°F
29 78°F
30 77°F
32 78°F
33 74°F
34 75°F

GROUP 2
INTERFCE 1
35 73°F

GROUP 3
CNDT-1 3M
37 73°F
38 73°F
39 73°F
40 72°F
41 72°F
42 72°F
43 73°F
44 72°F
45 73°F
46 73°F

GROUP 4
CDT2 TSI S
90 78°F
91 73°F
92 76°F
93 76°F

=====
75°F

=====
76°F

=====
73°F

=====
73°F

=====
76°F

GROUP 5
INTRFCE 2S
94 72°F
95 72°F

GROUP 6
CNDT2 3M S
101 70°F
102 70°F
103 71°F
104 71°F

GROUP 7
INTRFCE 2C
105 75°F
106 75°F

GROUP 8
CDT2 TSI N
107 74°F
108 74°F
109 76°F
110 78°F

GROUP 9
INTRFCE 2N
111 76°F
112 76°F

=====
72°F

=====
71°F

=====
75°F

=====
76°F

=====
76°F

GROUP 10
CNDT2 3M N
113 74°F
114 74°F
115 79°F
116 79°F

=====
77°F

26 MINUTES

GROUP 0
BAD TC'S
26 77°F
28 69°F
31 72°F
36 77°F

GROUP 1
CNDT-1 TSI
25 75°F
27 77°F
29 81°F
30 78°F
32 80°F
33 75°F
34 76°F

GROUP 2
INTERFCE 1
35 73°F

GROUP 3
CNDT-1 3M
37 73°F
38 73°F
39 73°F
40 72°F
41 72°F
42 72°F
43 73°F
44 73°F
45 74°F
46 73°F

GROUP 4
CDT2 TSI S
90 79°F
91 74°F
92 77°F
93 77°F

=====
74°F 77°F 73°F 73°F 77°F

GROUP 5
INTRFCE 2S
94 73°F
95 73°F
=====
73°F

GROUP 6
CNDT2 3M S
101 70°F
102 70°F
103 71°F
104 71°F
=====
71°F

GROUP 7
INTRFCE 2C
105 78°F
106 78°F
=====
78°F

GROUP 8
CDT2 TSI N
107 75°F
108 75°F
109 78°F
110 80°F
=====
77°F

GROUP 9
INTRFCE 2N
111 77°F
112 77°F
=====
77°F

GROUP 10
CNDT2 3M N
113 74°F
114 74°F
115 81°F
116 81°F
=====
78°F

28 MINUTES

GROUP 0
BAD TC'S
26 77°F
28 65°F
31 70°F
36 77°F

GROUP 1
CNDT-1 TSI
25 78°F
27 81°F
29 86°F
30 81°F
32 83°F
33 76°F
34 78°F

GROUP 2
INTERFCE 1
35 74°F

GROUP 3
CNDT-1 3M
37 73°F
38 73°F
39 73°F
40 72°F
41 72°F
42 72°F
43 73°F
44 73°F
45 74°F
46 74°F

GROUP 4
CDT2 TSI S
90 80°F
91 74°F
92 79°F
93 79°F

=====
72°F 80°F 74°F 73°F 78°F

GROUP 5
INTRFCE 2S
94 75°F
95 75°F
=====
75°F

GROUP 6
CNDT2 3M S
101 71°F
102 71°F
103 72°F
104 73°F
=====
72°F

GROUP 7
INTRFCE 2C
105 83°F
106 83°F
=====
83°F

GROUP 8
CDT2 TSI N
107 79°F
108 79°F
109 83°F
110 84°F
=====
81°F

GROUP 9
INTRFCE 2N
111 79°F
112 79°F
=====
79°F

GROUP 10
CNDT2 3M N
113 76°F
114 76°F
115 85°F
116 85°F
=====
81°F

30 MINUTES

GROUP 0 BAD TC'S	GROUP 1 CNDT-1 TSI	GROUP 2 INTERFACE 1	GROUP 3 CNDT-1 3M	GROUP 4 CNDT2 TSI S
26 77°F	25 81°F	35 75°F	37 73°F	90 82°F
28 59°F	27 85°F		38 74°F	91 75°F
31 57°F	29 91°F		39 73°F	92 81°F
36 77°F	30 85°F		40 72°F	93 81°F
	31 86°F		41 72°F	
	32 78°F		42 72°F	
	33 78°F		43 73°F	
	34 79°F		44 73°F	
			45 75°F	
			46 74°F	

=====	=====	=====	=====	=====
70°F	84°F	75°F	73°F	80°F

GROUP 5 INTRFCE 2S	GROUP 6 CNDT2 3M S	GROUP 7 INTRFCE 2C	GROUP 8 CNDT2 TSI N	GROUP 9 INTRFCE 2N
94 75°F	101 72°F	105 90°F	107 83°F	111 81°F
95 77°F	102 72°F	106 90°F	108 84°F	112 81°F
	103 74°F		109 89°F	
	104 74°F		110 89°F	

=====	=====	=====	=====	=====
77°F	73°F	90°F	86°F	81°F

GROUP 10
CNDT2 3M N
113 77°F
114 77°F
115 88°F
116 89°F
=====

83°F

32 MINUTES

GROUP 0 BAD TC'S	GROUP 1 CNDT-1 TSI	GROUP 2 INTERFACE 1	GROUP 3 CNDT-1 3M	GROUP 4 CNDT2 TSI S
26 76°F	25 85°F	35 76°F	37 74°F	90 84°F
28 54°F	27 90°F		38 75°F	91 76°F
31 64°F	29 97°F		39 74°F	92 84°F
36 77°F	30 91°F		40 72°F	93 84°F
	32 90°F		41 72°F	
	33 80°F		42 72°F	
	34 82°F		43 73°F	
			44 73°F	
			45 76°F	
			46 75°F	

=====	=====	=====	=====	=====
68°F	88°F	76°F	74°F	82°F

GROUP 5 INTRFCE 2S	GROUP 6 CNDT2 3M S	GROUP 7 INTRFCE 2C	GROUP 8 CNDT2 TSI N	GROUP 9 INTRFCE 2N
94 79°F	101 73°F	105 97°F	107 89°F	111 84°F
95 79°F	102 73°F	106 97°F	108 90°F	112 84°F
	103 76°F		109 97°F	
	104 77°F		110 95°F	

=====	=====	=====	=====	=====
79°F	75°F	97°F	93°F	84°F

GROUP 10
CNDT2 3M N
113 80°F
114 79°F
115 92°F
116 93°F
=====

86°F

GROUP 0	GROUP 1	GROUP 2	GROUP 3	GROUP 4
BAD TC'S	CNDT-1 TSI	INTERFCE 1	CNDT-1 3M	CDT2 TSI S
26 75°F	25 90°F	35 77°F	37 75°F	90 86°F
28 47°F	27 96°F		38 75°F	91 77°F
31 60°F	29 105°F		39 74°F	92 86°F
36 77°F	30 95°F		40 72°F	93 86°F
	32 84°F		41 72°F	
	33 82°F		42 72°F	
	34 84°F		43 74°F	
			44 74°F	
			45 78°F	
			46 75°F	

=====	=====	=====	=====	=====
65°F	82°F	77°F	74°F	84°F

GROUP 5	GROUP 6	GROUP 7	GROUP 8	GROUP 9
INTRFCE 2S	CNDT2 3M S	INTRFCE 2C	CDT2 TSI N	INTRFCE 2N
94 83°F	101 75°F	105 107°F	107 92°F	111 88°F
95 82°F	102 75°F	106 107°F	108 98°F	112 83°F
	103 79°F		109 107°F	
	104 80°F		110 104°F	

=====	=====	=====	=====	=====
83°F	77°F	107°F	101°F	88°F

GROUP 10
CNDT2 3M N
113 83°F
114 82°F
115 97°F
116 98°F
=====
90°F

36 MINUTES				
GROUP 0	GROUP 1	GROUP 2	GROUP 3	GROUP 4
BAD TC'S	CNDT-1 TSI	INTERFCE 1	CNDT-1 3M	CDT2 TSI S
26 74°F	25 92°F	35 78°F	37 75°F	90 88°F
28 42°F	27 100°F		38 76°F	91 78°F
31 57°F	29 109°F		39 75°F	92 88°F
36 78°F	30 100°F		40 73°F	93 88°F
	32 97°F		41 73°F	
	33 84°F		42 73°F	
	34 86°F		43 74°F	
			44 74°F	
			45 79°F	
			46 77°F	

=====	=====	=====	=====	=====
63°F	95°F	78°F	75°F	86°F

GROUP 5	GROUP 6	GROUP 7	GROUP 8	GROUP 9
INTRFCE 2S	CNDT2 3M S	INTRFCE 2C	CDT2 TSI N	INTRFCE 2N
94 86°F	101 77°F	105 114°F	107 100°F	111 90°F
95 85°F	102 77°F	106 113°F	108 103°F	112 91°F
	103 82°F		109 113°F	
	104 83°F		110 109°F	

=====	=====	=====	=====	=====
86°F	80°F	114°F	106°F	91°F

GROUP 10
CNDT2 3M N
113 85°F
114 84°F
115 100°F
116 101°F
=====
93°F

78 MINUTES

GROUP 0	GROUP 1	GROUP 2	GROUP 3	GROUP 4
BAD TC'S	CNDT-1 TSI	INTERFCE 1	CNDT-1 3M	CDT2 TSI S
26 73°F	25 98°F	35 80°F	37 76°F	90 90°F
28 35°F	27 107°F		38 77°F	91 79°F
31 53°F	29 118°F		39 76°F	92 91°F
36 78°F	30 107°F		40 74°F	93 91°F
	32 102°F		41 73°F	
	33 87°F		42 74°F	
	34 89°F		43 75°F	
			44 75°F	
			45 82°F	
			46 79°F	

=====	=====	=====	=====	=====
60°F	101°F	80°F	76°F	86°F

GROUP 5	GROUP 6	GROUP 7	GROUP 8	GROUP 9
INTRFCE 2S	CNDT2 3M S	INTRFCE 2C	CDT2 TSI N	INTRFCE 2N
94 89°F	101 81°F	105 123°F	107 109°F	111 96°F
95 89°F	102 82°F	106 124°F	108 112°F	112 97°F
	103 89°F		109 122°F	
	104 90°F		110 119°F	
=====	=====	=====	=====	=====
89°F	86°F	124°F	116°F	97°F

GROUP 10
CNDT2 3M N
113 90°F
114 89°F
115 104°F
116 106°F
=====

97°F

40 MINUTES

GROUP 0	GROUP 1	GROUP 2	GROUP 3	GROUP 4
BAD TC'S	CNDT-1 TSI	INTERFCE 1	CNDT-1 3M	CDT2 TSI S
26 72°F	25 103°F	35 83°F	37 78°F	90 93°F
28 27°F	27 114°F		38 79°F	91 81°F
31 49°F	29 127°F		39 77°F	92 95°F
36 78°F	30 114°F		40 75°F	93 95°F
	32 107°F		41 74°F	
	33 91°F		42 75°F	
	34 93°F		43 77°F	
			44 77°F	
			45 85°F	
			46 81°F	

=====	=====	=====	=====	=====
57°F	107°F	83°F	78°F	91°F

GROUP 5	GROUP 6	GROUP 7	GROUP 8	GROUP 9
INTRFCE 2S	CNDT2 3M S	INTRFCE 2C	CDT2 TSI N	INTRFCE 2N
94 94°F	101 86°F	105 132°F	107 117°F	111 102°F
95 95°F	102 88°F	106 132°F	108 121°F	112 103°F
	103 97°F		109 130°F	
	104 99°F		110 127°F	
=====	=====	=====	=====	=====
95°F	93°F	132°F	124°F	103°F

GROUP 10
CNDT2 3M N
113 95°F
114 95°F
115 109°F
116 110°F
=====

102°F

42 MINUTES

GROUP 0
BAD TC'S
26 69°F
28 19°F
31 44°F
33 79°F

GROUP 1
CNDT-1 TSI
25 109°F
27 122°F
29 136°F
30 122°F
32 112°F
33 94°F
34 87°F

GROUP 2
INTERFACE 1
35 85°F

GROUP 3
CNDT-1 3M
37 79°F
38 81°F
39 78°F
40 76°F
41 75°F
42 76°F
43 78°F
44 79°F
45 83°F
46 85°F

GROUP 4
CDT2 TSI S
90 97°F
91 87°F
92 99°F
93 99°F

=====
57°F

=====
113°F

=====
85°F

=====
80°F

=====
95°F

GROUP 5
INTRFCE 2S
94 99°F
95 100°F

GROUP 6
CNDT2 3M S
101 94°F
102 97°F
103 107°F
104 109°F

GROUP 7
INTRFCE 2C
105 139°F
106 140°F

GROUP 8
CDT2 TSI N
107 126°F
108 129°F
109 138°F
110 135°F

GROUP 9
INTRFCE 2N
111 109°F
112 110°F

=====
100°F

=====
102°F

=====
140°F

=====
132°F

=====
110°F

GROUP 10
CNDT2 3M N

113 103°F
114 103°F
115 113°F
116 115°F
=====
109°F

44 MINUTES

GROUP 0
BAD TC'S
26 68°F
28 14°F
31 41°F
36 79°F

GROUP 1
CNDT-1 TSI
25 112°F
27 127°F
29 140°F
30 126°F
32 115°F
33 97°F
34 100°F

GROUP 2
INTERFACE 1
35 87°F

GROUP 3
CNDT-1 3M
37 81°F
38 82°F
39 80°F
40 77°F
41 75°F
42 77°F
43 80°F
44 80°F
45 92°F
46 87°F

GROUP 4
CDT2 TSI S
90 99°F
91 84°F
92 102°F
93 102°F

=====
51°F

=====
117°F

=====
87°F

=====
81°F

=====
97°F

GROUP 5
INTRFCE 2S
94 103°F
95 104°F

GROUP 6
CNDT2 3M S
101 100°F
102 103°F
103 114°F
104 116°F

GROUP 7
INTRFCE 2C
105 143°F
106 145°F

GROUP 8
CDT2 TSI N
107 131°F
108 135°F
109 142°F
110 139°F

GROUP 9
INTRFCE 2N
111 113°F
112 115°F

=====
104°F

=====
108°F

=====
144°F

=====
137°F

=====
114°F

GROUP 10
CNDT2 3M N

113 109°F
114 110°F
115 116°F
116 118°F
=====
113°F

46 MINUTES

GROUP 0
BAD TC'S
26 64°F
28 6°F
31 36°F
35 30°F

GROUP 1
CNDT-1 TSI
25 118°F
27 134°F
29 148°F
30 134°F
32 120°F
33 101°F
34 105°F

GROUP 2
INTERFACE 1
35 91°F

GROUP 3
CNDT-1 3M
37 83°F
38 85°F
39 82°F
40 78°F
41 77°F
42 78°F
43 84°F
44 85°F
45 89°F
46 91°F

GROUP 4
CDT2 TSI S
90 104°F
91 85°F
92 107°F
93 107°F

=====
47°F

=====
123°F

=====
91°F

=====
84°F

=====
101°F

GROUP 5
INTRFCE 2S
94 112°F
95 111°F

GROUP 6
CNDT2 3M S
101 112°F
102 114°F
103 126°F
104 127°F

GROUP 7
INTRFCE 2C
105 151°F
106 151°F

GROUP 8
CDT2 TSI N
107 140°F
108 143°F
109 149°F
110 146°F

GROUP 9
INTRFCE 2N
111 121°F
112 122°F

=====
112°F

=====
120°F

=====
151°F

=====
145°F

=====
122°F

GROUP 10
CNDT2 3M N
113 120°F
114 122°F
115 121°F
116 123°F
=====
122°F

48 MINUTES

GROUP 0
BAD TC'S
26 61°F
28 -1°F
31 30°F
36 81°F

GROUP 1
CNDT-1 TSI
25 123°F
27 141°F
29 155°F
30 141°F
32 126°F
33 106°F
34 109°F

GROUP 2
INTERFACE 1
35 94°F

GROUP 3
CNDT-1 3M
37 85°F
38 88°F
39 84°F
40 80°F
41 79°F
42 81°F
43 91°F
44 92°F
45 103°F
46 96°F

GROUP 4
CDT2 TSI S
90 109°F
91 89°F
92 112°F
93 113°F

=====
57°F

=====
129°F

=====
94°F

=====
88°F

=====
106°F

GROUP 5
INTRFCE 2S
94 123°F
95 119°F

GROUP 6
CNDT2 3M S
101 124°F
102 128°F
103 138°F
104 140°F

GROUP 7
INTRFCE 2C
105 158°F
106 158°F

GROUP 8
CDT2 TSI N
107 149°F
108 151°F
109 156°F
110 153°F

GROUP 9
INTRFCE 2N
111 132°F
112 132°F

=====
121°F

=====
133°F

=====
158°F

=====
152°F

=====
132°F

GROUP 10
CNDT2 3M N
113 132°F
114 131°F
115 129°F
116 130°F
=====
131°F

BAD TC'S	CNDT-1 TSI	INTERFCE 1	CNDT-1 3M	CDT2 TSI S
26 57°F	25 127°F	35 99°F	37 89°F	90 116°F
28 -7°F	27 148°F		38 92°F	91 95°F
31 24°F	29 160°F		39 86°F	92 121°F
36 82°F	30 148°F		40 83°F	93 121°F
	32 133°F		41 83°F	
	33 111°F		42 85°F	
	34 115°F		43 99°F	
			44 101°F	
			45 107°F	
			46 100°F	

=====	=====	=====	=====	=====
24 F	135 F	99 F	92 F	116 F

GROUP 5	GROUP 6	GROUP 7	GROUP 8	GROUP 9
INTRFCE 2S	CNDT2 3M S	INTRFCE 2C	CDT2 TSI N	INTRFCE 2N
94 133°F	101 135°F	105 165°F	107 159°F	111 143°F
95 129°F	102 142°F	106 165°F	108 159°F	112 147°F
	103 149°F		109 162°F	
	104 150°F		110 161°F	
=====	=====	=====	=====	=====
131 F	144 F	165 F	160 F	145 F

GROUP 10
CNDT2 3M N

113 147°F
114 146°F
115 139°F
116 139°F
=====
143°F

52 MINUTES

GROUP 0	GROUP 1	GROUP 2	GROUP 3	GROUP 4
BAD TC'S	CNDT-1 TSI	INTERFCE 1	CNDT-1 3M	CDT2 TSI S
26 54°F	25 130°F	35 101°F	37 91°F	90 118°F
28 -11°F	27 151°F		38 94°F	91 95°F
31 20°F	29 163°F		39 88°F	92 121°F
36 83°F	30 152°F		40 84°F	93 121°F
	32 136°F		41 83°F	
	33 114°F		42 85°F	
	34 118°F		43 112°F	
			44 108°F	
			45 111°F	
			46 103°F	
=====	=====	=====	=====	=====
52 F	138 F	101 F	96 F	114 F

GROUP 5	GROUP 6	GROUP 7	GROUP 8	GROUP 9
INTRFCE 2S	CNDT2 3M S	INTRFCE 2C	CDT2 TSI N	INTRFCE 2N
94 139°F	101 142°F	105 171°F	107 165°F	111 151°F
95 134°F	102 149°F	106 170°F	108 164°F	112 156°F
	103 155°F		109 166°F	
	104 155°F		110 166°F	
=====	=====	=====	=====	=====
137 F	150 F	171 F	165 F	154 F

