AMPACITY DERATING OF FIRE PROTECTED CABLES

Project No. 14540-100770

ELECTRICAL TEST TO DETERMINE THE AMPACITY DERATING OF A PROTECTIVE ENVELOPE FOR CLASS 1E ELECTRICAL CIRCUITS

December 5, 1996

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Prepared For:

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OMEGA POINT LABORATORIES

CTP-2002
January 7, 1997

FOREWORD

This foreword shall serve as notice of review by the Product Assurance Manager as stated in QAM20188, Issue C, dated March 28, 1993, Section XI, paragraph 4.5.

The PROMATEC Quality Assurance Department has approved the applicable procedures, monitored the construction of the test specimens, monitored the application of the fire proofing material, maintained complete documentation of the fire proofing material application and hereby verifies that approved procedures were utilized in the application of fire proofing material into various assemblies.

Copies of the applicable manufacturer's Certificates of Compliance are available from the PROMATEC Quality Assurance Department upon written request and may be excluded from the contents of this documentation package.

The Quality Assurance/Quality Control functions performed by PROMATEC personnel are governed within the applicable sections of the PROMATEC Quality Assurance Program and the applicable Quality Control Procedures.

L. Charles Spriggs
VP/Product Assurance

ABSTRACT

A 24" wide by 4" deep steel ladder back cable tray assembly, clad with 3M Interam™ fire protective materials, as described herein, was evaluated in accordance with the IEEE P848, D16, yielding ampacity derating value of ***49.90%****.*

All specimens and test sample assemblies were produced, installed and tested under the surveillance of either Peak Seals' or the testing laboratory's Quality Assurance Program. This report describes the analysis of distinct assemblies and includes descriptions of the test procedure followed, the assemblies tested, and all results obtained. All test data are on file and remain available for review by authorized persons.

Herbert W. Stansberry II
Project Manager

12/5/96
Date

Constance A. Humphrey
Manager, QA Dept.

12/5/96
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INTRODUCTION

A Electrical Raceway Fire Barrier Systems (ERFBS) protects electrical components from the effects of fire. In doing so, it will reduce the inflow of energy into the system and maintain the internal temperature below maximum limits. These limits will ensure that the cable systems remain functional during a fire, and allow operators to maintain control of systems required for fire safe shutdown.

The addition of an ERFBS on a cable system will not only protect the contained cable from elevated temperatures associated with a fire, but will impede the heat dissipation associated with cable operation. The evaluation described herein will yield an accurate and realistic value for the ampacity derating of cables when a ERFBS is installed on the cable system.

TEST PROCEDURE

This entire test program was performed in accordance with the IEEE P848, D16 Standard Procedure for the Determination of the Ampacity Derating of Fire Protected Cables.

TEST ENCLOSURE

The ampacity test enclosure was constructed within the confines of a room maintained at constant conditions of 73±5°F and 50±5% r.h. The ampacity enclosure was created by "boxing in" one corner of this room with two steel stud walls with 1-1/2 in. of polystyrene insulation lining the interior of the walls. The overall dimensions of the test enclosure were 19 ft. x 19 ft. x 12 ft. An entry door was provided in one metal stud wall and the adjacent metal stud wall was made to be removable to facilitate easier location of test articles. The remaining two walls, forming the corner of the larger, enclosing room, were constructed of 2x6 lumber with 5/8 in. Type X gypsum wallboard on each face and the stud cavities were filled with R-16 (nominal) mineral wool insulation. The ceiling of the test enclosure was constructed of 5/8 in. thick mineral fiber ceiling tiles (drop ceiling) insulated with a 12 in. depth of R-30 (nominal) mineral wool insulation. Four 1.5 kW heaters were disposed about the room to regulate ambient conditions. The operation of each heater was controlled by a separate thermostat to maintain conditions. Box fans were placed, as required, near the heaters in the room to gently stir the air and more evenly distribute the heat. A minimum of nine thermocouples were suspended from the ceiling and positioned in the horizontal plane of the test items, 12 in. away from various test items to monitor the ambient room temperatures. Polystyrene foam insulation in thicknesses of 1 in. or 1-1/2 in., was also placed on the floor of the room during the tests.