GROUP 10
CNDT2 3M N

113 153°F
114 153°F
115 145°F
116 143°F
=====
149°F

56 MINUTES

56 MINUTES

GROUP 0

BAD TC'S

26 46°F
28 -19°F
31 8°F
33 87°F

=====
47°F

GROUP 1

CNDT-1 TSI

25 139°F
27 159°F
29 170°F
30 161°F
32 148°F
33 124°F
34 128°F

=====
147°F

GROUP 2

INTERFACE 1

35 110°F

=====
110°F

GROUP 3

CNDT-1 3M

37 99°F
38 102°F
39 94°F
40 90°F
41 92°F
42 98°F
43 128°F
44 128°F
45 122°F
46 109°F

=====
106°F

GROUP 4

CDT2 TSI S

90 128°F
91 102°F
92 106°F
93 103°F

=====
126°F

GROUP 5

INTRFCE 2S

94 150°F
95 145°F

=====
148°F

GROUP 6

CNDT2 3M S

101 156°F
102 164°F
103 168°F
104 167°F

=====
164°F

GROUP 7

INTRFCE 2C

105 180°F
106 179°F

=====
180°F

GROUP 8

CDT2 TSI N

107 177°F
108 175°F
109 175°F
110 179°F

=====
177°F

GROUP 9

INTERFACE 2N

111 168°F
112 175°F

=====
172°F

GROUP 10

CNDT2 3M N

113 166°F
114 161°F
115 158°F
116 154°F

=====
160°F

58 MINUTES

GROUP 0

BAD TC'S

26 41°F
28 -22°F
31 2°F
36 90°F

=====
44°F

GROUP 1

CNDT-1 TSI

25 143°F
27 163°F
29 173°F
30 166°F
32 154°F
33 130°F
34 133°F

=====
152°F

GROUP 2

INTERFACE 1

35 116°F

=====
116°F

GROUP 3

CNDT-1 3M

37 105°F
38 107°F
39 98°F
40 95°F
41 105°F
42 107°F
43 138°F
44 137°F
45 124°F
46 116°F

=====
113°F

GROUP 4

CDT2 TSI S

90 134°F
91 108°F
92 143°F
93 143°F

=====
132°F

GROUP 5

INTRFCE 2S

94 156°F
95 151°F

=====
154°F

GROUP 6

CNDT2 3M S

101 162°F
102 170°F
103 176°F
104 174°F

=====
171°F

GROUP 7

INTRFCE 2C

105 187°F
106 184°F

=====
186°F

GROUP 8

CDT2 TSI N

107 186°F
108 184°F
109 182°F
110 188°F

=====
185°F

GROUP 9

INTERFACE 2N

111 177°F
112 182°F

=====
180°F

GROUP 10

CNDT2 3M N

113 178°F
114 168°F
115 167°F
116 168°F

=====
170°F

62 MINUTES

GROUP 0	GROUP 1	GROUP 2	GROUP 3	GROUP 4
BAD TC'S	CNDT-1 TSI	INTERFACE 1	CNDT-1 3M	CDT2 TSI S
26 30°F	25 150°F	35 129°F	37 121°F	90 145°F
28 -28°F	27 171°F		38 122°F	91 151°F
31 -9°F	29 175°F		39 112°F	92 138°F
36 91°F	30 173°F		40 108°F	93 156°F
	32 164°F		41 136°F	
	33 142°F		42 133°F	
	34 144°F		43 151°F	
			44 154°F	
			45 135°F	
			46 135°F	
=====	=====	=====	=====	=====
60°F	160°F	129°F	131°F	145°F

GROUP 5	GROUP 6	GROUP 7	GROUP 8	GROUP 9
INTRFCE 2S	CNDT2 3M S	INTRFCE 2C	CDT2 TSI N	INTRFCE 2N
94 169°F	101 175°F	105 210°F	107 207°F	111 205°F
95 164°F	102 183°F	106 199°F	108 207°F	112 216°F
	103 198°F		109 201°F	
	104 191°F		110 212°F	
=====	=====	=====	=====	=====
167°F	187°F	205°F	207°F	211°F

GROUP 10
CNDT2 3M N
113 213°F
114 201°F
115 194°F
116 190°F
=====
200°F

64 MINUTES

GROUP 0	GROUP 1	GROUP 2	GROUP 3	GROUP 4
BAD TC'S	CNDT-1 TSI	INTERFACE 1	CNDT-1 3M	CDT2 TSI S
26 20°F	25 154°F	35 137°F	37 134°F	90 152°F
28 -31°F	27 174°F		38 131°F	91 129°F
31 -13°F	29 183°F		39 124°F	92 162°F
36 99°F	30 177°F		40 120°F	93 163°F
	32 169°F		41 152°F	
	33 149°F		42 146°F	
	34 151°F		43 161°F	
			44 167°F	
			45 148°F	
			46 146°F	
=====	=====	=====	=====	=====
60°F	165°F	137°F	143°F	152°F

GROUP 5	GROUP 6	GROUP 7	GROUP 8	GROUP 9
INTRFCE 2S	CNDT2 3M S	INTRFCE 2C	CDT2 TSI N	INTRFCE 2N
94 176°F	101 181°F	105 223°F	107 215°F	111 223°F
95 172°F	102 189°F	106 208°F	108 220°F	112 245°F
	103 211°F		109 213°F	
	104 199°F		110 230°F	
=====	=====	=====	=====	=====
174°F	195°F	216°F	220°F	234°F

GROUP 10
CNDT2 3M N
113 231°F
114 227°F
115 213°F
116 200°F
=====
218°F

66 MINUTES

GROUP 0
BAD TC'S
26 9°F
28 -33°F
31 -17°F
36 102°F

GROUP 1
CNDT-1 TSI
25 157°F
27 177°F
29 187°F
30 180°F
32 173°F
33 157°F
34 158°F

GROUP 2
INTERFACE 1
35 147°F

GROUP 3
CNDT-1 3M
37 147°F
38 141°F
39 138°F
40 136°F
41 162°F
42 156°F
43 173°F
44 184°F
45 156°F
46 151°F

GROUP 4
CDT2 TSI S
90 159°F
91 179°F
92 174°F
93 170°F

=====
56°F

=====
170°F

=====
147°F

=====
154°F

=====
161°F

GROUP 5
INTRFCE 2S
94 185°F
95 180°F

GROUP 6
CNDT2 3M S
101 188°F
102 197°F
103 223°F
104 211°F

GROUP 7
INTRFCE 2C
105 232°F
106 218°F

GROUP 8
CDT2 TSI N
107 226°F
108 235°F
109 223°F
110 246°F

GROUP 9
INTRFCE 2I
111 250°F
112 275°F

=====
183°F

=====
205°F

=====
225°F

=====
233°F

=====
254°F

GROUP 10
CNDT2 3M N
113 257°F
114 244°F
115 240°F
116 232°F
=====
243°F

68 MINUTES

GROUP 0
BAD TC'S
26 -4°F
28 -35°F
31 -21°F
36 105°F

GROUP 1
CNDT-1 TSI
25 160°F
27 180°F
29 191°F
30 184°F
32 178°F
33 164°F
34 166°F

GROUP 2
INTERFACE 1
35 158°F

GROUP 3
CNDT-1 3M
37 160°F
38 152°F
39 149°F
40 155°F
41 170°F
42 165°F
43 180°F
44 196°F
45 164°F
46 158°F

GROUP 4
CDT2 TSI S
90 162°F
91 151°F
92 182°F
93 180°F

=====
105°F

=====
175°F

=====
158°F

=====
165°F

=====
169°F

GROUP 5
INTRFCE 2S
94 195°F
95 191°F

GROUP 6
CNDT2 3M S
101 197°F
102 206°F
103 227°F
104 228°F

GROUP 7
INTRFCE 2C
105 228°F
106 231°F

GROUP 8
CDT2 TSI N
107 239°F
108 250°F
109 236°F
110 251°F

GROUP 9
INTRFCE 2N
111 271°F
112 257°F

=====
193°F

=====
215°F

=====
230°F

=====
244°F

=====
264°F

GROUP 10
CNDT2 3M N
113 287°F
114 256°F
115 272°F
116 252°F
=====
267°F

70 MINUTES

GROUP 0
 BAD TC'S
 26 -15°F
 28 -37°F
 31 -26°F
 36 108°F

GROUP 1
 CNDT-1 TSI
 25 163°F
 27 182°F
 29 195°F
 30 188°F
 32 182°F
 33 172°F
 34 173°F

GROUP 2
 INTERFCE 1
 35 168°F

GROUP 3
 CNDT-1 3M
 37 172°F
 38 161°F
 39 161°F
 40 168°F
 41 179°F
 42 173°F
 43 186°F
 44 204°F
 45 173°F
 46 166°F

GROUP 4
 CDT2 TSI S
 90 172°F
 91 162°F
 92 190°F
 93 188°F

=====
 108°F

=====
 179°F

=====
 168°F

=====
 174°F

=====
 179°F

GROUP 5
 INTRFCE 2S
 94 206°F
 95 200°F

GROUP 6
 CNDT2 3M S
 101 207°F
 102 216°F
 103 222°F
 104 241°F

GROUP 7
 INTRFCE 2C
 105 232°F
 106 239°F

GROUP 8
 CDT2 TSI N
 107 252°F
 108 252°F
 109 247°F
 110 243°F

GROUP 9
 INTRFCE 2N
 111 257°F
 112 274°F

=====
 203°F

=====
 222°F

=====
 236°F

=====
 249°F

=====
 244°F

GROUP 10
 CNDT2 3M N
 113 310°F
 114 264°F
 115 229°F
 116 224°F
 =====
 257°F

72 MINUTES
 GROUP 0
 BAD TC'S
 26 -24°F
 28 -39°F
 31 -31°F
 36 110°F

GROUP 1
 CNDT-1 TSI
 25 166°F
 27 185°F
 29 198°F
 30 191°F
 32 187°F
 33 179°F
 34 180°F

GROUP 2
 INTERFCE 1
 35 177°F

GROUP 3
 CNDT-1 3M
 37 183°F
 38 170°F
 39 170°F
 40 178°F
 41 185°F
 42 179°F
 43 194°F
 44 204°F
 45 180°F
 46 170°F

GROUP 4
 CDT2 TSI S
 90 182°F
 91 172°F
 92 205°F
 93 194°F

=====
 110°F

=====
 184°F

=====
 177°F

=====
 181°F

=====
 188°F

GROUP 5
 INTRFCE 2S
 94 217°F
 95 206°F

GROUP 6
 CNDT2 3M S
 101 220°F
 102 229°F
 103 219°F
 104 241°F

GROUP 7
 INTRFCE 2C
 105 232°F
 106 244°F

GROUP 8
 CDT2 TSI N
 107 262°F
 108 245°F
 109 255°F
 110 224°F

GROUP 9
 INTRFCE 2N
 111 225°F
 112 213°F

=====
 212°F

=====
 227°F

=====
 238°F

=====
 247°F

=====
 219°F

GROUP 10
 CNDT2 3M N
 113 320°F
 114 273°F
 115 201°F
 116 199°F
 =====
 248°F

74 MINUTES

GROUP 0 BAD TC'S	GROUP 1 CNDT-1 TSI	GROUP 2 INTERFCE 1	GROUP 3 CNDT-1 3M	GROUP 4 CDT2 TSI S
26 -33°F	25 169°F	35 185°F	37 196°F	90 193°F
28 -41°F	27 187°F		38 179°F	91 178°F
31 -37°F	29 201°F		39 181°F	92 214°F
36 111°F	30 194°F		40 188°F	93 200°F
	32 192°F		41 194°F	
	33 186°F		42 186°F	
	34 188°F		43 202°F	
			44 211°F	
			45 187°F	
			46 171°F	

=====	=====	=====	=====	=====
111°F	188°F	185°F	190°F	196°F

GROUP 5 INTRFCE 2S	GROUP 6 CNDT2 3M S	GROUP 7 INTRFCE 2C	GROUP 8 CDT2 TSI N	GROUP 9 INTRFCE 2N
94 226°F	101 233°F	105 223°F	107 260°F	111 218°F
95 211°F	102 234°F	106 240°F	108 230°F	112 204°F
	103 217°F		109 247°F	
	104 229°F		110 212°F	

=====	=====	=====	=====	=====
219°F	228°F	232°F	237°F	211°F

GROUP 10
CNDT2 3M N

113 217°F

114 268°F

115 195°F

116 188°F

=====

242°F

76 MINUTES

GROUP 0 BAD TC'S	GROUP 1 CNDT-1 TSI	GROUP 2 INTERFCE 1	GROUP 3 CNDT-1 3M	GROUP 4 CDT2 TSI S
26 -38°F	25 171°F	35 191°F	37 204°F	90 195°F
28 -42°F	27 188°F		38 186°F	91 180°F
31 -40°F	29 203°F		39 186°F	92 217°F
36 115°F	30 196°F		40 195°F	93 202°F
	32 195°F		41 198°F	
	33 190°F		42 190°F	
	34 192°F		43 204°F	
			44 217°F	
			45 190°F	
			46 172°F	

=====	=====	=====	=====	=====
115°F	191°F	191°F	194°F	199°F

GROUP 5 INTRFCE 2S	GROUP 6 CNDT2 3M S	GROUP 7 INTRFCE 2C	GROUP 8 CDT2 TSI N	GROUP 9 INTRFCE 2N
94 227°F	101 240°F	105 218°F	107 254°F	111 214°F
95 212°F	102 238°F	106 237°F	108 221°F	112 199°F
	103 216°F		109 237°F	
	104 220°F		110 203°F	

=====	=====	=====	=====	=====
220°F	229°F	228°F	229°F	207°F

GROUP 10
CNDT2 3M N

113 210°F

114 263°F

115 193°F

116 177°F

=====

236°F

78 MINUTES

78 MINUTES

GROUP 0
BAD TC'S
26 -47°F
28 -43°F
31 -45°F
36 119°F

GROUP 1
CNDT-1 TSI
25 173°F
27 191°F
29 207°F
30 199°F
32 199°F
33 197°F
34 200°F

GROUP 2
INTERFCE 1
35 200°F

GROUP 3
CNDT-1 3M
37 220°F
38 201°F
39 197°F
40 204°F
41 206°F
42 197°F
43 211°F
44 223°F
45 199°F
46 178°F

GROUP 4
CDT2 TSI S
90 196°F
91 182°F
92 218°F
93 202°F

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119°F

=====
195°F

=====
200°F

=====
204°F

=====
200°F

GROUP 5
INTRFCE 2S
94 227°F
95 213°F

GROUP 6
CNDT2 3M S
101 242°F
102 242°F
103 215°F
104 209°F

GROUP 7
INTRFCE 2C
105 214°F
106 226°F

GROUP 8
CDT2 TSI N
107 233°F
108 209°F
109 222°F
110 191°F

GROUP 9
INTRFCE 2N
111 210°F
112 195°F

=====
220°F

=====
227°F

=====
220°F

=====
214°F

=====
203°F

GROUP 10
CNDT2 3M N
113 290°F
114 249°F
115 177°F
116 164°F
=====
220°F

80 MINUTES

GROUP 0
BAD TC'S
26 -58°F
28 -46°F
31 -52°F
36 120°F

GROUP 1
CNDT-1 TSI
25 175°F
27 193°F
29 210°F
30 202°F
32 205°F
33 206°F
34 209°F

GROUP 2
INTERFCE 1
35 209°F

GROUP 3
CNDT-1 3M
37 228°F
38 204°F
39 200°F
40 211°F
41 215°F
42 203°F
43 217°F
44 231°F
45 201°F
46 184°F

GROUP 4
CDT2 TSI S
90 196°F
91 183°F
92 212°F
93 203°F

=====
120°F

=====
200°F

=====
209°F

=====
209°F

=====
199°F

GROUP 5
INTRFCE 2S
94 223°F
95 214°F

GROUP 6
CNDT2 3M S
101 237°F
102 239°F
103 215°F
104 203°F

GROUP 7
INTRFCE 2C
105 215°F
106 219°F

GROUP 8
CDT2 TSI N
107 212°F
108 200°F
109 205°F
110 187°F

GROUP 9
INTRFCE 2N
111 208°F
112 193°F

=====
219°F

=====
224°F

=====
217°F

=====
201°F

=====
201°F

GROUP 10
CNDT2 3M N
113 266°F
114 229°F
115 166°F
116 156°F
=====
204°F

82 MINUTES

GROUP 0
BAD TC'S
26 -61°F
28 -48°F
31 -57°F
36 102°F

GROUP 1
CNDT-1 TSI
25 179°F
27 196°F
29 217°F
30 208°F
32 209°F
33 212°F
34 215°F

GROUP 2
INTERFACE 1
35 211°F

GROUP 3
CNDT-1 3M
37 221°F
38 206°F
39 205°F
40 217°F
41 222°F
42 211°F
43 224°F
44 240°F
45 199°F
46 190°F

GROUP 4
CDT2 TSI S
90 195°F
91 180°F
92 204°F
93 201°F

=====
122°F

=====
204°F

=====
211°F

=====
214°F

=====
193°F

GROUP 5
INTRFCE 2S
94 219°F
95 208°F

GROUP 6
CNDT2 3M S
101 226°F
102 235°F
103 212°F
104 196°F

GROUP 7
INTRFCE 2C
105 210°F
106 211°F

GROUP 8
CDT2 TSI N
107 197°F
108 190°F
109 194°F
110 187°F

GROUP 9
INTRFCE 2N
111 202°F
112 198°F

=====
214°F

=====
217°F

=====
211°F

=====
192°F

=====
200°F

GROUP 10
CNDT2 3M N

113 239°F
114 208°F
115 161°F
116 147°F
=====
189°F

84 MINUTES

GROUP 0
BAD TC'S
26 -66°F
28 -50°F
31 -59°F
36 128°F

GROUP 1
CNDT-1 TSI
25 182°F
27 199°F
29 216°F
30 207°F
32 211°F
33 217°F
34 219°F

GROUP 2
INTERFACE 1
35 214°F

GROUP 3
CNDT-1 3M
37 217°F
38 211°F
39 216°F
40 220°F
41 227°F
42 218°F
43 226°F
44 249°F
45 201°F
46 197°F

GROUP 4
CDT2 TSI S
90 203°F
91 187°F
92 196°F
93 194°F

=====
128°F

=====
207°F

=====
214°F

=====
218°F

=====
195°F

GROUP 5
INTRFCE 2S
94 208°F
95 200°F

GROUP 6
CNDT2 3M S
101 208°F
102 220°F
103 205°F
104 190°F

GROUP 7
INTRFCE 2C
105 201°F
106 201°F

GROUP 8
CDT2 TSI N
107 183°F
108 183°F
109 184°F
110 192°F

GROUP 9
INTRFCE 2N
111 193°F
112 197°F

=====
204°F

=====
206°F

=====
201°F

=====
186°F

=====
195°F

GROUP 10
CNDT2 3M N

113 223°F
114 187°F
115 161°F
116 143°F
=====
179°F

86 MINUTES

GROUP 0
BAD TC'S
26 -66 F
28 0 F
31 -61 F
36 107 F

=====
107 F

GROUP 1
CNDT-1 TSI
25 184 F
27 200 F
29 217 F
30 209 F
32 214 F
33 220 F
34 224 F

=====
210 F

GROUP 2
INTERFCE 1
35 218 F

=====
218 F

GROUP 3
CNDT-1 3M
37 212 F
38 216 F
39 217 F
40 218 F
41 228 F
42 224 F
43 225 F
44 254 F
45 200 F
46 205 F

=====
220 F

GROUP 4
CDT2 TSI S
90 180 F
91 187 F
92 197 F
93 189 F

=====
182 F

GROUP 5
INTRFCE 2S
94 199 F
95 190 F

=====
195 F

GROUP 6
CNDT2 3M S
101 198 F
102 207 F
103 197 F
104 188 F

=====
198 F

GROUP 7
INTRFCE 2C
105 196 F
106 195 F

=====
196 F

GROUP 8
CDT2 TSI N
107 177 F
108 178 F
109 176 F
110 193 F

=====
181 F

GROUP 9
INTRFCE 2N
111 188 F
112 194 F

=====
191 F

GROUP 10
CNDT2 3M N

113 208 F
114 180 F
115 161 F
116 145 F

=====
174 F

88 MINUTES

GROUP 0
BAD TC'S
26 -63 F
28 201 F
31 -61 F
36 131 F

=====
166 F

GROUP 1
CNDT-1 TSI
25 185 F
27 201 F
29 217 F
30 211 F
32 216 F
33 221 F
34 227 F

=====
211 F

GROUP 2
INTERFCE 1
35 219 F

=====
219 F

GROUP 3
CNDT-1 3M
37 211 F
38 219 F
39 212 F
40 212 F
41 228 F
42 226 F
43 222 F
44 253 F
45 200 F
46 207 F

=====
219 F

GROUP 4
CDT2 TSI S
90 197 F
91 185 F
92 189 F
93 185 F

=====
189 F

GROUP 5
INTRFCE 2S
94 193 F
95 183 F

=====
188 F

GROUP 6
CNDT2 3M S
101 191 F
102 198 F
103 192 F
104 188 F

=====
192 F

GROUP 7
INTRFCE 2C
105 192 F
106 190 F

=====
191 F

GROUP 8
CDT2 TSI N
107 174 F
108 174 F
109 175 F
110 191 F

=====
179 F

GROUP 9
INTRFCE 2N
111 182 F
112 191 F

=====
187 F

GROUP 10
CNDT2 3M N

113 200 F
114 171 F
115 159 F
116 140 F

=====
168 F

90 MINUTES

GROUP 0
BAD TC'S
26 -56°F
28 202°F
31 213°F
36 176°F

GROUP 1
CNDT-1 TSI
25 187°F
27 202°F
29 217°F
30 213°F
32 218°F
33 223°F
34 228°F

GROUP 2
INTERFACE 1
35 222°F

GROUP 3
CNDT-1 3M
37 209°F
38 225°F
39 214°F
40 207°F
41 231°F
42 228°F
43 217°F
44 250°F
45 202°F
46 210°F

GROUP 4
CDT2 TSI S
90 191°F
91 181°F
92 180°F
93 179°F

=====
184°F

=====
213°F

=====
222°F

=====
219°F

=====
184°F

GROUP 5
INTRFCE 2S
94 180°F
95 173°F

GROUP 6
CNDT2 3M S
101 180°F
102 184°F
103 183°F
104 194°F

GROUP 7
INTRFCE 2C
105 185°F
106 176°F

GROUP 8
CDT2 TSI N
107 168°F
108 167°F
109 167°F
110 186°F

GROUP 9
INTRFCE 2N
111 171°F
112 180°F

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177°F

=====
183°F

=====
181°F

=====
172°F

=====
176°F

GROUP 10
CNDT2 3M N
113 185°F
114 157°F
115 164°F
116 130°F
=====
159°F

92 MINUTES

GROUP 0
BAD TC'S
26 -52°F
28 203°F
31 213°F
36 0°F

GROUP 1
CNDT-1 TSI
25 188°F
27 203°F
29 215°F
30 213°F
32 220°F
33 223°F
34 229°F

GROUP 2
INTERFACE 1
35 223°F

GROUP 3
CNDT-1 3M
37 207°F
38 227°F
39 212°F
40 202°F
41 230°F
42 228°F
43 217°F
44 246°F
45 204°F
46 211°F

GROUP 4
CDT2 TSI S
90 191°F
91 181°F
92 174°F
93 175°F

=====
208°F

=====
213°F

=====
223°F

=====
218°F

=====
180°F

GROUP 5
INTRFCE 2S
94 170°F
95 169°F

GROUP 6
CNDT2 3M S
101 171°F
102 176°F
103 174°F
104 172°F

GROUP 7
INTRFCE 2C
105 173°F
106 166°F

GROUP 8
CDT2 TSI N
107 162°F
108 159°F
109 155°F
110 173°F

GROUP 9
INTRFCE 2N
111 153°F
112 165°F

=====
170°F

=====
173°F

=====
170°F

=====
162°F

=====
159°F

GROUP 10
CNDT2 3M N
113 158°F
114 136°F
115 148°F
116 121°F
=====
141°F

94 MINUTES

GROUP 0
BAD TC'S
26 -50°F
28 204°F
31 213°F
36 151°F

GROUP 1
CNDT-1 TSI
25 188°F
27 205°F
29 211°F
30 214°F
32 221°F
33 223°F
34 231°F

GROUP 2
INTERFACE 1
35 224°F

GROUP 3
CNDT-1 3M
37 205°F
38 231°F
39 215°F
40 205°F
41 233°F
42 231°F
43 219°F
44 248°F
45 204°F
46 209°F

GROUP 4
CDT2 TSI S
90 180°F
91 181°F
92 171°F
93 175°F

=====
187°F

=====
214°F

=====
224°F

=====
220°F

=====
180°F

GROUP 5
INTRFCE 2S
94 167°F
95 171°F

GROUP 6
CNDT2 3M S
101 166°F
102 173°F
103 170°F
104 166°F

GROUP 7
INTRFCE 2C
105 171°F
106 161°F

GROUP 8
CDT2 TSI N
107 160°F
108 157°F
109 150°F
110 173°F

GROUP 9
INTRFCE 2N
111 153°F
112 157°F

=====
169°F

=====
169°F

=====
166°F

=====
160°F

=====
155°F

GROUP 10
CNDT2 3M N

113 144°F
114 125°F
115 127°F
116 120°F

=====
129°F

96 MINUTES

GROUP 0
BAD TC'S
26 -50°F
28 206°F
31 213°F
36 157°F

GROUP 1
CNDT-1 TSI
25 191°F
27 207°F
29 212°F
30 215°F
32 223°F
33 225°F
34 231°F

GROUP 2
INTERFACE 1
35 227°F

GROUP 3
CNDT-1 3M
37 207°F
38 236°F
39 219°F
40 205°F
41 234°F
42 230°F
43 221°F
44 243°F
45 201°F
46 208°F

GROUP 4
CDT2 TSI S
90 189°F
91 183°F
92 170°F
93 177°F

=====
192°F

=====
215°F

=====
227°F

=====
220°F

=====
180°F

GROUP 5
INTRFCE 2S
94 166°F
95 171°F

GROUP 6
CNDT2 3M S
101 163°F
102 168°F
103 169°F
104 160°F

GROUP 7
INTRFCE 2C
105 170°F
106 161°F

GROUP 8
CDT2 TSI N
107 158°F
108 158°F
109 152°F
110 172°F

GROUP 9
INTRFCE 2N
111 149°F
112 147°F

=====
169°F

=====
165°F

=====
166°F

=====
160°F

=====
143°F

GROUP 10
CNDT2 3M N

113 138°F
114 122°F
115 118°F
116 123°F

=====
125°F

98 MINUTES

GROUP 0
BAD TC'S
26 -50°F
28 206°F
31 213°F
36 156°F

GROUP 1
CNDT-1 TSI
25 192°F
27 208°F
29 211°F
30 216°F
32 224°F
33 226°F
34 231°F

GROUP 2
INTERFACE 1
35 228°F

GROUP 3
CNDT-1 3M
37 207°F
38 239°F
39 222°F
40 228°F
41 234°F
42 229°F
43 218°F
44 237°F
45 203°F
46 205°F

GROUP 4
CDT2 TSI S
90 186°F
91 181°F
92 172°F
93 178°F

=====
192°F

=====
215°F

=====
228°F

=====
221°F

=====
178°F

GROUP 5
INTERFACE 2S
94 166°F
95 167°F

GROUP 6
CNDT2 3M S
101 157°F
102 160°F
103 170°F
104 158°F

GROUP 7
INTERFACE 2C
105 170°F
106 167°F

GROUP 8
CDT2 TSI N
107 156°F
108 160°F
109 155°F
110 175°F

GROUP 9
INTERFACE 2N
111 148°F
112 154°F

=====
167°F

=====
161°F

=====
166°F

=====
162°F

=====
151°F

GROUP 10
CNDT2 3M N
113 138°F
114 124°F
115 117°F
116 132°F
=====
128°F

100 MINUTES

GROUP 0
BAD TC'S
26 -51°F
28 206°F
31 212°F
36 154°F

GROUP 1
CNDT-1 TSI
25 192°F
27 208°F
29 210°F
30 216°F
32 225°F
33 226°F
34 231°F

GROUP 2
INTERFACE 1
35 229°F

GROUP 3
CNDT-1 3M
37 209°F
38 239°F
39 219°F
40 207°F
41 234°F
42 229°F
43 218°F
44 237°F
45 203°F
46 205°F

GROUP 4
CDT2 TSI S
90 186°F
91 181°F
92 172°F
93 178°F

=====
191°F

=====
215°F

=====
229°F

=====
220°F

=====
178°F

GROUP 5
INTERFACE 2S
94 165°F
95 167°F

GROUP 6
CNDT2 3M S
101 157°F
102 161°F
103 169°F
104 161°F

GROUP 7
INTERFACE 2C
105 171°F
106 163°F

GROUP 8
CDT2 TSI N
107 157°F
108 162°F
109 157°F
110 174°F

GROUP 9
INTERFACE 2N
111 150°F
112 153°F

=====
166°F

=====
162°F

=====
167°F

=====
163°F

=====
152°F

GROUP 10
CNDT2 3M N
113 139°F
114 127°F
115 102°F
116 133°F
=====
125°F

102 MINUTES

GROUP 0
BAD TC'S
26 -50°F
28 206°F
31 217°F
36 156°F

GROUP 1
CNDT-1 TSI
25 193°F
27 209°F
29 210°F
30 217°F
32 225°F
33 228°F
34 233°F

GROUP 2
INTERFCE 1
35 230°F

GROUP 3
CNDT-1 3M
37 209°F
38 237°F
39 219°F
40 207°F
41 234°F
42 227°F
43 218°F
44 233°F
45 203°F
46 203°F

GROUP 4
CDT2 TSI S
90 185°F
91 181°F
92 175°F
93 181°F

=====
191°F

=====
216°F

=====
230°F

=====
219°F

=====
181°F

GROUP 5
INTRFCE 2S
94 171°F
95 171°F

GROUP 6
CNDT2 3M S
101 161°F
102 166°F
103 171°F
104 168°F

GROUP 7
INTRFCE 2C
105 171°F
106 165°F

GROUP 8
CDT2 TSI N
107 159°F
108 164°F
109 161°F
110 172°F

GROUP 9
INTRFCE 2N
111 155°F
112 159°F

=====
171°F

=====
167°F

=====
168°F

=====
164°F

=====
157°F

GROUP 10
CNDT2 3M N
113 140°F
114 131°F
115 73°F
116 140°F
=====
121°F

104 MINUTES

GROUP 0
BAD TC'S
26 -49°F
28 206°F
31 215°F
36 156°F

GROUP 1
CNDT-1 TSI
25 194°F
27 209°F
29 209°F
30 216°F
32 225°F
33 228°F
34 233°F

GROUP 2
INTERFCE 1
35 230°F

GROUP 3
CNDT-1 3M
37 208°F
38 236°F
39 217°F
40 204°F
41 234°F
42 228°F
43 218°F
44 229°F
45 203°F
46 201°F

GROUP 4
CDT2 TSI S
90 188°F
91 184°F
92 179°F
93 182°F

=====
192°F

=====
216°F

=====
230°F

=====
218°F

=====
183°F

GROUP 5
INTRFCE 2S
94 173°F
95 175°F

GROUP 6
CNDT2 3M S
101 168°F
102 172°F
103 172°F
104 172°F

GROUP 7
INTRFCE 2C
105 173°F
106 168°F

GROUP 8
CDT2 TSI N
107 163°F
108 166°F
109 164°F
110 166°F

GROUP 9
INTRFCE 2N
111 159°F
112 161°F

=====
174°F

=====
171°F

=====
171°F

=====
165°F

=====
160°F

GROUP 10
CNDT2 3M N
113 145°F
114 137°F
115 103°F
116 146°F
=====
133°F

106 MINUTES

GROUP 0
BAD TO'S
26 -48 F
28 206 F
31 215 F
36 158 F

GROUP 1
CNDT-1 TSI
25 194 F
27 209 F
29 210 F
30 217 F
31 222 F
32 227 F
34 234 F

GROUP 2
INTERFACE 1
35 231 F

GROUP 3
CNDT-1 3M
37 208 F
38 236 F
39 220 F
40 204 F
41 234 F
42 228 F
43 218 F
44 226 F
45 200 F
46 200 F

GROUP 4
CDT2 TSI S
90 189 F
91 187 F
92 183 F
93 187 F

=====
194 F

=====
217 F

=====
231 F

=====
217 F

=====
187 F

GROUP 5
INTRFACE 2S
94 179 F
95 182 F

GROUP 6
CNDT2 3M S
101 174 F
102 176 F
103 172 F
104 174 F

GROUP 7
INTERFACE 2C
105 173 F
106 171 F

GROUP 8
CDT2 TSI N
107 168 F
108 170 F
109 168 F
110 167 F

GROUP 9
INTRFACE 2N
111 165 F
112 163 F

=====
177 F

=====
174 F

=====
172 F

=====
166 F

=====
163 F

GROUP 10
CNDT2 3M N
113 148 F
114 142 F
115 117 F
116 151 F
=====
140 F

108 MINUTES

GROUP 0
BAD TO'S
26 -47 F
28 207 F
31 218 F
36 158 F

GROUP 1
CNDT-1 TSI
25 195 F
27 211 F
29 211 F
30 218 F
32 227 F
33 229 F
34 234 F

GROUP 2
INTERFACE 1
35 231 F

GROUP 3
CNDT-1 3M
37 208 F
38 236 F
39 220 F
40 204 F
41 233 F
42 228 F
43 218 F
44 226 F
45 200 F
46 200 F

GROUP 4
CDT2 TSI S
90 189 F
91 187 F
92 183 F
93 187 F

=====
194 F

=====
218 F

=====
231 F

=====
217 F

=====
187 F

GROUP 5
INTRFACE 2S
94 179 F
95 182 F

GROUP 6
CNDT2 3M S
101 178 F
102 178 F
103 173 F
104 178 F

GROUP 7
INTRFACE 2C
105 174 F
106 173 F

GROUP 8
CDT2 TSI N
107 168 F
108 170 F
109 168 F
110 167 F

GROUP 9
INTRFACE 2N
111 165 F
112 163 F

=====
181 F

=====
177 F

=====
174 F

=====
168 F

=====
164 F

GROUP 10
CNDT2 3M N
113 150 F
114 146 F
115 127 F
116 153 F
=====
144 F

110 MINUTES

GROUP 0 BAD TC'S	GROUP 1 CNDT-1 TSI	GROUP 2 INTERFACE 1	GROUP 3 CNDT-1 3M	GROUP 4 CDT2 TSI S
26 -146°F	25 195°F	35 232°F	37 208°F	90 189°F
28 205°F	27 209°F		38 224°F	91 189°F
31 219°F	29 211°F		39 219°F	92 187°F
36 158°F	30 217°F		40 204°F	93 187°F
	32 227°F		41 231°F	
	33 229°F		42 228°F	
	34 235°F		43 218°F	
			44 225°F	
			45 203°F	
			46 203°F	
=====	=====	=====	=====	=====
194°F	217°F	232°F	217°F	189°F

GROUP 5 INTRFCE 2S	GROUP 6 CNDT2 3M S	GROUP 7 INTRFCE 2C	GROUP 8 CDT2 TSI N	GROUP 9 INTRFCE 2N
94 180°F	101 181°F	105 175°F	107 170°F	111 167°F
95 185°F	102 178°F	106 174°F	108 171°F	112 164°F
	103 168°F		109 170°F	
	104 181°F		110 171°F	
=====	=====	=====	=====	=====
183°F	177°F	175°F	171°F	166°F

GROUP 10
CNDT2 3M N

113 153°F
114 149°F
115 136°F
116 153°F

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148°F

112 MINUTES

GROUP 0 BAD TC'S	GROUP 1 CNDT-1 TSI	GROUP 2 INTERFACE 1	GROUP 3 CNDT-1 3M	GROUP 4 CDT2 TSI S
26 -45°F	25 196°F	35 232°F	37 209°F	90 191°F
28 207°F	27 211°F		38 233°F	91 189°F
31 220°F	29 213°F		39 219°F	92 186°F
36 158°F	30 218°F		40 204°F	93 188°F
	32 229°F		41 232°F	
	33 229°F		42 231°F	
	34 237°F		43 220°F	
			44 225°F	
			45 204°F	
			46 201°F	
=====	=====	=====	=====	=====
195°F	219°F	232°F	218°F	189°F

GROUP 5 INTRFCE 2S	GROUP 6 CNDT2 3M S	GROUP 7 INTRFCE 2C	GROUP 8 CDT2 TSI N	GROUP 9 INTRFCE 2N
94 181°F	101 181°F	105 176°F	107 171°F	111 169°F
95 185°F	102 177°F	106 175°F	108 171°F	112 164°F
	103 169°F		109 171°F	
	104 182°F		110 172°F	
=====	=====	=====	=====	=====
183°F	177°F	176°F	171°F	167°F