The test article baseline test was conducted first. Once the baseline system had attained equilibrium and all final measurements had been taken, the ERFBS was applied to the system. The ampacity test sequence was then conducted.

THERMOCOUPLES

All temperatures monitored in this evaluations were measured with Type T, 24 gauge, Copper-Constantan electrically welded thermocouples formed from Copper and Constantan wires of "Special Limits of Error (±0.5°C)," and covered with Teflon FEP® insulation. All thermocouple wire was calibrated to ±0.5°C.

DATA ACQUISITION SYSTEM

The outputs of the test article thermocouples and room control thermocouples were monitored by a data acquisition system consisting of a John Fluke Mfg. Co. Model HELIOS I 2289A Computer Front End, and an Apple Computer Co. Macintosh Classic microcomputer. The Computer Front End was connected to the RS422 Serial Interface Port of the Macintosh. The computer was programmed in Microsoft BASIC to command the HELIOS unit to sample the data input lines, receive and convert data into a digital format, and to manipulate the data for display on screen, the hard copy printout, and saving to hard disk.

The computer program determined, and displayed, the average temperatures at each of the three positions on the test article. A linear regression analysis of the rate of change of temperature for the average of the thermocouples located in the center portion of the test article was then calculated at every time interval, for the preceding 60 minute period, based on the least-squares method. All individual data points and calculated values were saved on hard disk at one minute intervals. A record of individual location temperatures, maximum temperatures and rates of change of temperatures was printed at one minute intervals. Alterations in the number of articles being simultaneously evaluated and the varying number of thermocouples contained in each article necessitated modifications to the data collection program during the course of the testing series. The calculation routines, however, remained consistent.

Test data recorded during the equilibrium period is presented in Appendix B: TEST DATA.

CURRENT CONTROL SYSTEM

The current flow through the test article was regulated using process control type devices. The available voltage for any test control circuit was 208 Vac single phase. A Silicon Controlled Rectifier (SCR) device (Halmar Robicon Group Model No. 140P-FK2-CL) was used to vary the voltage available to the primary side of a step-down transformer between 0 Vac and 208 Vac in proportion to a 4-20 mA control input. The test article was connected to the secondary side of the step-down transformer. A proportional-integral-derivative process controller (Honeywell Universal Digital Controller Model No. UDC 3002-0-000-1-00-XXXX) was responsible for generating the 4-20 mA signal fed to the SCR device, based on a voltage feedback loop. A current transformer (Flex-Core Model No. 58-151, 150:5 ratio; input amps: output amps) was fitted to one lead of the test article to monitor the current flow through the conductor. The output of the current transformer was connected to a current transducer (Flex-Core Model No. CT5-005A) with a mA to mV converter (Flex-Core Model No. LRB-10000) to produce a 0-10 Vdc signal proportional to a 0-150 A current span in the sample conductor. This 0-10 Vdc signal is used as the "process variable" in the feedback loop to the controller. In essence, the above circuitry made up a constant-current device, insensitive to line voltage changes.

The current in any given system was driven to a level high enough to bring the conductor to 90°C as quickly as possible by increasing the output signal of the process controller via keypad commands. As the conductor temperature approached 90°C, the current level was reduced and the test article was given time to respond to current changes before another adjustment was made to the current. If an estimation of the final current flow was possible, the system would be adjusted to that current flow and allowed to climb to temperature. Adjustments would then be made to attain the desire maximum conductor temperature. During this time period, the controller was turned to "automatic" control and the "process variable set point" (the voltage output from the current transformer that represents the current level at which the controller will maintain the system) was adjusted to the same value as the displayed process variable (the controller varies its output in order the maintain the process variable at the level indicated by the set point).

This process of adjusting the controller output (and the control variable set point) and waiting for the system to stabilize (about 1/2 hour to about 2 hours for small articles and up to 6 hours to 8 hours for larger articles) was continued until the temperature parameters of the test article were within the specified limits. The controller was allowed to operate the system for a minimum of three hours. If, at the end of three hours, the system was still within the bounds of all specifications, final current and voltage measurements were taken and the system was deemed to be in equilibrium. The test article was considered to have reached equilibrium

when a minimum of three hours had elapsed since the last adjustment (> 0.5%) to the system current, the maximum temperature at the center of the test article (location 2) is 90°C ±1°C and the rate of change of the average temperature of the center of the test article was within ±0.2°C per hour. Additionally, the test enclosure temperature must have been 40°C ±2°C and the average temperatures at each end of the test article must have been within ±4°C of the average temperature in the center of the test article. All conditions (with the exception of the rate of change of the average center temperature) were within these tolerances for at least three hours to satisfy the conditions of equilibrium. The rate of change of the average center temperature was required to be in tolerance for the last hour of the three hours at equilibrium.

FINAL CURRENT MEASUREMENT

All final current measurements were performed using an AEMC Corporation AC Current Probe model SD602 connected to a John Fluke Digital Multimeter model 8062A. Calibration documentation for these devices can be found in Appendix C: Quality Assurance.

TEST ASSEMBLIES

TEST ITEMS (GENERAL)

The materials used in this test were subjected to on-site commercial grade dedication programs prior to acceptance and subsequent installation. The cable tray materials used in this test were purchased by Omega Point Laboratories from B-Line Systems, Inc. (Cat. No. 248P0924144). The following table provides pertinent data on the cable tray material used:

ATTRIBUTE	DIMENSION
Side rail thickness	0.048 in.
Rung thickness	18 GA
Rung spacing	9 in. o.c.
Rung dimensions	1-5/8 in. w x 13/16 in. h x 3/8 in. leg

The cable tray straight section consisted of ASTM A446, GR A, pre-galvanized steel, ASTM A525.

Electrical cables used in this test were purchased by Omega Point Laboratories from Data Tech Electronics. Cable used in these tests were as follows:

DESCRIPTION	DIAMETER (in.)	CROSS-SECTIONAL AREA (in^2)
3/C #6 AWG 600v	0.750	0.442

The diameter and cross-sectional area listed herein represent the Laboratory's average of ten measurements of the cable type.

3M Interam™ Mat Materials/Installation/Inspection

The 3M Interam™ Mat materials were supplied by 3M, St. Paul, Minnesota. Materials included Interam™ E-54A Mat (rolls 24-1/2" wide x 20' long), Interam™ T-49 Tape (rolls 4" wide x 180' long) and Interam™ FireDam™ 150 Caulk (10-1/2 fl. oz cartridges). All 3M materials were measured, cut and installed onto the respective test assembly by Peak Seals, Inc. craft personnel (insulators) using approved Peak Seals, Inc. drawings, procedures and specifications. The various phases of inspection were accomplished by Peak Seals, Inc. Quality Control personnel.

Other Materials

Materials used in conjunction with the 3M components previously identified were 3M Scotch™ Brand Premium Grade Filament Tape P-898 (rolls 3/4" wide x 60 yd. long) and 1/2 in. wide x 0.020 in. thick, type 304 stainless steel rolled-edge banding straps and stainless steel banding clips.

CONSTRUCTION OF TEST ARTICLE

The test item was constructed and tested on a rolling cart constructed of 2 in. square steel tubing. The cart was fashioned such that the article was supported 18 in. in from each end. Wooden or foam thermal breaks were placed between the test article and the surfaces of the metal cart. This cart was also used after the installation of the ERFBS. The cable extending beyond the ends of the raceway item at each end of the article and the ends of the barrier systems were wrapped with fiberglass insulation during the ampacity testing.

24" x 4" STEEL LADDER BACK CABLE TRAY

The assembly consisted of a 24 in. wide x 4 in. deep cable tray assembly, 12' in length, into which was laid 96 passes of three conductor cable (BRAND REX XLP/CU POWER & CONTROL CABLE 3/C #6 600V SUN RES DB XHHW TYPE TC (UL)), each 13' in length. Wooden blocks were installed across the cable mass at each end of the tray to insure a tight bundle was maintained.