GROUP 10
CNDT2 3M N

113 153°F
114 150°F
115 138°F
116 153°F

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149°F

114 MINUTES

GROUP 0
BAD TO'S
26 -44°F
28 208°F
31 222°F
36 190°F

GROUP 1
CNDT-1 TSI
25 197°F
27 212°F
29 212°F
30 212°F
32 212°F
33 212°F
34 212°F

GROUP 2
INTERFCE 1
35 233°F

GROUP 3
CNDT-1 3M
37 210°F
38 215°F
39 219°F
40 205°F
41 201°F
42 201°F
43 202°F
44 205°F
45 207°F
46 200°F

GROUP 4
CDT2 TSI S
90 192°F
91 190°F
92 188°F
93 188°F

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197°F

=====
220°F

=====
233°F

=====
219°F

=====
190°F

GROUP 5
INTRFCE 2S
94 181°F
95 187°F

GROUP 6
CNDT2 3M S
101 184°F
102 178°F
103 171°F
104 182°F

GROUP 7
INTRFCE 2C
105 180°F
106 177°F

GROUP 8
CDT2 TSI N
107 174°F
108 174°F
109 172°F
110 176°F

GROUP 9
INTRFCE 2N
111 174°F
112 167°F

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185°F

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179°F

=====
179°F

=====
174°F

=====
171°F

GROUP 10
CNDT2 3M N
113 156°F
114 154°F
115 144°F
116 154°F
=====
152°F

116 MINUTES

GROUP 0
BAD TO'S
26 -42°F
28 210°F
31 223°F
36 168°F

GROUP 1
CNDT-1 TSI
25 200°F
27 215°F
29 214°F
30 221°F
32 233°F
33 231°F
34 239°F

GROUP 2
INTERFCE 1
35 233°F

GROUP 3
CNDT-1 3M
37 212°F
38 232°F
39 218°F
40 207°F
41 228°F
42 229°F
43 222°F
44 221°F
45 202°F
46 203°F

GROUP 4
CDT2 TSI S
90 190°F
91 188°F
92 186°F
93 188°F

=====
200°F

=====
222°F

=====
233°F

=====
217°F

=====
188°F

GROUP 5
INTRFCE 2S
94 184°F
95 188°F

GROUP 6
CNDT2 3M S
101 185°F
102 180°F
103 172°F
104 182°F

GROUP 7
INTRFCE 2C
105 182°F
106 178°F

GROUP 8
CDT2 TSI N
107 174°F
108 172°F
109 172°F
110 182°F

GROUP 9
INTRFCE 2N
111 179°F
112 167°F

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186°F

=====
180°F

=====
180°F

=====
175°F

=====
173°F

GROUP 10
CNDT2 3M N
113 159°F
114 158°F
115 148°F
116 156°F
=====
155°F

110 MINUTES

GROUP 0
BAD TC'S
26 -140°F
28 213°F
31 226°F
36 164°F

GROUP 1
CNDT-1 TSI
25 205°F
27 218°F
28 215°F
30 222°F
32 235°F
33 230°F
34 236°F

GROUP 2
INTERFCE 1
35 233°F

GROUP 3
CNDT-1 3M
37 213°F
38 230°F
39 219°F
40 207°F
41 221°F
42 220°F
43 218°F
44 215°F
45 203°F
46 200°F

GROUP 4
CDT2 TSI S
90 190°F
91 187°F
92 186°F
93 189°F

=====
200°F

=====
223°F

=====
233°F

=====
215°F

=====
187°F

GROUP 5
INTRFCE 2S
94 184°F
95 188°F

GROUP 6
CNDT2 3M S
101 185°F
102 181°F
103 176°F
104 185°F

GROUP 7
INTRFCE 2C
105 184°F
106 179°F

GROUP 8
CDT2 TSI N
107 173°F
108 172°F
109 171°F
110 185°F

GROUP 9
INTRFCE 2N
111 181°F
112 171°F

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186°F

=====
182°F

=====
182°F

=====
175°F

=====
176°F

GROUP 10
CNDT2 3M N
113 168°F
114 160°F
115 153°F
116 158°F
=====
160°F

120 MINUTES

GROUP 0
BAD TC'S
26 -42°F
28 215°F
31 226°F
36 166°F

GROUP 1
CNDT-1 TSI
25 209°F
27 221°F
29 215°F
30 222°F
32 235°F
33 230°F
34 236°F

GROUP 2
INTERFCE 1
35 232°F

GROUP 3
CNDT-1 3M
37 213°F
38 230°F
39 219°F
40 207°F
41 221°F
42 220°F
43 218°F
44 215°F
45 203°F
46 200°F

GROUP 4
CDT2 TSI S
90 190°F
91 187°F
92 186°F
93 189°F

=====
202°F

=====
224°F

=====
232°F

=====
215°F

=====
188°F

GROUP 5
INTRFCE 2S
94 184°F
95 188°F

GROUP 6
CNDT2 3M S
101 186°F
102 184°F
103 182°F
104 188°F

GROUP 7
INTRFCE 2C
105 188°F
106 180°F

GROUP 8
CDT2 TSI N
107 173°F
108 174°F
109 173°F
110 187°F

GROUP 9
INTRFCE 2N
111 183°F
112 175°F

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186°F

=====
185°F

=====
184°F

=====
177°F

=====
179°F

GROUP 10
CNDT2 3M N
113 173°F
114 163°F
115 156°F
116 160°F
=====
163°F

120 MINUTES

GROUP 0
 BAD TC'S
 26 -43°F
 28 214°F
 31 227°F
 36 177°F

GROUP 1
 CNDT-1 TSI
 25 213°F
 27 219°F
 29 213°F
 30 220°F
 32 214°F
 33 226°F
 34 210°F

GROUP 2
 INTERFCE 1
 35 231°F

GROUP 3
 CNDT-1 3M
 37 212°F
 38 225°F
 39 221°F
 40 207°F
 41 218°F
 42 213°F
 43 212°F
 44 212°F
 45 199°F
 46 184°F

GROUP 4
 CDT2 TSI S
 90 192°F
 91 189°F
 92 187°F
 93 189°F

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 205°F

=====
 223°F

=====
 231°F

=====
 211°F

=====
 189°F

GROUP 5
 INTRFCE 2S
 94 186°F
 95 190°F

GROUP 6
 CNDT2 3M S
 101 186°F
 102 186°F
 103 186°F
 104 190°F

GROUP 7
 INTRFCE 2C
 105 191°F
 106 181°F

GROUP 8
 CDT2 TSI N
 107 175°F
 108 178°F
 109 174°F
 110 190°F

GROUP 9
 INTRFCE 2N
 111 185°F
 112 179°F

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 188°F

=====
 187°F

=====
 186°F

=====
 179°F

=====
 183°F

GROUP 10
 CNDT2 3M N
 113 173°F
 114 167°F
 115 155°F
 116 161°F
 =====
 164°F

124 MINUTES

GROUP 0
 BAD TC'S
 26 -43°F
 28 213°F
 31 229°F
 36 169°F

GROUP 1
 CNDT-1 TSI
 25 213°F
 27 217°F
 29 206°F
 30 218°F
 32 232°F
 33 227°F
 34 230°F

GROUP 2
 INTERFCE 1
 35 230°F

GROUP 3
 CNDT-1 3M
 37 211°F
 38 221°F
 39 223°F
 40 207°F
 41 216°F
 42 209°F
 43 208°F
 44 212°F
 45 196°F
 46 192°F

GROUP 4
 CDT2 TSI S
 90 192°F
 91 189°F
 92 187°F
 93 189°F

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 204°F

=====
 220°F

=====
 230°F

=====
 210°F

=====
 189°F

GROUP 5
 INTRFCE 2S
 94 187°F
 95 191°F

GROUP 6
 CNDT2 3M S
 101 188°F
 102 187°F
 103 188°F
 104 191°F

GROUP 7
 INTRFCE 2C
 105 193°F
 106 182°F

GROUP 8
 CDT2 TSI N
 107 177°F
 108 180°F
 109 176°F
 110 194°F

GROUP 9
 INTRFCE 2N
 111 187°F
 112 180°F

=====
 189°F

=====
 189°F

=====
 188°F

=====
 182°F

=====
 184°F

GROUP 10
 CNDT2 3M N
 113 172°F
 114 169°F
 115 155°F
 116 162°F
 =====
 165°F

120 MINUTES
GROUP 0
BAD TC'S
26 -41°F
28 211°F
31 226°F
36 166°F

GROUP 1
CNDT-1 TSI
25 213°F
27 218°F
29 205°F
30 215°F
32 229°F
33 225°F
34 224°F

GROUP 2
INTERFCE 1
35 226°F

GROUP 3
CNDT-1 3M
37 210°F
38 217°F
39 220°F
40 207°F
41 212°F
42 201°F
43 204°F
44 210°F
45 189°F
46 187°F

GROUP 4
CDT2 TSI S
90 193°F
91 190°F
92 189°F
93 189°F

=====
201°F

=====
218°F

=====
226°F

=====
206°F

=====
190°F

GROUP 5
INTRFCE 2S
94 188°F
95 193°F

GROUP 6
CNDT2 3M S
101 189°F
102 189°F
103 192°F
104 193°F

GROUP 7
INTRFCE 2C
105 196°F
106 183°F

GROUP 8
CDT2 TSI N
107 181°F
108 184°F
109 179°F
110 199°F

GROUP 9
INTRFCE 2N
111 191°F
112 180°F

=====
191°F

=====
191°F

=====
190°F

=====
186°F

=====
187°F

GROUP 10
CNDT2 3M N
113 172°F
114 173°F
115 156°F
116 168°F
=====
167°F

128 MINUTES

GROUP 0
BAD TC'S
26 -36°F
28 207°F
31 216°F
36 169°F

GROUP 1
CNDT-1 TSI
25 210°F
27 211°F
29 204°F
30 212°F
32 225°F
33 220°F
34 217°F

GROUP 2
INTERFCE 1
35 220°F

GROUP 3
CNDT-1 3M
37 209°F
38 210°F
39 211°F
40 205°F
41 208°F
42 194°F
43 195°F
44 205°F
45 180°F
46 181°F

GROUP 4
CDT2 TSI S
90 193°F
91 191°F
92 190°F
93 190°F

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197°F

=====
214°F

=====
220°F

=====
200°F

=====
191°F

GROUP 5
INTRFCE 2S
94 189°F
95 194°F

GROUP 6
CNDT2 3M S
101 190°F
102 190°F
103 195°F
104 194°F

GROUP 7
INTRFCE 2C
105 198°F
106 185°F

GROUP 8
CDT2 TSI N
107 186°F
108 189°F
109 185°F
110 206°F

GROUP 9
INTRFCE 2N
111 193°F
112 185°F

=====
192°F

=====
192°F

=====
192°F

=====
192°F

=====
189°F

GROUP 10
CNDT2 3M N
113 172°F
114 176°F
115 157°F
116 171°F
=====
169°F

130 MINUTES

GROUP 0
BAD TC'S
26 -34 F
28 203 F
31 209 F
36 168 F

GROUP 1
CNDT-1 TSI
25 207 F
27 205 F
29 202 F
30 208 F
32 217 F
33 212 F
34 211 F

GROUP 2
INTERFACE 1
35 212 F

GROUP 3
CNDT-1 3M
37 207 F
38 203 F
39 202 F
40 204 F
41 204 F
42 187 F
43 188 F
44 201 F
45 175 F
46 178 F

GROUP 4
CDT2 TSI S
90 194 F
91 192 F
92 193 F
93 191 F

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193 F

=====
209 F

=====
212 F

=====
195 F

=====
193 F

GROUP 5
INTRFCE 2S
94 192 F
95 196 F

GROUP 6
CNDT2 3M S
101 193 F
102 191 F
103 197 F
104 197 F

GROUP 7
INTRFCE 2C
105 201 F
106 187 F

GROUP 8
CDT2 TSI N
107 192 F
108 196 F
109 193 F
110 213 F

GROUP 9
INTRFCE 2N
111 195 F
112 189 F

=====
194 F

=====
195 F

=====
194 F

=====
199 F

=====
192 F

GROUP 10
CNDT2 3M N
113 176 F
114 181 F
115 161 F
116 175 F

=====
173 F

132 MINUTES

GROUP 0
BAD TC'S
26 -33 F
28 200 F
31 206 F
36 168 F

GROUP 1
CNDT-1 TSI
25 203 F
27 200 F
29 198 F
30 203 F
32 209 F
33 206 F
34 206 F

GROUP 2
INTERFACE 1
35 205 F

GROUP 3
CNDT-1 3M
37 206 F
38 199 F
39 199 F
40 203 F
41 199 F
42 184 F
43 184 F
44 198 F
45 176 F
46 177 F

GROUP 4
CDT2 TSI S
90 194 F
91 193 F
92 194 F
93 192 F

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191 F

=====
204 F

=====
205 F

=====
193 F

=====
193 F

GROUP 5
INTRFCE 2S
94 193 F
95 198 F

GROUP 6
CNDT2 3M S
101 195 F
102 193 F
103 199 F
104 198 F

GROUP 7
INTRFCE 2C
105 203 F
106 191 F

GROUP 8
CDT2 TSI N
107 197 F
108 201 F
109 199 F
110 220 F

GROUP 9
INTRFCE 2N
111 195 F
112 191 F

=====
196 F

=====
196 F

=====
197 F

=====
204 F

=====
193 F

GROUP 10
CNDT2 3M N
113 178 F
114 186 F
115 164 F
116 178 F

=====
177 F

134 MINUTES

GROUP 0

BAD TC'S
26 -34°F
28 199°F
31 205°F
36 166°F

GROUP 1

CNDT-1 TSI
25 200°F
27 198°F
29 197°F
30 201°F
32 205°F
33 201°F
34 205°F

GROUP 2

INTERFACE 1
35 202°F

GROUP 3

CNDT-1 3M
37 207°F
38 198°F
39 199°F
40 203°F
41 197°F
42 183°F
43 181°F
44 197°F
45 177°F
46 179°F

GROUP 4

CDT2 TSI S
90 194°F
91 194°F
92 195°F
93 194°F

=====
190°F

=====
201°F

=====
202°F

=====
192°F

=====
194°F

GROUP 5

INTRFACE 2S
94 194°F
95 199°F

GROUP 6

CNDT2 3M S
101 198°F
102 195°F
103 200°F
104 198°F

GROUP 7

INTRFACE 2C
105 202°F
106 194°F

GROUP 8

CDT2 TSI N
107 204°F
108 208°F
109 206°F
110 225°F

GROUP 9

INTRFACE 2N
111 197°F
112 193°F

=====
197°F

=====
198°F

=====
198°F

=====
211°F

=====
195°F

GROUP 10

CNDT2 3M N
113 181°F
114 191°F
115 165°F
116 181°F
=====
180°F

136 MINUTES

GROUP 0

BAD TC'S
26 -34°F
28 200°F
31 207°F
36 173°F

GROUP 1

CNDT-1 TSI
25 199°F
27 197°F
29 197°F
30 201°F
32 203°F
33 198°F
34 205°F

GROUP 2

INTERFACE 1
35 201°F

GROUP 3

CNDT-1 3M
37 206°F
38 199°F
39 199°F
40 201°F
41 191°F
42 183°F
43 178°F
44 195°F
45 180°F
46 183°F

GROUP 4

CDT2 TSI S
90 196°F
91 196°F
92 197°F
93 198°F

=====
193°F

=====
200°F

=====
201°F

=====
192°F

=====
197°F

GROUP 5

INTRFACE 2S
94 195°F
95 199°F

GROUP 6

CNDT2 3M S
101 200°F
102 196°F
103 201°F
104 200°F

GROUP 7

INTRFACE 2C
105 204°F
106 199°F

GROUP 8

CDT2 TSI N
107 211°F
108 214°F
109 217°F
110 235°F

GROUP 9

INTRFACE 2N
111 198°F
112 195°F

=====
197°F

=====
199°F

=====
202°F

=====
219°F

=====
197°F

GROUP 10

CNDT2 3M N
113 183°F
114 190°F
115 166°F
116 185°F
=====
181°F

138 MINUTES

GROUP 0
BAD TC'S
26 -33°F
28 201°F
31 207°F
34 169°F

GROUP 1
CNDT-1 TSI
25 199°F
27 197°F
29 198°F
30 203°F
32 203°F
33 198°F
34 206°F

GROUP 2
INTERFCE 1
35 201°F

GROUP 3
CNDT-1 3M
37 204°F
38 201°F
39 200°F
40 200°F
41 188°F
42 184°F
43 179°F
44 196°F
45 182°F
46 183°F

GROUP 4
CDT2 TSI S
90 196°F
91 196°F
92 197°F
93 198°F

=====
192°F

=====
201°F

=====
201°F

=====
192°F

=====
197°F

GROUP 5
INTRFCE 2S
94 196°F
95 199°F

GROUP 6
CNDT2 3M S
101 201°F
102 198°F
103 201°F
104 201°F

GROUP 7
INTRFCE 2C
105 205°F
106 199°F

GROUP 8
CDT2 TSI N
107 216°F
108 218°F
109 226°F
110 240°F

GROUP 9
INTRFCE 2N
111 199°F
112 197°F

=====
198°F

=====
200°F

=====
202°F

=====
225°F

=====
198°F

GROUP 10
CNDT2 3M N
113 183°F
114 191°F
115 165°F
116 187°F
=====
182°F

140 MINUTES

GROUP 0
BAD TC'S
26 -32°F
28 202°F
31 209°F
36 168°F

GROUP 1
CNDT-1 TSI
25 199°F
27 199°F
29 199°F
30 204°F
32 204°F
33 200°F
34 206°F

GROUP 2
INTERFCE 1
35 200°F

GROUP 3
CNDT-1 3M
37 203°F
38 203°F
39 200°F
40 200°F
41 185°F
42 187°F
43 180°F
44 195°F
45 184°F
46 186°F

GROUP 4
CDT2 TSI S
90 198°F
91 198°F
92 199°F
93 200°F

=====
193°F

=====
202°F

=====
200°F

=====
192°F

=====
199°F

GROUP 5
INTRFCE 2S
94 196°F
95 201°F

GROUP 6
CNDT2 3M S
101 203°F
102 199°F
103 202°F
104 202°F

GROUP 7
INTRFCE 2C
105 208°F
106 202°F

GROUP 8
CDT2 TSI N
107 225°F
108 226°F
109 244°F
110 250°F

GROUP 9
INTRFCE 2N
111 201°F
112 200°F

=====
199°F

=====
202°F

=====
205°F

=====
236°F

=====
201°F

GROUP 10
CNDT2 3M N
113 182°F
114 194°F
115 166°F
116 190°F
=====
183°F

142 MINUTES

GROUP 0 BAD TC'S	GROUP 1 CNDT-1 TSI	GROUP 2 INTERFCE 1	GROUP 3 CNDT-1 3M	GROUP 4 CDT2 TSI S
26 -32°F	25 200°F	35 201°F	37 203°F	90 199°F
28 203°F	27 200°F		38 203°F	91 199°F
31 210°F	29 200°F		39 200°F	92 200°F
36 172°F	30 205°F		40 199°F	93 201°F
	32 204°F		41 184°F	
	33 204°F		42 189°F	
	34 208°F		43 183°F	
			44 194°F	
			45 193°F	
			46 185°F	

=====	=====	=====	=====	=====
195°F	203°F	201°F	192°F	200°F

GROUP 5 INTRFCE 2S	GROUP 6 CNDT2 3M S	GROUP 7 INTRFCE 2C	GROUP 8 CDT2 TSI N	GROUP 9 INTRFCE 2N
94 198°F	101 204°F	105 210°F	107 233°F	111 203°F
95 203°F	102 200°F	106 203°F	108 235°F	112 203°F
	103 203°F		109 258°F	
	104 201°F		110 260°F	

=====	=====	=====	=====	=====
201°F	202°F	207°F	247°F	203°F

GROUP 10
CNDT2 3M N

113 182°F
114 197°F
115 166°F
116 194°F

=====

185°F

144 MINUTES

GROUP 0 BAD TC'S	GROUP 1 CNDT-1 TSI	GROUP 2 INTERFCE 1	GROUP 3 CNDT-1 3M	GROUP 4 CDT2 TSI S
26 -30°F	25 202°F	35 202°F	37 207°F	90 199°F
28 205°F	27 202°F		38 203°F	91 200°F
31 213°F	29 200°F		39 202°F	92 201°F
36 166°F	30 207°F		40 197°F	93 202°F
	32 206°F		41 190°F	
	33 207°F		42 192°F	
	34 209°F		43 188°F	
			44 194°F	
			45 182°F	
			46 186°F	

=====	=====	=====	=====	=====
195°F	205°F	202°F	194°F	201°F

GROUP 5 INTRFCE 2S	GROUP 6 CNDT2 3M S	GROUP 7 INTRFCE 2C	GROUP 8 CDT2 TSI N	GROUP 9 INTRFCE 2N
94 199°F	101 205°F	105 214°F	107 241°F	111 204°F
95 203°F	102 200°F	106 206°F	108 244°F	112 206°F
	103 205°F		109 270°F	
	104 203°F		110 269°F	