The three separate conductors within the cable were connected into a single series circuit and the current source was then connected to the two free cable ends.

Electrical Cables

The table below shows the cable type used in this test article, the number of cables installed, the total cross-sectional area of cable and the percent of the total available area taken up by cable in this test article.

CABLE TYPE	NUMBER PRESENT	CROSS-SECTIONAL AREA (in^2)	% OF TOTAL AREA*
3C/#6	96	42.41	58.90

* The percent of total fill is based on the usable cross-sectional area of the cable tray being (3 in. deep x 24 in. wide) 72 square inches.

Thermocouple Placement

24 gauge, Type T, Copper-Constantan electrically welded thermocouples (Special Limits of Error: ±0.5°C, purchased with lot traceability and calibration certifications) were attached in fifteen places within the cable tray assembly, by slicing through the outer and inner jackets of the cable (down to bare conductor) and placing the thermojunction in direct contact with the top surface of the cable conductor and covering the slit with a double wrap of glass fiber reinforced electrical tape (Glass Cloth Electrical Tape, Class "B" Insulation, 1/2 in. wide, 3M Corporation, Item No. 27) for a minimum distance of 3-1/2 inches.

Of the thermocouples with the tray assembly, five were located at the mid-point of the cable tray, five were located 36 in. to the left of mid-point and five were located and 36 in. to the right of midpoint, all within the second layer of cables.

3M Interam™ Mat Installation Highlights

3M Interam™ Mat materials were installed in accordance in a total of three layers. Prior to installation of the wrap system, galvanized steel struts were installed across the cable tray side rails, spaced 12" o.c. and within 2" of the first layer butt joints on both sides of each joint. The first layer of Interam™ E-54-A mat was applied to the cable tray using the circumferential wrap method, with a 2" longitudinal overlap joint. This overlapped joint was then caulked with a 1/4" diameter bead of FireDam™ 150 and taped with Interam™ T-49 foil tape. Adjacent sections within the same layer were abutted. All gaps over 1/8" wide were caulked with FireDam™ 150. The remaining two layers were installed in the same manner as the first, with the circumferential seams staggered a minimum of 2". After the installation of the third and final layer, the circumferential joints were wrapped with a 4" wide collar, caulked and taped with FireDam™ 150 and Interam™ T-49 foil tape. Stainless steel bands (1/2" wide x 0.020" thick) were installed 12" o.c. and within 1" of the edge on all collars.

TEST RESULTS

DETERMINATION OF AMPACITY DERATING FACTOR

The completed test specimen was placed in the Laboratory's test enclosure and the thermocouples connected to the data acquisition system and their outputs verified. The entire ampacity test sequence was conducted from August 1, 1996, to October 10, 1996, by Herbert W. Stansberry II, project manager, with the following results:

TEST ITEM	EQU. VOLTAGE (VOLTS)	EQU. CURRENT (AMPS)	EQU. TEMP (°C)	ROOM TEMP (°C)	CORRECTED CURRENT (AMPS)	PERCENT DERATING
24" Tray Baseline	53.98	28.34	90.2	40.7	28.49	---
24" Tray with ERFBS	27.99	14.43	90.7	39.5	14.28	49.90

The equilibrium current and voltage values are single-point measurements performed after the system was at equilibrium. The Equ. Temp (equilibrium conductor temperature at the hottest location), and the Room Temp are reported as 60 minute average values. The Corrected Current values are those calculated in accordance with P 848/D16 IEEE Standard Procedure for the Determination of the Ampacity Derating of Fire Protected Cables*, which corrects these current values to a room temperature of 40°C and a conductor temperature of 90°C.

$$* \quad I' = I \sqrt{\frac{(Tc' - Ta') \times (\alpha + Tc)}{(Tc - Ta) \times (\alpha + Tc')}}$$

where

I	test current at equilibrium, amperes	
Tc	hottest conductor temperature at center at equilibrium, °C	
Ta	measured enclosure ambient temperature, °C	
I'	normalized current, amperes	
Tc'	normalized conductor temperature	= 90°C
Ta'	normalized ambient temperature	= 40°C
α	234.5 for copper	