=====	=====	=====	=====	=====
201°F	203°F	210°F	256°F	205°F

GROUP 10
CNDT2 3M N

113 182°F
114 199°F
115 164°F
116 195°F

=====

185°F

146 MINUTES

GROUP 0
BAD TC'S
26 199°F
28 205°F
31 203°F
36 197°F

GROUP 1
CNDT-1 TSI
25 204°F
27 203°F
29 201°F
30 203°F
32 201°F
33 201°F
34 201°F

GROUP 2
INTERFACE 1
35 203°F

GROUP 3
CNDT-1 3M
37 217°F
38 205°F
39 204°F
40 195°F
41 198°F
42 194°F
43 191°F
44 197°F
45 183°F
46 186°F

GROUP 4
CDT2 TSI S
90 203°F
91 202°F
92 202°F
93 202°F

=====
197°F

=====
207°F

=====
203°F

=====
197°F

=====
202°F

GROUP 5
INTRFACE 2S
94 202°F
95 204°F

GROUP 6
CNDT2 3M S
101 207°F
102 201°F
103 205°F
104 202°F

GROUP 7
INTRFACE 2C
105 217°F
106 205°F

GROUP 8
CDT2 TSI N
107 247°F
108 253°F
109 283°F
110 278°F

GROUP 9
INTRFACE 2N
111 218°F
112 212°F

=====
203°F

=====
204°F

=====
211°F

=====
265°F

=====
210°F

GROUP 10
CNDT2 3M N
113 190°F
114 196°F
115 161°F
116 194°F
=====
183°F

148 MINUTES

GROUP 0
BAD TC'S
26 190°F
28 205°F
31 223°F
36 169°F

GROUP 1
CNDT-1 TSI
25 205°F
27 204°F
29 202°F
30 211°F
32 219°F
33 212°F
34 212°F

GROUP 2
INTERFACE 1
35 204°F

GROUP 3
CNDT-1 3M
37 215°F
38 209°F
39 206°F
40 197°F
41 205°F
42 198°F
43 194°F
44 200°F
45 185°F
46 187°F

GROUP 4
CDT2 TSI S
90 204°F
91 202°F
92 204°F
93 204°F

=====
199°F

=====
209°F

=====
204°F

=====
200°F

=====
204°F

GROUP 5
INTRFACE 2S
94 203°F
95 203°F

GROUP 6
CNDT2 3M S
101 206°F
102 202°F
103 205°F
104 203°F

GROUP 7
INTRFACE 2C
105 218°F
106 213°F

GROUP 8
CDT2 TSI N
107 257°F
108 261°F
109 295°F
110 288°F

GROUP 9
INTRFACE 2N
111 211°F
112 217°F

=====
203°F

=====
204°F

=====
216°F

=====
275°F

=====
214°F

GROUP 10
CNDT2 3M N
113 179°F
114 197°F
115 153°F
116 195°F
=====
181°F

150 MINUTES

GROUP 0
BAD TC'S
26 131°F
28 206°F
31 200°F
36 171°F

GROUP 1
CNDT-1 TSI
25 207°F
27 205°F
29 203°F
30 213°F
32 225°F
33 214°F
34 214°F

GROUP 2
INTERFCE 1
35 205°F

GROUP 3
CNDT-1 3M
37 215°F
38 210°F
39 208°F
40 199°F
41 208°F
42 201°F
43 196°F
44 200°F
45 187°F
46 188°F

GROUP 4
CDT2 TSI S
90 205°F
91 203°F
92 205°F
93 205°F

=====
202°F

=====
212°F

=====
205°F

=====
201°F

=====
205°F

GROUP 5
INTRFCE 2S
94 205°F
95 203°F

GROUP 6
CNDT2 3M S
101 206°F
102 202°F
103 206°F
104 204°F

GROUP 7
INTRFCE 2C
105 221°F
106 219°F

GROUP 8
CDT2 TSI N
107 264°F
108 267°F
109 303°F
110 294°F

GROUP 9
INTRFCE 2N
111 217°F
112 222°F

=====
204°F

=====
205°F

=====
220°F

=====
282°F

=====
220°F

GROUP 10
CNDT2 3M N
113 181°F
114 198°F
115 155°F
116 198°F
=====
183°F

152 MINUTES

GROUP 0
BAD TC'S
26 132°F
28 207°F
31 240°F
36 171°F

GROUP 1
CNDT-1 TSI
25 208°F
27 207°F
29 204°F
30 218°F
32 236°F
33 216°F
34 216°F

GROUP 2
INTERFCE 1
35 206°F

GROUP 3
CNDT-1 3M
37 215°F
38 213°F
39 211°F
40 199°F
41 211°F
42 205°F
43 199°F
44 202°F
45 189°F
46 191°F

GROUP 4
CDT2 TSI S
90 204°F
91 204°F
92 205°F
93 206°F

=====
206°F

=====
215°F

=====
206°F

=====
204°F

=====
205°F

GROUP 5
INTRFCE 2S
94 205°F
95 203°F

GROUP 6
CNDT2 3M S
101 204°F
102 203°F
103 204°F
104 207°F

GROUP 7
INTRFCE 2C
105 223°F
106 229°F

GROUP 8
CDT2 TSI N
107 274°F
108 276°F
109 315°F
110 305°F

GROUP 9
INTRFCE 2N
111 227°F
112 235°F

=====
204°F

=====
205°F

=====
226°F

=====
293°F

=====
231°F

GROUP 10
CNDT2 3M N
113 182°F
114 199°F
115 149°F
116 199°F
=====
182°F

154 MINUTES

GROUP 0
BAD TC'S
26 -35°F
28 208°F
31 251°F
36 171°F

=====
210°F

GROUP 1
CNDT-1 TSI
25 209°F
27 209°F
29 207°F
30 209°F
32 247°F
33 218°F
34 221°F

=====
217°F

GROUP 2
INTERFACE 1
35 207°F

=====
207°F

GROUP 3
CNDT-1 3M
37 215°F
38 215°F
39 213°F
40 201°F
41 212°F
42 207°F
43 201°F
44 204°F
45 195°F
46 195°F

=====
206°F

GROUP 4
CNDT2 TSI S
90 199°F
91 204°F
92 207°F
93 206°F

=====
205°F

GROUP 5
INTRFCE 2S
94 205°F
95 202°F

=====
204°F

GROUP 6
CNDT2 3M S
101 206°F
102 202°F
103 204°F
104 205°F

=====
204°F

GROUP 7
INTRFCE 2C
105 224°F
106 232°F

=====
228°F

GROUP 8
CNDT2 TSI N
107 284°F
108 286°F
109 325°F
110 317°F

=====
303°F

GROUP 9
INTRFCE 2N
111 278°F
112 241°F

=====
242°F

GROUP 10
CNDT2 3M N
113 184°F
114 198°F
115 151°F
116 200°F
=====
183°F

156 MINUTES

GROUP 0
BAD TC'S
26 -36°F
28 208°F
31 262°F
36 170°F

=====
214°F

GROUP 1
CNDT-1 TSI
25 210°F
27 211°F
29 208°F
30 209°F
32 259°F
33 222°F
34 229°F

=====
221°F

GROUP 2
INTERFACE 1
35 208°F

=====
208°F

GROUP 3
CNDT-1 3M
37 215°F
38 218°F
39 213°F
40 203°F
41 214°F
42 208°F
43 203°F
44 208°F
45 199°F
46 196°F

=====
208°F

GROUP 4
CNDT2 TSI S
90 199°F
91 204°F
92 206°F
93 207°F

=====
204°F

GROUP 5
INTRFCE 2S
94 205°F
95 200°F

=====
203°F

GROUP 6
CNDT2 3M S
101 204°F
102 203°F
103 205°F
104 207°F

=====
205°F

GROUP 7
INTRFCE 2C
105 229°F
106 237°F

=====
233°F

GROUP 8
CNDT2 TSI N
107 293°F
108 295°F
109 332°F
110 329°F

=====
312°F

GROUP 9
INTRFCE 2N
111 252°F
112 256°F

=====
254°F

GROUP 10
CNDT2 3M N
113 187°F
114 197°F
115 158°F
116 200°F
=====
186°F

158 MINUTES

GROUP 0
BAD TC'S
26 -38°F
28 209°F
31 274°F
36 170°F

GROUP 1
CNDT-1 TSI
25 210°F
27 213°F
29 208°F
30 210°F
32 271°F
33 229°F
34 219°F

GROUP 2
INTERFCE 1
35 209°F

GROUP 3
CNDT-1 3M
37 215°F
38 220°F
39 214°F
40 205°F
41 215°F
42 210°F
43 203°F
44 210°F
45 200°F
46 199°F

GROUP 4
CDT2 TSI S
90 200°F
91 204°F
92 205°F
93 209°F

=====
218°F

=====
226°F

=====
209°F

=====
209°F

=====
205°F

GROUP 5
INTRFCE 2S
94 201°F
95 200°F

GROUP 6
CNDT2 3M S
101 201°F
102 203°F
103 205°F
104 209°F

GROUP 7
INTRFCE 2C
105 234°F
106 246°F

GROUP 8
CDT2 TSI N
107 298°F
108 305°F
109 342°F
110 339°F

GROUP 9
INTRFCE 2N
111 267°F
112 266°F

=====
201°F

=====
205°F

=====
240°F

=====
321°F

=====
267°F

GROUP 10
CNDT2 3M N
113 188°F
114 195°F
115 166°F
116 200°F
=====
187°F

162 MINUTES

GROUP 0
BAD TC'S
26 -40°F
28 209°F
31 294°F
36 170°F

GROUP 1
CNDT-1 TSI
25 211°F
27 213°F
29 210°F
30 234°F
32 294°F
33 241°F
34 254°F

GROUP 2
INTERFCE 1
35 211°F

GROUP 3
CNDT-1 3M
37 215°F
38 225°F
39 217°F
40 208°F
41 217°F
42 211°F
43 204°F
44 211°F
45 203°F
46 199°F

GROUP 4
CDT2 TSI S
90 202°F
91 205°F
92 207°F
93 208°F

=====
224°F

=====
237°F

=====
211°F

=====
211°F

=====
206°F

GROUP 5
INTRFCE 2S
94 200°F
95 201°F

GROUP 6
CNDT2 3M S
101 201°F
102 203°F
103 204°F
104 214°F

GROUP 7
INTRFCE 2C
105 246°F
106 255°F

GROUP 8
CDT2 TSI N
107 314°F
108 320°F
109 359°F
110 358°F

GROUP 9
INTRFCE 2N
111 288°F
112 285°F

=====
201°F

=====
206°F

=====
251°F

=====
338°F

=====
287°F

GROUP 10
CNDT2 3M N
113 199°F
114 195°F
115 178°F
116 196°F
=====
192°F

164 MINUTES

GROUP 0 BAD TC'S	GROUP 1 CNDT-1 TSI	GROUP 2 INTERFACE 1	GROUP 3 CNDT-1 3M	GROUP 4 CDT2 TSI S
26 -48°F	25 211°F	35 213°F	37 214°F	90 202°F
28 209°F	27 213°F		38 228°F	91 205°F
31 307°F	29 268°F		39 220°F	92 207°F
36 169°F	30 255°F		40 210°F	93 208°F
	32 306°F		41 218°F	
	33 250°F		42 212°F	
	34 264°F		43 204°F	
			44 212°F	
			45 208°F	
			46 194°F	

=====	=====	=====	=====	=====
228°F	252°F	213°F	212°F	206°F

GROUP 5 INTRFCE 2S	GROUP 6 CNDT2 3M S	GROUP 7 INTRFCE 2C	GROUP 8 CDT2 TSI N	GROUP 9 INTRFCE 2N
94 200°F	101 201°F	105 256°F	107 325°F	111 298°F
95 201°F	102 202°F	106 269°F	108 328°F	112 297°F
	103 204°F		109 370°F	
	104 218°F		110 370°F	
=====	=====	=====	=====	=====
201°F	206°F	263°F	348°F	298°F

GROUP 10
CNDT2 3M N

113 205°F
114 196°F
115 185°F
116 196°F

=====

196°F

166 MINUTES

GROUP 0 BAD TC'S	GROUP 1 CNDT-1 TSI	GROUP 2 INTERFACE 1	GROUP 3 CNDT-1 3M	GROUP 4 CDT2 TSI S
26 -58°F	25 211°F	35 218°F	37 214°F	90 202°F
28 209°F	27 213°F		38 235°F	91 204°F
31 319°F	29 295°F		39 226°F	92 207°F
36 178°F	30 274°F		40 212°F	93 209°F
	32 319°F		41 216°F	
	33 258°F		42 212°F	
	34 273°F		43 204°F	
			44 214°F	
			45 207°F	
			46 196°F	

=====	=====	=====	=====	=====
235°F	263°F	218°F	214°F	206°F

GROUP 5 INTRFCE 2S	GROUP 6 CNDT2 3M S	GROUP 7 INTRFCE 2C	GROUP 8 CDT2 TSI N	GROUP 9 INTRFCE 2N
94 200°F	101 200°F	105 267°F	107 335°F	111 309°F
95 200°F	102 201°F	106 285°F	108 337°F	112 307°F
	103 204°F		109 380°F	
	104 221°F		110 383°F	
=====	=====	=====	=====	=====
200°F	207°F	276°F	359°F	308°F

GROUP 10
CNDT2 3M N

113 213°F
114 197°F
115 189°F
116 196°F

=====

199°F

168 MINUTES

GROUP 0
BAD TC'S
26 -65°F
28 209°F
31 332°F
36 176°F

GROUP 1
CNDT-1 TSI
25 211°F
27 213°F
29 315°F
30 293°F
32 331°F
33 267°F
34 282°F

GROUP 2
INTERFCE 1
35 226°F

GROUP 3
CNDT-1 3M
37 213°F
38 237°F
39 230°F
40 213°F
41 215°F
42 212°F
43 204°F
44 216°F
45 209°F
46 195°F

GROUP 4
CDT2 TSI S
90 203°F
91 205°F
92 214°F
93 209°F

=====
239°F

=====
273°F

=====
226°F

=====
214°F

=====
208°F

GROUP 5
INTRFCE 2S
94 199°F
95 200°F

GROUP 6
CNDT2 3M S
101 200°F
102 198°F
103 203°F
104 235°F

GROUP 7
INTRFCE 2C
105 278°F
106 297°F

GROUP 8
CDT2 TSI N
107 348°F
108 348°F
109 389°F
110 394°F

GROUP 9
INTRFCE 2N
111 318°F
112 316°F

=====
200°F

=====
207°F

=====
288°F

=====
370°F

=====
317°F

GROUP 10
CNDT2 3M N
113 220°F
114 199°F
115 194°F
116 197°F
=====
203°F

170 MINUTES

GROUP 0
BAD TC'S
26 -72°F
28 210°F
31 343°F
36 174°F

GROUP 1
CNDT-1 TSI
25 211°F
27 225°F
29 333°F
30 312°F
32 344°F
33 277°F
34 292°F

GROUP 2
INTERFCE 1
35 234°F

GROUP 3
CNDT-1 3M
37 213°F
38 242°F
39 233°F
40 213°F
41 213°F
42 211°F
43 204°F
44 215°F
45 208°F
46 193°F

GROUP 4
CDT2 TSI S
90 204°F
91 205°F
92 235°F
93 209°F

=====
242°F

=====
285°F

=====
234°F

=====
215°F

=====
213°F

GROUP 5
INTRFCE 2S
94 199°F
95 201°F

GROUP 6
CNDT2 3M S
101 200°F
102 200°F
103 205°F
104 229°F

GROUP 7
INTRFCE 2C
105 291°F
106 310°F

GROUP 8
CDT2 TSI N
107 358°F
108 360°F
109 399°F
110 405°F

GROUP 9
INTRFCE 2N
111 327°F
112 326°F

=====
200°F

=====
209°F

=====
301°F

=====
381°F

=====
327°F

GROUP 10
CNDT2 3M N
113 228°F
114 212°F
115 197°F
116 197°F
=====
209°F

172 MINUTES

GROUP 0
BAD TC'S
26 -80°F
28 213°F
31 351°F
36 175°F

GROUP 1
CNDT-1 TSI
25 210°F
27 251°F
29 351°F
30 330°F
32 361°F
33 286°F
34 303°F

GROUP 2
INTERFACE 1
35 244°F

GROUP 3
CNDT-1 3M
37 215°F
38 247°F
39 238°F
40 213°F
41 213°F
42 211°F
43 204°F
44 215°F
45 208°F
46 193°F

GROUP 4
CDT2 TSI S
90 205°F
91 205°F
92 260°F
93 210°F

=====
247°F

=====
299°F

=====
244°F

=====
216°F

=====
220°F

GROUP 5
INTRFCE 2S
94 200°F
95 202°F

GROUP 6
CNDT2 3M S
101 201°F
102 199°F
103 206°F
104 234°F

GROUP 7
INTRFCE 2C
105 305°F
106 322°F

GROUP 8
CDT2 TSI N
107 368°F
108 374°F
109 409°F
110 415°F

GROUP 9
INTRFCE 2N
111 335°F
112 335°F

=====
201°F

=====
210°F

=====
314°F

=====
392°F

=====
335°F

GROUP 10
CNDT2 3M N
113 236°F
114 222°F
115 198°F
116 196°F
=====
213°F

174 MINUTES

GROUP 0
BAD TC'S
26 -89°F
28 257°F
31 362°F
36 175°F

GROUP 1
CNDT-1 TSI
25 210°F
27 272°F
29 368°F
30 346°F
32 379°F
33 297°F
34 316°F

GROUP 2
INTERFACE 1
35 254°F

GROUP 3
CNDT-1 3M
37 219°F
38 253°F
39 241°F
40 214°F
41 213°F
42 211°F
43 204°F
44 214°F
45 208°F
46 192°F

GROUP 4
CDT2 TSI S
90 205°F
91 206°F
92 274°F
93 254°F

=====
265°F

=====
313°F

=====
254°F

=====
217°F

=====
235°F

GROUP 5
INTRFCE 2S
94 201°F
95 202°F

GROUP 6
CNDT2 3M S
101 202°F
102 201°F
103 210°F
104 240°F

GROUP 7
INTRFCE 2C
105 321°F
106 335°F

GROUP 8
CDT2 TSI N
107 379°F
108 388°F
109 423°F
110 426°F

GROUP 9
INTRFCE 2N
111 342°F
112 344°F

=====
202°F

=====
213°F

=====
328°F

=====
404°F

=====
343°F

GROUP 10
CNDT2 3M N
113 244°F
114 229°F
115 198°F
116 195°F
=====
217°F

176 MINUTES

GROUP 0 BAD TC'S	GROUP 1 CNDT-1 TSI	GROUP 2 INTERFACE 1	GROUP 3 CNDT-1 3M	GROUP 4 CDT2 TSI S
26 -94°F	25 210°F	35 259°F	37 225°F	90 205°F
28 277°F	27 286°F		38 257°F	91 204°F
31 369°F	29 377°F		39 243°F	92 280°F
36 179°F	30 357°F		40 215°F	93 278°F
	32 388°F		41 214°F	
	33 303°F		42 212°F	
	34 323°F		43 205°F	
			44 214°F	
			45 208°F	
			46 193°F	
=====	=====	=====	=====	=====
275°F	321°F	259°F	219°F	215°F

GROUP 5 INTRFCE 2S	GROUP 6 CNDT2 3M S	GROUP 7 INTRFCE 2C	GROUP 8 CDT2 TSI N	GROUP 9 INTRFCE 2N
94 201°F	101 202°F	105 330°F	107 387°F	111 347°F
95 202°F	102 201°F	106 343°F	108 399°F	112 349°F
	103 213°F		109 432°F	
	104 243°F		110 436°F	
=====	=====	=====	=====	=====
202°F	215°F	337°F	414°F	342°F

GROUP 10
CNDT2 3M N

113 247°F

114 234°F

115 196°F

116 194°F

=====

218°F

178 MINUTES

GROUP 0 BAD TC'S	GROUP 1 CNDT-1 TSI	GROUP 2 INTERFACE 1	GROUP 3 CNDT-1 3M	GROUP 4 CDT2 TSI S
26 -103°F	25 210°F	35 269°F	37 238°F	90 206°F
28 312°F	27 306°F		38 263°F	91 206°F
31 382°F	29 391°F		39 247°F	92 285°F
36 176°F	30 375°F		40 215°F	93 289°F
	32 402°F		41 214°F	
	33 315°F		42 213°F	
	34 335°F		43 205°F	
			44 213°F	
			45 210°F	
			46 195°F	
=====	=====	=====	=====	=====
290°F	333°F	269°F	221°F	247°F

GROUP 5 INTRFCE 2S	GROUP 6 CNDT2 3M S	GROUP 7 INTRFCE 2C	GROUP 8 CDT2 TSI N	GROUP 9 INTRFCE 2N
94 202°F	101 203°F	105 345°F	107 400°F	111 355°F
95 203°F	102 202°F	106 358°F	108 417°F	112 358°F
	103 218°F		109 448°F	
	104 252°F		110 451°F	
=====	=====	=====	=====	=====
203°F	219°F	352°F	429°F	357°F

GROUP 10
CNDT2 3M N

113 253°F

114 243°F

115 200°F

116 194°F

=====

223°F

BAD TC'S	CNDT-1 TSI	INTERFCE 1	37	246 F	90	206 F
26 -111 F	25 210 F	35 279 F	38	270 F	91	207 F
28 339 F	27 325 F		39	252 F	92	301 F
31 397 F	29 404 F		40	216 F	93	306 F
36 184 F	30 391 F		41	214 F		
	32 343 F		42	213 F		
	33 346 F		43	208 F		
	34 358 F		44	212 F		
			45	210 F		
			46	194 F		

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307 F	346 F	279 F	223 F	201 F
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GROUP 5	GROUP 6	GROUP 7	GROUP 8	GROUP 9
INTRFCE 2S	CNDT2 3M S	INTRFCE 2C	CDT2 TSI N	INTRFCE 2N
94 201 F	101 202 F	105 361 F	107 416 F	111 363 F
95 202 F	102 200 F	106 372 F	108 434 F	112 367 F
	103 232 F		109 466 F	
	104 266 F		110 467 F	
=====	=====	=====	=====	=====
202 F	225 F	367 F	446 F	365 F

GROUP 10
CNDT2 3M N

113 261 F
114 252 F
115 201 F
116 194 F
=====
227 F

182 MINUTES

GROUP 0	GROUP 1	GROUP 2	GROUP 3	GROUP 4
BAD TC'S	CNDT-1 TSI	INTERFCE 1	CNDT-1 3M	CDT2 TSI S
26 -122 F	25 210 F	35 289 F	37 254 F	90 206 F
28 360 F	27 339 F		38 277 F	91 207 F
31 411 F	29 418 F		39 256 F	92 301 F
36 181 F	30 406 F		40 217 F	93 306 F
	32 325 F		41 214 F	
	33 346 F		42 213 F	
	34 358 F		43 204 F	
			44 212 F	
			45 210 F	
			46 196 F	
=====	=====	=====	=====	=====
317 F	357 F	289 F	225 F	255 F

GROUP 5	GROUP 6	GROUP 7	GROUP 8	GROUP 9
INTRFCE 2S	CNDT2 3M S	INTRFCE 2C	CDT2 TSI N	INTRFCE 2N
94 200 F	101 205 F	105 376 F	107 433 F	111 371 F
95 200 F	102 198 F	106 385 F	108 455 F	112 374 F
	103 255 F		109 480 F	
	104 282 F		110 482 F	
=====	=====	=====	=====	=====
200 F	235 F	381 F	463 F	373 F

GROUP 10
CNDT2 3M N

113 267 F
114 259 F
115 201 F
116 196 F
=====
231 F

3M & TSI INTERFACE TEST 2.51n CNDT 3M
 3M CHEM 66 FT #86-92 8/19/86

LINE 1 FURNACE GROUP 0	LINE 2 7c/12 #1 GROUP 4	LINE 3 7c/12 #2 GROUP 7	LINE 4 BARE#8 #1 GROUP 5	LINE 5 BARE#8 #2 GROUP 8
GROUP: 0 FURNACE	TC's: 1	2	3	4
GROUP: 1 FURNACE 2	TC's: 5	6	7	8
GROUP: 2 AMBIENT	TC's: 11			
GROUP: 3 CNDT#1 SUR	TC's: 12	13	14	15
	16	17	18	19
	20	21	22	
GROUP: 4 7c/12 #1	TC's: 23	24	25	26
36 37 38 39 40 41	42	43	44	45
	46	47	48	
GROUP: 5 BARE#8 #1	TC's: 49	50	51	52
62 63 64 65 66 67	68	69	70	71
	72	73	74	
GROUP: 6 CNDT#2 SUR	TC's: 75	76	77	78
	79	80	81	82
	83	84	85	
GROUP: 7 7c/12 #2	TC's: 88	89	90	91
106 107 108 109 110 111	112	113	114	115
	116	118		
GROUP: 8 BARE#8 #2	TC's: 97	98	99	100
128 129 130 131 132 133	134	135	136	137
	138	139		
GROUP: 9 DUMMY	TC's: 95	117		

ALL DATA
 EVERY 10
 MINUTES

L/49

10 MINUTES

GROUP 0
FURNACE

1 1171 F
2 1233 F
3 1230 F
4 1241 F

GROUP 1
FURNACE 2

5 0 F
6 1169 F
7 1229 F
8 1195 F
9 1145 F
10 0 F

GROUP 2
AMBIENT

11 74 F

GROUP 3
CNDT#1 SUR

12 74 F
13 73 F
14 73 F
15 72 F
16 73 F
17 70 F
18 71 F
19 71 F
20 71 F
21 72 F
22 73 F

GROUP 4
7c/12 #1

23 72 F
24 72 F
25 72 F
26 75 F
27 71 F
28 75 F
29 71 F
30 72 F
31 72 F
32 72 F
33 73 F
34 73 F
35 73 F
36 76 F
37 73 F
38 73 F
39 73 F
40 72 F
41 72 F
42 72 F
43 73 F
44 73 F
45 73 F
46 73 F
47 73 F
48 73 F

=====
1219 F

=====
1185 F

=====
74 F

=====
72 F

=====
73 F

GROUP 5
BARE#8 #1

49 73 F
50 74 F
51 74 F
52 73 F
53 73 F
54 73 F
55 73 F
56 73 F
57 73 F
58 73 F
59 73 F
60 71 F
61 71 F
62 71 F
63 71 F
64 71 F
65 72 F
66 72 F
67 72 F
68 72 F
69 73 F
70 72 F
71 73 F
72 73 F
73 73 F
74 73 F

GROUP 6
CNDT#2 SUR

75 73 F
76 72 F
77 72 F
78 71 F
79 71 F
80 73 F
81 71 F
82 71 F
83 71 F
84 73 F
85 59 F
86 26 F
87 74 F

GROUP 7
7c/12 #2

88 73 F
89 72 F
90 72 F
91 72 F
92 71 F
93 71 F
94 70 F
95 70 F
101 70 F
102 70 F
103 70 F
104 70 F
105 70 F
106 70 F
107 70 F
108 70 F
109 70 F
110 73 F
111 73 F
112 73 F
113 74 F
114 74 F
115 75 F
116 75 F
118 75 F

GROUP 8
BARE#8 #2

97 72 F
98 72 F
99 72 F
100 77 F
119 74 F
120 72 F
121 71 F
122 71 F
123 71 F
124 71 F
125 71 F
126 71 F
127 71 F
128 71 F
129 71 F
130 71 F
131 71 F
132 71 F
133 71 F
134 71 F
135 71 F
136 71 F
137 72 F
138 72 F
139 72 F

GROUP 9
DUMMY

96 1357 F
117 267 F

=====
73 F

=====
67 F

=====
72 F

=====
72 F

=====
812 F

20 MINUTES
GROUP 0
FURNACE

1 1267 F
2 1354 F
3 1351 F
4 1334 F

GROUP 1
FURNACE 2

5 0 F
6 1291 F
7 1350 F
8 1316 F
9 1274 F
10 0 F

GROUP 2
AMBIENT

11 76 F

GROUP 3
CNDT#1 SUR

12 75 F
13 103 F
14 91 F
15 88 F
16 98 F
17 87 F
18 68 F
19 53 F
20 75 F
21 79 F
22 78 F

GROUP 4
7c/12 #1

23 72 F
24 72 F
25 72 F
26 77 F
27 72 F
28 74 F
29 73 F
30 74 F
31 76 F
32 75 F
33 73 F
34 73 F
35 72 F
36 76 F
37 72 F
38 72 F
39 73 F
40 71 F
41 72 F
42 72 F
43 72 F
44 72 F
45 73 F
46 73 F
47 73 F
48 73 F

=====

1332 F

=====

1308 F

=====

76 F

=====

81 F

=====

73 F

GROUP 5
BARE#8 #1

49 74 F
50 75 F
51 75 F
52 74 F
53 75 F
54 75 F
55 74 F
56 74 F
57 74 F
58 73 F
59 73 F
60 71 F
61 71 F
62 71 F
63 71 F
64 71 F
65 71 F
66 71 F
67 72 F
68 72 F
69 73 F
70 72 F
71 73 F
72 73 F
73 73 F
74 73 F

=====

73 F

GROUP 6
CNDT#2 SUR

75 81 F
76 75 F
77 87 F
78 71 F
79 71 F
80 90 F
81 75 F
82 72 F
83 78 F
84 75 F
85 -103 F
86 -262 F
87 74 F

=====

77 F

GROUP 7
7c/12 #2

88 73 F
89 73 F
90 75 F
91 72 F
92 73 F
93 73 F
94 71 F
95 71 F
101 70 F
102 70 F
103 70 F
104 70 F
105 71 F
106 71 F
107 71 F
108 71 F
109 73 F
110 75 F
111 74 F
112 74 F
113 74 F
114 74 F
115 75 F
116 75 F
118 75 F

=====

73 F

GROUP 8
BARE#8 #2

97 73 F
98 73 F
99 73 F
100 79 F
119 74 F
120 72 F
121 72 F
122 72 F
123 71 F
124 71 F
125 71 F
126 71 F
127 72 F
128 72 F
129 74 F
130 73 F
131 74 F
132 74 F
133 73 F
134 73 F
135 72 F
136 72 F
137 72 F
138 72 F
139 73 F

=====

73 F

GROUP 9
DUMMY

96 1268 F
117 469 F

=====

869 F

30 MINUTES

GROUP 0
FURNACE

1	1261 F
2	1264 F
3	1221 F
4	1275 F

GROUP 1
FURNACE 2

5	0 F
6	1228 F
7	1219 F
8	1251 F
9	1241 F
10	0 F

GROUP 2
AMBIENT

11 77 F

GROUP 3
CNDT#1 SUR

12	78 F
13	158 F
14	128 F
15	180 F
16	176 F
17	163 F
18	102 F
19	188 F
20	198 F
21	140 F
22	66 F

GROUP 4
7c/12 #1

23	77 F
24	75 F
25	81 F
26	77 F
27	85 F
28	59 F
29	71 F
30	86 F
31	67 F
32	86
33	78 F
34	79 F
35	75 F
36	77 F
37	73 F
38	74 F
39	73 F
40	72 F
41	72 F
42	72 F
43	73 F
44	73 F
45	75 F
46	74 F
47	74 F
48	74 F

=====
1260 F

=====
1235 F

=====
77 F

=====
143 F

=====
76 F

GROUP 5
BARE#B #1

49	81 F
50	82 F
51	92 F
52	90 F
53	94 F
54	95 F
55	87 F
56	86 F
57	83 F
58	80 F
59	80 F
60	76 F
61	74 F
62	74 F
63	72 F
64	72 F
65	72 F
66	72 F
67	73 F
68	73 F
69	75 F
70	75 F
71	75 F
72	74 F
73	74 F
74	74 F

=====
79 F

GROUP 6
CNDT#2 SUR

75	96 F
76	91 F
77	110 F
78	91 F
79	77 F
80	158 F
81	129 F
82	100 F
83	141 F
84	208 F
85	77 F
86	14 F
87	93 F

=====
107 F

GROUP 7
7c/12 #2

88	74 F
89	74 F
90	82 F
91	75 F
92	81 F
93	81 F
94	76 F
95	77 F
101	72 F
102	72 F
103	74 F
104	74 F
105	90 F
106	90 F
107	83 F
108	84 F
109	89 F
110	89 F
111	81 F
112	81 F
113	77 F
114	77 F
115	88 F
116	89 F
118	77 F

=====
80 F

GROUP 8
BARE#B #2

97	85 F
98	75 F
99	75 F
100	79 F
119	77 F
120	75 F
121	79 F
122	78 F
123	78 F
124	78 F
125	74 F
126	74 F
127	84 F
128	86 F
129	99 F
130	91 F
131	94 F
132	90 F
133	84 F
134	83 F
135	80 F
136	80 F
137	80 F
138	81 F
139	83 F

=====
82 F

GROUP 9
DUMMY

96	1012 F
117	0 F

=====
1012 F

40 MINUTES
GROUP 0
FURNACE

1 1408 F
2 1472 F
3 1465 F
4 1438 F

GROUP 1
FURNACE 2
5 0 F
6 1415 F
7 1459 F
8 1432 F
9 1399 F
10 0 F

GROUP 2
AMBIENT
11 78 F

GROUP 3
CNDT#1 SUR
12 84 F
13 188 F
14 171 F
15 217 F
16 233 F
17 140 F
18 160 F
19 271 F
20 310 F
21 325 F
22 -10 F

GROUP 4
7c/12 #1
23 97 F
24 86 F
25 103 F
26 72 F
27 114 F
28 27 F
29 127 F
30 114 F
31 49 F
32 107 F
33 91 F
34 93 F
35 83 F
36 78 F
37 78 F
38 79 F
39 77 F
40 75 F
41 74 F
42 75 F
43 77 F
44 77 F
45 85 F
46 81 F
47 77 F
48 76 F

=====
1446 F

=====
1426 F

=====
78 F

=====
210 F

=====
84 F

GROUP 5
BARE#B #1
49 92 F
50 95 F
51 124 F
52 121 F
53 132 F
54 134 F
55 116 F
56 113 F
57 100 F
58 95 F
59 97 F
60 88 F
61 83 F
62 81 F
63 77 F
64 77 F
65 75 F
66 75 F
67 76 F
68 77 F
69 89 F
70 92 F
71 83 F
72 82 F
73 76 F
74 76 F

=====
93 F

GROUP 6
CNDT#2 SUR
75 115 F
76 117 F
77 131 F
78 164 F
79 165 F
80 258 F
81 198 F
82 218 F
83 299 F
84 469 F
85 120 F
86 194 F
87 53 F

=====
192 F

GROUP 7
7c/12 #2
88 76 F
89 76 F
90 93 F
91 81 F
92 95 F
93 95 F
94 94 F
95 95 F
101 86 F
102 88 F
103 97 F
104 99 F
105 132 F
106 132 F
107 117 F
108 121 F
109 130 F
110 127 F
111 102 F
112 103 F
113 95 F
114 95 F
115 109 F
116 110 F
118 84 F

=====
101 F

GROUP 8
BARE#B #2
97 99 F
98 82 F
99 82 F
100 80 F
119 84 F
120 81 F
121 92 F
122 90 F
123 98 F
124 98 F
125 96 F
126 93 F
127 122 F
128 125 F
129 144 F
130 134 F
131 139 F
132 132 F
133 118 F
134 115 F
135 107 F
136 107 F
137 106 F
138 107 F
139 97 F

=====
105 F

GROUP 9
DUMMY
96 762 F
117 577 F

=====
670 F

50 MINUTES

GROUP 0
FURNACE

1	1490°F
2	1544°F
3	1534°F
4	1508°F

GROUP 1
FURNACE 2

5	0°F
6	1484°F
7	1532°F
8	1503°F
9	1470°F
10	0°F

GROUP 2
AMBIENT

11 79°F

GROUP 3
CNDT#1 SUR

12	97°F
13	199°F
14	195°F
15	223°F
16	204°F
17	281°F
18	188°F
19	233°F
20	300°F
21	399°F
22	-28°F

GROUP 4
7c/12 #1

23	123°F
24	109°F
25	127°F
26	57°F
27	148°F
28	-7°F
29	160°F
30	148°F
31	24°F
32	133°F
33	111°F
34	115°F
35	99°F
36	82°F
37	89°F
38	92°F
39	86°F
40	83°F
41	81°F
42	83°F
43	99°F
44	101°F
45	107°F
46	100°F
47	84°F
48	83°F

=====
1519°F

=====
1497°F

=====
79°F

=====
232°F

=====
101°F

GROUP 5
BARE#B #1

49	115°F
50	116°F
51	151°F
52	150°F
53	170°F
54	171°F
55	149°F
56	145°F
57	126°F
58	120°F
59	122°F
60	108°F
61	101°F
62	98°F
63	87°F
64	88°F
65	86°F
66	84°F
67	91°F
68	94°F
69	140°F
70	139°F
71	103°F
72	103°F
73	85°F
74	80°F

=====
116°F

GROUP 6
CNDT#2 SUR

75	148°F
76	140°F
77	163°F
78	241°F
79	294°F
80	356°F
81	201°F
82	345°F
83	472°F
84	834°F
85	325°F
86	274°F
87	65°F

=====
297°F

GROUP 7
7c/12 #2

88	81°F
89	83°F
90	114°F
91	92°F
92	118°F
93	117°F
94	133°F
95	129°F
101	135°F
102	142°F
103	149°F
104	150°F
105	165°F
106	165°F
107	159°F
108	159°F
109	162°F
110	161°F
111	143°F
112	147°F
113	147°F
114	146°F
115	139°F
116	139°F
118	111°F

=====
135°F

GROUP 8
BARE#B #2

97	147°F
98	139°F
99	114°F
100	28°F
119	102°F
120	95°F
121	119°F
122	114°F
123	147°F
124	146°F
125	154°F
126	148°F
127	167°F
128	171°F
129	180°F
130	177°F
131	182°F
132	175°F
133	172°F
134	179°F
135	167°F
136	162°F
137	167°F
138	162°F
139	131°F

=====
146°F

GROUP 9
DUMMY

96	644°F
117	0°F

=====
644°F

70 MINUTES

GROUP 0

FURNACE	
1	1593°F
2	1629°F
3	1618°F
4	1598°F

GROUP 1 FURNACE 2	
5	0°F
6	1571°F
7	1614°F
8	1594°F
9	1562°F
10	0°F

GROUP 2 AMBIENT	
11	79°F

GROUP 3 CNDT#1 SUR	
12	118°F
13	201°F
14	216°F
15	212°F
16	222°F
17	203°F
18	219°F
19	247°F
20	262°F
21	286°F
22	122°F

GROUP 4 7c/12 #1	
23	163°F
24	154°F
25	163°F
26	-15°F
27	182°F
28	-37°F
29	195°F
30	188°F
31	-26°F
32	182°F
33	172°F
34	173°F
35	168°F
36	108°F
37	172°F
38	161°F
39	161°F
40	168°F
41	179°F
42	173°F
43	186°F
44	204°F
45	173°F
46	166°F
47	148°F
48	160°F

=====
1607°F

=====
1585°F

=====
79°F

=====
210°F

=====
170°F

GROUP 5 BARE#8 #1	
49	156°F
50	159°F
51	172°F
52	173°F
53	190°F
54	188°F
55	190°F
56	188°F
57	185°F
58	177°F
59	183°F
60	171°F
61	166°F
62	164°F
63	155°F
64	155°F
65	172°F
66	156°F
67	170°F
68	171°F
69	194°F
70	206°F
71	181°F
72	172°F
73	124°F
74	109°F