SURFACE EMISSIVITY

All emissivity measurements were made with the test article at its equilibrium temperature. The surface emissivity measurements were made using a Mikron model No. M80AL-2FH Serial No. 52449. This device has a target zone diameter of 1/4 in. at a target distance of 2 in. The surface emissivity of the test article was measured at nine points on each different surface type. For the baseline evaluations, these surface types included cable tray side rail outer surfaces and cable jacket surfaces. For the clad article evaluations, the emissivity of the outer surface of the fire barrier materials was measured at nine locations. At each of the nine locations for each surface type, the surface temperature was measured using a thermocouple connected to a handheld thermocouple reader. The emissivity adjustment on the emissivity gun was varied until the temperature registered by the emissivity gun was consistent with that measured by the thermocouple. The number displayed on the emissivity adjustment was recorded as the surface emissivity for that location. The average emissivity of the nine locations was calculated and is reported in the table on the following page.

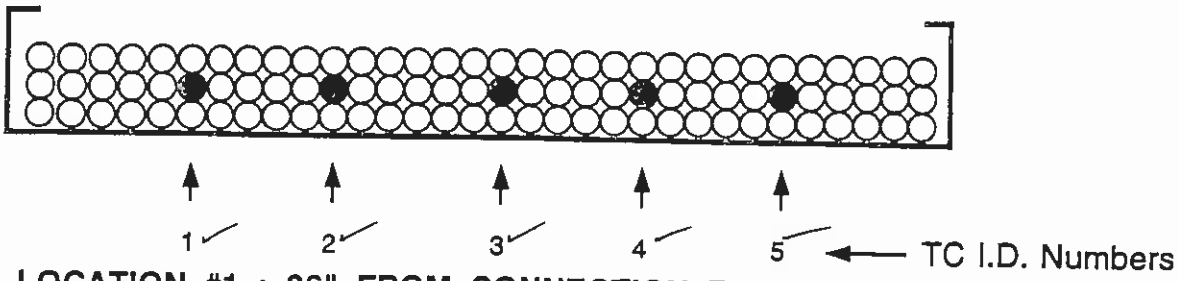
Test Article	Surface Type (Baseline Evaluation)	Measured Emissivity
24" Cable Tray	Galvanized Steel Cable Tray Rail Surface	0.38
24" Cable Tray	Cable Jacket Surface	0.99
Test Article	**Surface Type (Clad Evaluation)**	**Measured Emissivity**
24" Cable Tray	ERFBS Surface	0.29