=====
170°F

GROUP 6 CNDT#2 SUR	
75	189°F
76	167°F
77	198°F
78	219°F
79	241°F
80	209°F
81	204°F
82	280°F
83	343°F
84	337°F
85	580°F
86	469°F
87	116°F

=====
273°F

GROUP 7 7c/12 #2	
88	122°F
89	138°F
90	172°F
91	162°F
92	190°F
93	188°F
94	206°F
95	200°F
101	207°F
102	216°F
103	222°F
104	241°F
105	232°F
106	239°F
107	252°F
108	252°F
109	247°F
110	243°F
111	253°F
112	234°F
113	310°F
114	264°F
115	229°F
116	224°F
118	290°F

=====
221°F

GROUP 8 BARE#8 #2	
97	275°F
98	234°F
99	261°F
100	-82°F
119	168°F
120	156°F
121	188°F
122	181°F
123	207°F
124	202°F
125	211°F
126	220°F
127	221°F
128	228°F
129	267°F
130	261°F
131	257°F
132	238°F
133	251°F
134	256°F
135	295°F
136	276°F
137	298°F
138	283°F
139	329°F

=====
240°F

GROUP 9 DUMMY	
96	433°F
117	409°F

=====
421°F

80 MINUTES

GROUP 0

FURNACE	
1	1648 F
2	1656 F
3	1650 F
4	1639 F

GROUP 1 FURNACE 2	
5	0 F
6	1615 F
7	1655 F
8	1647 F
9	1613 F
10	0 F

GROUP 2 AMBIENT	
11	81 F

GROUP 3 CNDT#1 SUR	
12	119 F
13	200 F
14	215 F
15	222 F
16	232 F
17	211 F
18	246 F
19	264 F
20	307 F
21	333 F
22	123 F

GROUP 4 7c/12 #1	
23	178 F
24	170 F
25	175 F
26	-58 F
27	193 F
28	-46 F
29	210 F
30	202 F
31	-52 F
32	205 F
33	206 F
34	209 F
35	209 F
36	120 F
37	228 F
38	204 F
39	200 F
40	211 F
41	215 F
42	203 F
43	217 F
44	231 F
45	201 F
46	184 F
47	171 F
48	191 F

=====
1651 F

=====
1633 F

=====
81 F

=====
225 F

=====
197 F

GROUP 5 BARE#8 #1	
49	171 F
50	177 F
51	185 F
52	183 F
53	205 F
54	195 F
55	202 F
56	199 F
57	212 F
58	205 F
59	209 F
60	205 F
61	198 F
62	194 F
63	190 F
64	189 F
65	210 F
66	184 F
67	187 F
68	193 F
69	205 F
70	241 F
71	224 F
72	208 F
73	163 F
74	136 F

=====
195 F

GROUP 6 CNDT#2 SUR	
75	199 F
76	-179 F
77	204 F
78	208 F
79	240 F
80	231 F
81	203 F
82	259 F
83	307 F
84	266 F
85	680 F
86	521 F
87	136 F

=====
279 F

GROUP 7 7c/12 #2	
88	139 F
89	159 F
90	196 F
91	183 F
92	212 F
93	203 F
94	223 F
95	214 F
101	237 F
102	239 F
103	215 F
104	203 F
105	215 F
106	219 F
107	212 F
108	200 F
109	205 F
110	187 F
111	208 F
112	193 F
113	266 F
114	229 F
115	166 F
116	156 F
118	154 F

=====
201 F

GROUP 8 BARE#8 #2	
97	291 F
98	284 F
99	277 F
100	-92 F
119	201 F
120	180 F
121	211 F
122	200 F
123	226 F
124	228 F
125	235 F
126	250 F
127	234 F
128	229 F
129	288 F
130	241 F
131	244 F
132	213 F
133	280 F
134	236 F
135	289 F
136	280 F
137	256 F
138	257 F
139	201 F

=====
243 F

GROUP 9 DUMMY	
96	377 F
117	179 F

=====
278 F

90 MINUTES

GROUP 0

FURNACE

1 1695 F
 2 1698 F
 3 1687 F
 4 1686 F

GROUP 1

FURNACE 2

5 1736 F
 6 1651 F
 7 1695 F
 8 1692 F
 9 1654 F
 10 1711 F

GROUP 2

AMBIENT

11 83 F

GROUP 3

CNDT#1 SUR

12 125 F
 13 203 F
 14 206 F
 15 222 F
 16 233 F
 17 213 F
 18 274 F
 19 317 F
 20 332 F
 21 364 F
 22 123 F

GROUP 4

7c/12 #1

23 180 F
 24 176 F
 25 187 F
 26 -56 F
 27 202 F
 28 202 F
 29 217 F
 30 213 F
 31 213 F
 32 218 F
 33 223 F
 34 228 F
 35 222 F
 36 136 F
 37 209 F
 38 225 F
 39 214 F
 40 207 F
 41 231 F
 42 228 F
 43 217 F
 44 250 F
 45 202 F
 46 210 F
 47 182 F
 48 164 F

=====
1692 F

=====
1690 F

=====
83 F

=====
237 F

=====
206 F

GROUP 5

BARE#B #1

49 179 F
 50 185 F
 51 194 F
 52 194 F
 53 218 F
 54 202 F
 55 209 F
 56 205 F
 57 222 F
 58 217 F
 59 214 F
 60 215 F
 61 210 F
 62 207 F
 63 204 F
 64 203 F
 65 226 F
 66 198 F
 67 200 F
 68 214 F
 69 218 F
 70 268 F
 71 235 F
 72 225 F
 73 184 F
 74 166 F

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208 F

GROUP 6

CNDT#2 SUR

75 202 F
 76 186 F
 77 206 F
 78 210 F
 79 228 F
 80 256 F
 81 211 F
 82 260 F
 83 319 F
 84 257 F
 85 765 F
 86 556 F
 87 119 F

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290 F

GROUP 7

7c/12 #2

88 160 F
 89 154 F
 90 193 F
 91 182 F
 92 180 F
 93 179 F
 94 180 F
 95 173 F
 101 180 F
 102 184 F
 103 183 F
 104 184 F
 105 185 F
 106 176 F
 107 168 F
 108 167 F
 109 167 F
 110 186 F
 111 171 F
 112 180 F
 113 185 F
 114 157 F
 115 164 F
 116 130 F
 118 110 F

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171 F

GROUP 8

BARE#B #2

97 110 F
 98 149 F
 99 171 F
 100 -31 F
 119 194 F
 120 183 F
 121 195 F
 122 199 F
 123 196 F
 124 214 F
 125 193 F
 126 188 F
 127 192 F
 128 175 F
 129 185 F
 130 177 F
 131 177 F
 132 184 F
 133 203 F
 134 191 F
 135 168 F
 136 185 F
 137 153 F
 138 159 F
 139 77 F

=====
176 F

GROUP 9

DUMMY

96 289 F
 117 76 F

=====
183 F

100 MINUTES

GROUP 0
FURNACE

1 1729 F
2 1726 F
3 1709 F
4 1722 F

GROUP 1
FURNACE 2

5 1762 F
6 1687 F
7 1719 F
8 1727 F
9 1693 F
10 1742 F

GROUP 2
AMBIENT

11 82 F

GROUP 3
CNDT#1 SUR

12 134 F
13 202 F
14 206 F
15 222 F
16 232 F
17 214 F
18 251 F
19 307 F
20 325 F
21 357 F
22 144 F

GROUP 4
7c/12 #1

23 181 F
24 179 F
25 192 F
26 -51 F
27 208 F
28 206 F
29 210 F
30 216 F
31 212 F
32 225 F
33 226 F
34 231 F
35 229 F
36 154 F
37 209 F
38 239 F
39 219 F
40 207 F
41 234 F
42 229 F
43 218 F
44 237 F
45 203 F
46 205 F
47 185 F
48 139 F

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GROUP 5
BARE#8 #1

49 182 F
50 186 F
51 194 F
52 198 F
53 219 F
54 206 F
55 210 F
56 210 F
57 216 F
58 217 F
59 217 F
60 220 F
61 216 F
62 216 F
63 221 F
64 212 F
65 221 F
66 207 F
67 209 F
68 226 F
69 219 F
70 238 F
71 241 F
72 205 F
73 164 F
74 215 F

=====

GROUP 6
CNDT#2 SUR

75 202 F
76 188 F
77 206 F
78 210 F
79 229 F
80 277 F
81 219 F
82 260 F
83 264 F
84 286 F
85 815 F
86 521 F
87 139 F

=====

GROUP 7
7c/12 #2

88 178 F
89 171 F
90 186 F
91 181 F
92 172 F
93 178 F
94 165 F
95 167 F
101 157 F
102 161 F
103 269 F
104 161 F
105 171 F
106 163 F
107 157 F
108 162 F
109 157 F
110 174 F
111 150 F
112 153 F
113 139 F
114 127 F
115 102 F
116 133 F
118 100 F

=====

GROUP 8
BARE#8 #2

97 107 F
98 42 F
99 87 F
100 293 F
119 179 F
120 179 F
121 184 F
122 180 F
123 173 F
124 199 F
125 168 F
126 158 F
127 170 F
128 153 F
129 158 F
130 135 F
131 157 F
132 154 F
133 159 F
134 151 F
135 112 F
136 138 F
137 121 F
138 123 F
139 82 F

=====

GROUP 9
DUMMY

96 287 F
117 96 F

=====

110 MINUTES
GROUP 0
FURNACE

1 1741°F
2 1740°F
3 1725°F
4 1743°F

GROUP 1
FURNACE 2

5 1770°F
6 1706°F
7 1733°F
8 1744°F
9 1711°F
10 1750°F

GROUP 2
AMBIENT
11 82°F

GROUP 3
CNDT#1 SUR

12 126°F
13 201°F
14 206°F
15 224°F
16 228°F
17 214°F
18 233°F
19 277°F
20 294°F
21 334°F
22 151°F

GROUP 4
7c/12 #1

23 188°F
24 183°F
25 195°F
26 -46°F
27 209°F
28 205°F
29 211°F
30 217°F
31 218°F
32 227°F
33 228°F
34 235°F
35 232°F
36 158°F
37 208°F
38 234°F
39 219°F
40 204°F
41 231°F
42 228°F
43 218°F
44 225°F
45 203°F
46 203°F
47 180°F
48 143°F

=====
1737°F

=====
1736°F

=====
82°F

=====
226°F

=====
208°F

GROUP 5
BARE#8 #1

49 184°F
50 188°F
51 195°F
52 199°F
53 212°F
54 208°F
55 209°F
56 213°F
57 206°F
58 213°F
59 215°F
60 218°F
61 216°F
62 218°F
63 235°F
64 214°F
65 208°F
66 211°F
67 214°F
68 230°F
69 218°F
70 221°F
71 220°F
72 184°F
73 158°F
74 266°F

=====
211°F

GROUP 6
CNDT#2 SUR

75 205°F
76 187°F
77 209°F
78 210°F
79 231°F
80 292°F
81 222°F
82 257°F
83 257°F
84 258°F
85 632°F
86 219°F
87 159°F

=====
257°F

GROUP 7
7c/12 #2

88 185°F
89 180°F
90 190°F
91 189°F
92 184°F
93 187°F
94 180°F
95 185°F
101 181°F
102 178°F
103 168°F
104 181°F
105 175°F
106 174°F
107 170°F
108 171°F
109 170°F
110 171°F
111 167°F
112 164°F
113 153°F
114 149°F
115 136°F
116 153°F
118 97°F

=====
170°F

GROUP 8
BARE#8 #2

97 149°F
98 64°F
99 84°F
100 44°F
119 179°F
120 186°F
121 167°F
122 164°F
123 196°F
124 194°F
125 161°F
126 165°F
127 155°F
128 160°F
129 161°F
130 163°F
131 165°F
132 192°F
133 171°F
134 140°F
135 129°F
136 153°F
137 148°F
138 156°F
139 123°F

=====
151°F

GROUP 9
DUMMY

96 220°F
117 92°F

=====
156°F

120 MINUTES

GROUP 0

FURNACE

1 1777°F
 2 1773°F
 3 1763°F
 4 1808°F

GROUP 1

FURNACE 2

5 1804°F
 6 1739°F
 7 1772°F
 8 1791°F
 9 1746°F
 10 1779°F

GROUP 2

AMBIENT

11 81°F

GROUP 3

CNDT#1 SUR

12 128°F
 13 202°F
 14 218°F
 15 225°F
 16 240°F
 17 215°F
 18 231°F
 19 245°F
 20 275°F
 21 295°F
 22 161°F

GROUP 4

7c/12 #1

23 192°F
 24 194°F
 25 209°F
 26 -42°F
 27 221°F
 28 215°F
 29 215°F
 30 222°F
 31 226°F
 32 235°F
 33 230°F
 34 236°F
 35 232°F
 36 166°F
 37 213°F
 38 230°F
 39 219°F
 40 207°F
 41 221°F
 42 220°F
 43 218°F
 44 215°F
 45 203°F
 46 200°F
 47 170°F
 48 152°F

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1780°F

=====

1772°F

=====

81°F

=====

221°F

=====

210°F

GROUP 5

BARE#8 #1

49 196°F
 50 198°F
 51 207°F
 52 209°F
 53 208°F
 54 216°F
 55 207°F
 56 215°F
 57 201°F
 58 208°F
 59 194°F
 60 203°F
 61 209°F
 62 217°F
 63 228°F
 64 206°F
 65 190°F
 66 205°F
 67 205°F
 68 218°F
 69 207°F
 70 208°F
 71 188°F
 72 158°F
 73 139°F
 74 363°F

=====

208°F

GROUP 6

CNDT#2 SUR

75 205°F
 76 203°F
 77 208°F
 78 213°F
 79 232°F
 80 322°F
 81 227°F
 82 253°F
 83 262°F
 84 250°F
 85 692°F
 86 226°F
 87 163°F

=====

266°F

GROUP 7

7c/12 #2

88 183°F
 89 193°F
 90 190°F
 91 187°F
 92 186°F
 93 189°F
 94 184°F
 95 188°F
 101 186°F
 102 184°F
 103 182°F
 104 188°F
 105 188°F
 106 180°F
 107 173°F
 108 174°F
 109 173°F
 110 187°F
 111 183°F
 112 175°F
 113 173°F
 114 163°F
 115 156°F
 116 160°F
 118 108°F

=====

177°F

GROUP 8

BARE#8 #2

97 161°F
 98 86°F
 99 79°F
 100 6°F
 119 178°F
 120 185°F
 121 176°F
 122 158°F
 123 166°F
 124 192°F
 125 177°F
 126 174°F
 127 182°F
 128 179°F
 129 176°F
 130 168°F
 131 164°F
 132 170°F
 133 200°F
 134 177°F
 135 167°F
 136 164°F
 137 157°F
 138 174°F
 139 131°F

=====

158°F

GROUP 9

DUMMY

96 238°F
 117 100°F

=====

169°F

130 MINUTES

GROUP 0
FURNACE

1	1805 F
2	1809 F
3	1790 F
4	1836 F

GROUP 1
FURNACE 2

5	1835 F
6	1766 F
7	1799 F
8	1819 F
9	1773 F
10	1804 F

GROUP 2
AMBIENT
11 83 F

GROUP 3
CNDT#1 SUR

12	136 F
13	204 F
14	218 F
15	248 F
16	253 F
17	221 F
18	239 F
19	226 F
20	233 F
21	254 F
22	174 F

GROUP 4
7c/12 #1

23	197 F
24	199 F
25	207 F
26	-34 F
27	205 F
28	203 F
29	202 F
30	208 F
31	209 F
32	217 F
33	212 F
34	211 F
35	212 F
36	168 F
37	207 F
38	203 F
39	202 F
40	204 F
41	204 F
42	187 F
43	188 F
44	201 F
45	175 F
46	178 F
47	152 F
48	154 F

=====
1810 F

=====
1799 F

=====
83 F

=====
219 F

=====
196 F

GROUP 5
BARE#B #1

49	194 F
50	199 F
51	200 F
52	201 F
53	200 F
54	202 F
55	192 F
56	198 F
57	189 F
58	190 F
59	185 F
60	190 F
61	192 F
62	200 F
63	147 F
64	188 F
65	189 F
66	192 F
67	178 F
68	176 F
69	169 F
70	199 F
71	180 F
72	171 F
73	125 F
74	551 F

=====
200 F

GROUP 6
CNDT#2 SUR

75	204 F
76	203 F
77	204 F
78	214 F
79	234 F
80	343 F
81	236 F
82	242 F
83	270 F
84	254 F
85	768 F
86	235 F
87	155 F

=====
274 F

GROUP 7
7c/12 #2

88	187 F
89	196 F
90	194 F
91	192 F
92	193 F
93	191 F
94	192 F
95	196 F
101	193 F
102	191 F
103	197 F
104	197 F
105	201 F
106	187 F
107	192 F
108	196 F
109	193 F
110	213 F
111	195 F
112	189 F
113	176 F
114	181 F
115	161 F
116	175 F
118	120 F

=====
188 F

GROUP 8
BARE#B #2

97	182 F
98	78 F
99	98 F
100	14 F
119	187 F
120	189 F
121	185 F
122	172 F
123	178 F
124	198 F
125	193 F
126	185 F
127	195 F
128	197 F
129	202 F
130	189 F
131	173 F
132	189 F
133	216 F
134	196 F
135	183 F
136	172 F
137	169 F
138	188 F
139	146 F

=====
171 F

GROUP 9
DUMMY

96	172 F
117	114 F

=====
143 F

140 MINUTES

GROUP 0

FURNACE	
1	1824 F
2	1831 F
3	1810 F
4	1851 F

GROUP 1
FURNACE 2

5	1852 F
6	1788 F
7	1820 F
8	1835 F
9	1795 F
10	1821 F

GROUP 2
AMBIENT

11 83 F

GROUP 3
CNDT#1 SUR

12	141 F
13	209 F
14	256 F
15	247 F
16	274 F
17	226 F
18	245 F
19	223 F
20	227 F
21	251 F
22	176 F

GROUP 4
7c/12 #1

23	203 F
24	204 F
25	199 F
26	132 F
27	199 F
28	202 F
29	199 F
30	204 F
31	209 F
32	204 F
33	200 F
34	206 F
35	200 F
36	158 F
37	200 F
38	200 F
39	200 F
40	200 F
41	185 F
42	187 F
43	180 F
44	195 F
45	184 F
46	186 F
47	169 F
48	162 F

=====
1830 F

=====
1819 F

=====
83 F

=====
225 F

=====
194 F

GROUP 5
BARE#B #1

49	208 F
50	206 F
51	217 F
52	213 F
53	206 F
54	205 F
55	199 F
56	202 F
57	193 F
58	199 F
59	196 F
60	210 F
61	206 F
62	213 F
63	210 F
64	219 F
65	202 F
66	236 F
67	246 F
68	209 F
69	191 F
70	201 F
71	189 F
72	180 F
73	188 F
74	200 F

=====
206 F

GROUP 6
CNDT#2 SUR

75	205 F
76	202 F
77	203 F
78	218 F
79	238 F
80	381 F
81	254 F
82	251 F
83	291 F
84	263 F
85	818 F
86	245 F
87	153 F

=====
286 F

GROUP 7
7c/12 #2

88	188 F
89	198 F
90	198 F
91	198 F
92	199 F
93	200 F
94	196 F
95	201 F
101	203 F
102	199 F
103	202 F
104	202 F
105	208 F
106	202 F
107	225 F
108	226 F
109	244 F
110	250 F
111	201 F
112	200 F
113	182 F
114	194 F
115	166 F
116	190 F
118	131 F

=====
200 F

GROUP 8
BARE#B #2

97	187 F
98	84 F
99	110 F
100	33 F
119	194 F
120	195 F
121	192 F
122	190 F
123	187 F
124	218 F
125	203 F
126	193 F
127	203 F
128	211 F
129	261 F
130	233 F
131	236 F
132	254 F
133	230 F
134	209 F
135	196 F
136	190 F
137	175 F
138	196 F
139	159 F

=====
190 F

GROUP 9
DUMMY

96	202 F
117	133 F

=====
168 F

150 MINUTES

GROUP 0

FURNACE

1	1845 F
2	1850 F
3	1834 F
4	1872 F

GROUP 1

FURNACE 2

5	1870 F
6	1810 F
7	1840 F
8	1857 F
9	1818 F
10	1840 F

GROUP 2

AMBIENT

11 88 F

GROUP 3

CNDT#1 SUR

12	143 F
13	216 F
14	287 F
15	290 F
16	328 F
17	237 F
18	251 F
19	220 F
20	226 F
21	230 F
22	177 F

GROUP 4

7c/12 #1

23	205 F
24	210 F
25	207 F
26	231 F
27	205 F
28	206 F
29	203 F
30	213 F
31	230 F
32	225 F
33	214 F
34	214 F
35	205 F
36	171 F
37	215 F
38	210 F
39	208 F
40	199 F
41	206 F
42	201 F
43	196 F
44	200 F
45	187 F
46	188 F
47	181 F
48	166 F

=====
1850 F

=====
1839 F

=====
88 F

=====
237 F

=====
203 F

GROUP 5
BARE#B #1

49	210 F
50	209 F
51	214 F
52	211 F
53	210 F
54	210 F
55	206 F
56	205 F
57	194 F
58	201 F
59	199 F
60	213 F
61	205 F
62	216 F
63	212 F
64	213 F
65	206 F
66	207 F
67	244 F
68	219 F
69	201 F
70	204 F
71	194 F
72	188 F
73	168 F
74	183 F

=====
205 F

GROUP 6
CNDT#2 SUR

75	210 F
76	209 F
77	273 F
78	219 F
79	241 F
80	425 F
81	280 F
82	266 F
83	347 F
84	265 F
85	828 F
86	253 F
87	157 F

=====
306 F

GROUP 7
7c/12 #2

88	190 F
89	203 F
90	205 F
91	203 F
92	205 F
93	206 F
94	205 F
95	203 F
101	206 F
102	202 F
103	206 F
104	204 F
105	221 F
106	219 F
107	264 F
108	267 F
109	303 F
110	294 F
111	217 F
112	222 F
113	181 F
114	198 F
115	155 F
116	198 F
118	134 F

=====
212 F

GROUP 8
BARE#B #2

97	192 F
98	74 F
99	108 F
100	48 F
119	201 F
120	200 F
121	197 F
122	194 F
123	194 F
124	215 F
125	206 F
126	196 F
127	227 F
128	249 F
129	312 F
130	290 F
131	301 F
132	307 F
133	270 F
134	259 F
135	203 F
136	199 F
137	177 F
138	199 F
139	169 F

=====
207 F

GROUP 9
DUMMY

96	167 F
117	132 F

=====
150 F

170 MINUTES

GROUP 0
FURNACE

1 1885°F
2 1893°F
3 1876°F
4 1905°F

GROUP 1
FURNACE 2

5 1911°F
6 272°F
7 1883°F
8 1894°F
9 1861°F
10 1881°F

GROUP 2
AMBIENT

11 88°F

GROUP 3
CNDT#1 SUR

12 147°F
13 223°F
14 490°F
15 452°F
16 513°F
17 332°F
18 294°F
19 254°F
20 221°F
21 227°F
22 177°F

GROUP 4
7c/12 #1

23 205°F
24 209°F
25 211°F
26 172°F
27 225°F
28 210°F
29 303°F
30 212°F
31 243°F
32 344°F
33 277°F
34 252°F
35 234°F
36 174°F
37 213°F
38 242°F
39 233°F
40 213°F
41 213°F
42 211°F
43 204°F
44 215°F
45 208°F
46 193°F
47 189°F
48 182°F

=====
1890°F

=====
1617°F

=====
88°F

=====
303°F

=====
235°F

GROUP 5
BARE#B #1

49 212°F
50 207°F
51 209°F
52 211°F
53 241°F
54 260°F
55 271°F
56 273°F
57 200°F
58 203°F
59 227°F
60 207°F
61 201°F
62 205°F
63 209°F
64 210°F
65 204°F
66 200°F
67 213°F
68 213°F
69 201°F
70 201°F
71 186°F
72 186°F
73 160°F
74 177°F

=====
211°F

GROUP 6
CNDT#2 SUR

75 229°F
76 211°F
77 368°F
78 247°F
79 283°F
80 569°F
81 417°F
82 319°F
83 393°F
84 243°F
85 622°F
86 266°F
87 131°F

=====
331°F

GROUP 7
7c/12 #2

88 198°F
89 206°F
90 204°F
91 205°F
92 235°F
93 209°F
94 199°F
95 201°F
101 200°F
102 200°F
103 205°F
104 229°F
105 291°F
106 310°F
107 358°F
108 360°F
109 399°F
110 405°F
111 327°F
112 326°F
113 228°F
114 212°F
115 197°F
116 197°F
118 140°F

=====
250°F

GROUP 8
BARE#B #2

97 196°F
98 107°F
99 120°F
100 85°F
119 207°F
120 201°F
121 207°F
122 212°F
123 199°F
124 210°F
125 208°F
126 197°F
127 319°F
128 340°F
129 435°F
130 402°F
131 431°F
132 412°F
133 377°F
134 371°F
135 309°F
136 301°F
137 197°F
138 204°F
139 190°F

=====
257°F

GROUP 9
DUMMY

96 132°F
117 140°F

=====
136°F

180 MINUTES

180 MINUTES

GROUP 0
FURNACE
1 1906 F
2 1911 F
3 1936 F
4 1923 F

GROUP 1
FURNACE 2
5 1930 F
6 0 F
7 1902 F
8 1913 F
9 1882 F
10 190 F

GROUP 2
AMBIENT
11 89 F

GROUP 3
CNDT#1 SUR
12 147 F
13 226 F
14 566 F
15 528 F
16 636 F
17 370 F
18 323 F
19 275 F
20 220 F
21 223 F
22 173 F

GROUP 4
7c/12 #1
23 206 F
24 205 F
25 210 F
26 -111 F
27 325 F
28 339 F
29 404 F
30 391 F
31 397 F
32 413 F
33 331 F
34 347 F
35 279 F
36 184 F
37 246 F
38 270 F
39 252 F
40 216 F
41 214 F
42 213 F
43 205 F
44 213 F
45 209 F
46 194 F
47 191 F
48 185 F

=====
1909 F

=====
1905 F

=====
89 F

=====
335 F

=====
266 F

GROUP 5
BARE#B #1
49 205 F
50 201 F
51 211 F
52 221 F
53 386 F
54 388 F
55 396 F
56 389 F
57 336 F
58 315 F
59 290 F
60 250 F
61 254 F
62 244 F
63 214 F
64 215 F
65 207 F
66 207 F
67 218 F
68 217 F
69 205 F
70 200 F
71 195 F
72 193 F
73 163 F
74 167 F

GROUP 6
CNDT#2 SUR
75 245 F
76 210 F
77 400 F
78 268 F
79 312 F
80 642 F
81 441 F
82 336 F
83 395 F
84 239 F
85 524 F
86 269 F
87 146 F

GROUP 7
7c/12 #2
88 200 F
89 208 F
90 206 F
91 207 F
92 292 F
93 297 F
94 201 F
95 202 F
101 202 F
102 200 F
103 232 F
104 266 F
105 361 F
106 372 F
107 416 F
108 434 F
109 466 F
110 467 F
111 363 F
112 367 F
113 261 F
114 252 F
115 201 F
116 194 F
118 148 F

GROUP 8
BARE#B #2
97 194 F
98 110 F
99 123 F
100 92 F
119 208 F
120 202 F
121 216 F
122 213 F
123 208 F
124 215 F
125 221 F
126 200 F
127 403 F
128 424 F
129 509 F
130 478 F
131 498 F
132 480 F
133 418 F
134 411 F
135 342 F
136 337 F
137 221 F
138 222 F
139 191 F

GROUP 9
DUMMY
96 181 F
117 151 F

=====
250 F

=====
341 F

=====
281 F

=====
285 F

=====
166 F

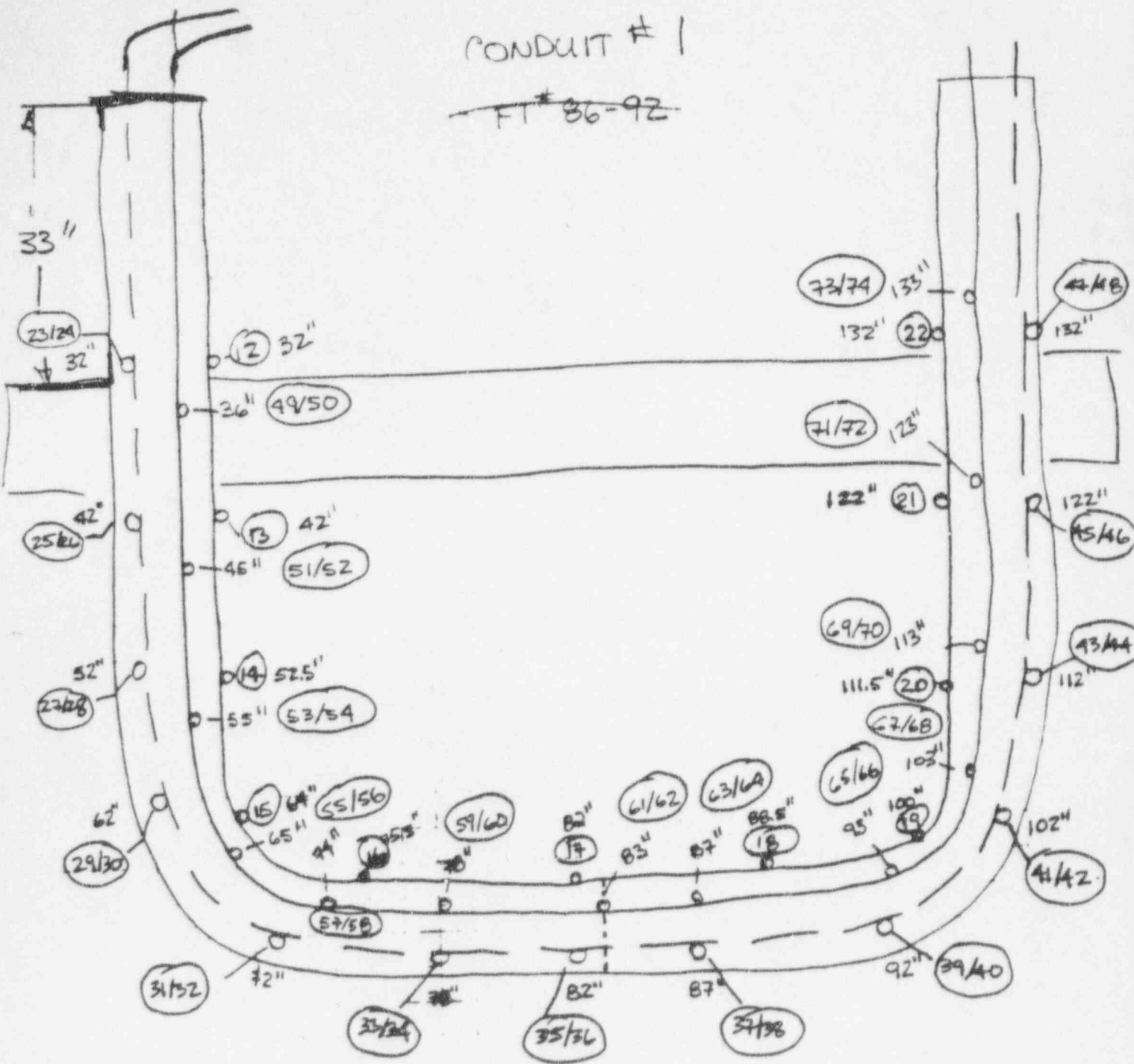
CONDUIT SURFACE TC'S 12-22

--- TC/#12 TC'S 23-48

--- ~~BARC # B TC'S 49-74~~

CONDUIT # 1

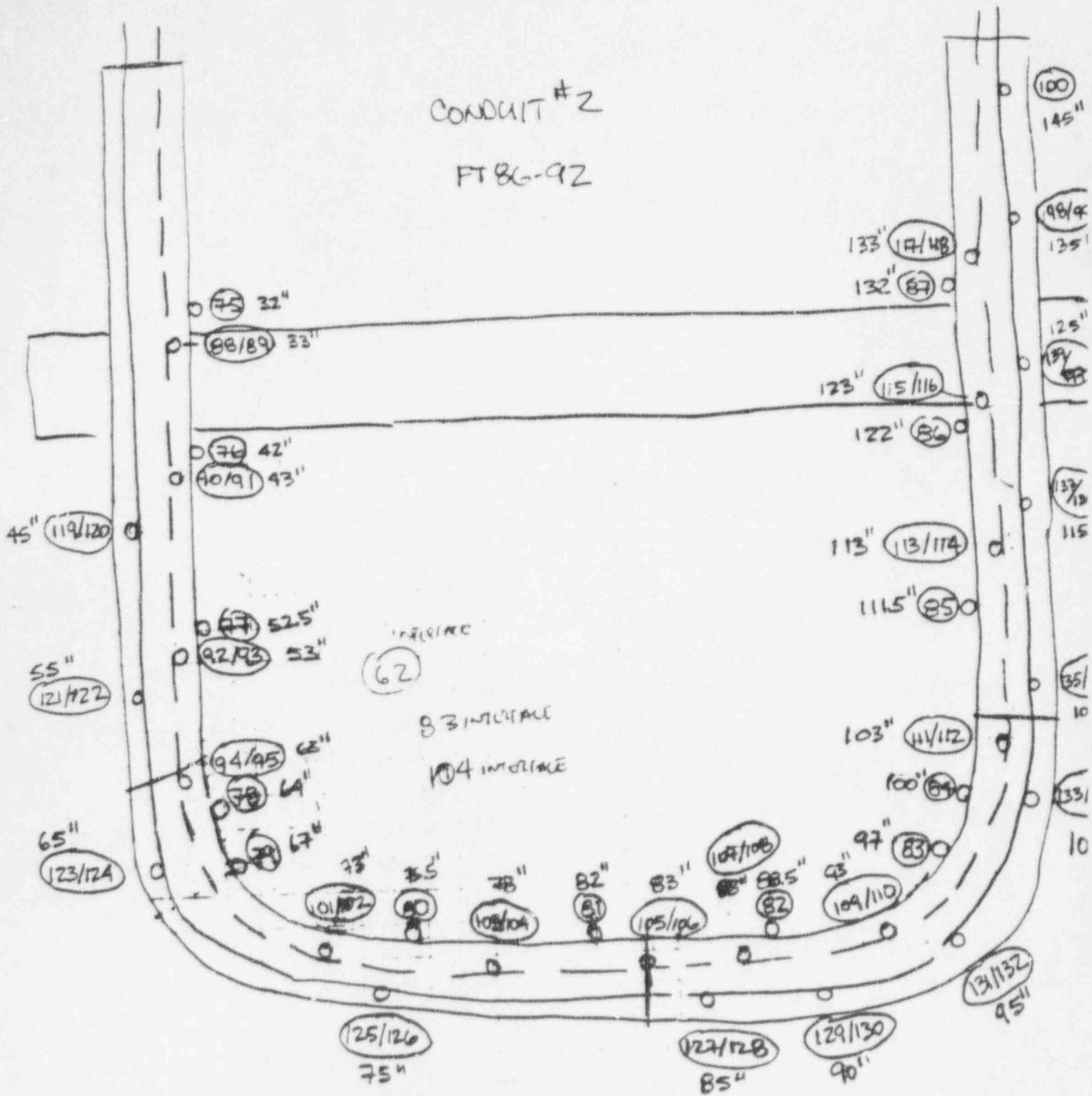
--- ~~FT # 86-92~~



BURNT CABLES START @ 52" AND
GO TO 82"

POST TEST TC LOCATIONS
3M/TSI INTERFACE TEST

--- 7c/#12 TC's
 --- BARE#B



EVENT CABLES STARTED @ 85" AND ENDED @ 105"
 POST TEST TC LOCATIONS
 3M/TSI INTERFACE TEST

RECONFIGURE FT # 86-92
 3M/TSI INTERFACE TEST 2.5 IN CNDT 3H12

BAD TC'S

		FROM	TO
TC #	26	MINUTE 42	MINUTE 182
TC #	28	MINUTE 26	MINUTE 86
TC #	31	MINUTE 26	MINUTE 88
TC #	36	MINUTE 40	MINUTE 182 (READ @ @ 92 MINUTES)

NEW CONFIGURATION

GROUP	TC #'S	DESCRIPTION	NAME
✓ 1	25, 27, 29, 30 32, 33, 34	CONDUIT #1 TSI	CNDT-1 TSI
✓ 2	35	3M/TSI INTERFACE CONDUIT #1	INTERFACE 1
✓ 3	37-46	END CONDUIT #1 3M	CNDT-1 3M
4	90-93	CONDUIT #2 TSI SOUTH	CNDT2 TSI S
5	94, 95	3M/TSI INTERFACE CONDUIT #2 SOUTH	INTERFACE 2S
6	101-104	CONDUIT #2 3M SOUTH	CNDT2 3M S
7	105, 106	3M/TSI INTERFACE CONDUIT #2 CENTER	INTERFACE 2C
8	107-110	CONDUIT #2 TSI NORTH	CNDT2 TSI N
9	111, 112	3M/TSI INTERFACE CONDUIT #2 NORTH	INTERFACE 2N
10	113-116	CONDUIT #2 3M NORTH	CNDT2 3M N
✓ 0	26, 28, 31, 36	MAJFUNCTIONED THERMOCOUPLES	BAD TC'S

NOTE ON THERMOCOUPLE PERFORMANCE

1. TC #S 5+10 MALFUNCTIONED FROM MINUTE "0"
TO MINUTE "82"
FROM MINUTE "84" TO MINUTE "182" THE
TC'S (5+10) READ ACCURATELY

THE "AREA UNDER THE CURVE" WAS CALCULATED
AS FOLLOWS;

TC'S ~~1, 2, 3, 4, 8,~~
1, 2, 3, 4, 6, 7, 8, 9 WERE USED FOR THE AVERAGE
TEMPERATURE UP TO MINUTE "82"

STARTING @ MINUTE "84" TC #S 5+10 WERE
INCLUDED.

TC # 6 WAS DROPPED FROM THE AVERAGE
CALCULATION STARTING @ MINUTE "144". THE
NEXT 6 MINUTES "146-150" TC # 6 READ ACCURATELY,
THEN @ MINUTE "154" TC # 6 MALFUNCTIONED
COMPLETELY AND WAS THEREFORE LEFT OUT
OF THE AVERAGE CALCULATION ALTOGETHER.

2. TC # 6 WENT BAD @ MINUTE "144"
WAS GOOD AGAIN @ MINUTES 146, 148, + 150
TC # 6 THEN WENT BAD FROM MINUTE
"154" UNTIL MINUTE "182"