Appendix A

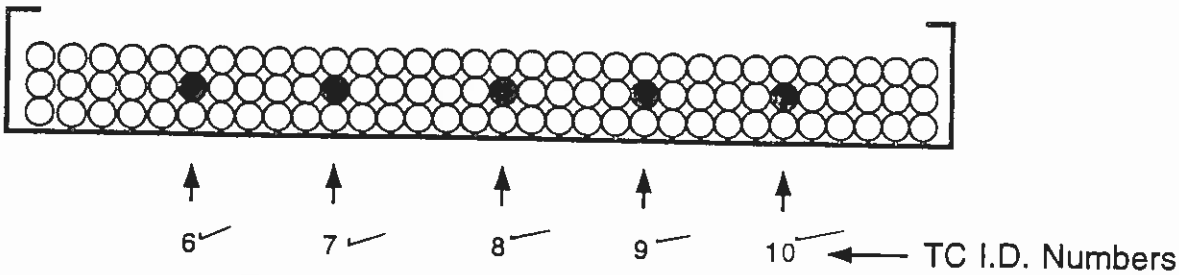
THERMOCOUPLE LOCATIONS

OMEGA POINT LABORATORIES

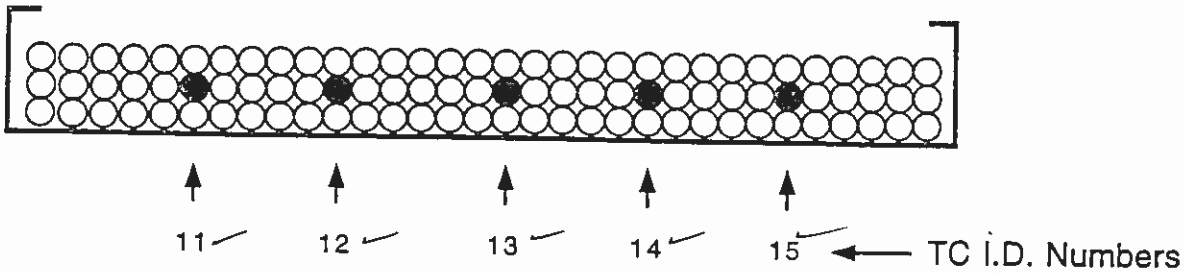
Project No. 1000-99233



LOCATION #1 : 36" FROM CONNECTION END OF TRAY
VIEWED TOWARD POWER CONNECTION SIDE



LOCATION #2 : 36" FROM LOCATION #1
VIEWED TOWARD POWER CONNECTION SIDE



LOCATION #3 : 36" FROM LOCATION #2
VIEWED TOWARD POWER CONNECTION SIDE

3 layers cable fill

Date of Installation of Cables and Thermocouples:	7/11/96
Cable Tray Serial Number:	248-89840D2
Cable Receiving Report Number Used:	1591
Thermocouple Lot Number(s) Used:	123926, 123940
Installing Technician:	L. Castañon

QUALITY VERIFIED

C Humphrey 7/11/96
Signed Date

With Exceptions as Noted.

TC's are attached to the copper inside the pink conducter

Top layer of electrical cable

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Quality Assurance Verification Document

AMPACITY TEST APPARATUS (TRAY)
CABLE AND THERMOCOUPLE DETAILS

Appendix B

TEST DATA

NOTE: Data presented herein represents conditions during equilibrium conditions. Additional, and unnecessary, data from before and after the equilibrium time period of three hours has intentionally been omitted.

BASELINE TEST DATA
24" x 4" Cable Tray

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3 Layer Cable Tray - Baseline System

Time of Day (hh:mm:ss)	Date (mm/dd/yy)	Room TC # 1 (°C)	Room TC # 2 (°C)	Room TC # 3 (°C)	Room TC # 4 (°C)	Room TC # 5 (°C)	Room TC # 6 (°C)	Room TC # 7 (°C)	Room TC # 8 (°C)	Room TC # 9 (°C)	Room Avg Temp (°C)	Room 1Hr Avg Avg Temp (°C)	3 Layer Tray TC # 1 (°C)
12:06:08	8/21/96	41.6	41.5	41.3	40.5	41.4	41.4	41.6	41.2	41.5	41.3	41.3	86.0
12:07:08	8/21/96	41.5	41.5	41.4	40.3	41.3	41.4	41.5	41.2	41.6	41.3	41.3	85.9
12:08:08	8/21/96	41.6	41.5	41.3	40.5	41.3	41.3	41.5	41.2	41.6	41.3	41.3	86.1
12:09:08	8/21/96	41.5	41.5	41.3	40.4	41.3	41.4	41.5	41.2	41.6	41.3	41.3	86.2
12:10:08	8/21/96	41.6	41.6	41.3	40.2	41.3	41.5	41.5	41.3	41.6	41.3	41.3	86.1
12:11:08	8/21/96	41.6	41.6	41.3	40.5	41.3	41.4	41.4	41.4	41.6	41.3	41.3	86.0
12:12:08	8/21/96	41.6	41.5	41.4	40.4	41.3	41.4	41.6	41.3	41.7	41.3	41.3	86.2
12:13:08	8/21/96	41.5	41.5	41.4	40.3	41.4	41.6	41.6	41.4	41.8	41.4	41.3	86.0
12:14:08	8/21/96	41.6	41.5	41.4	40.3	41.4	41.6	41.6	41.3	41.5	41.4	41.3	85.9
12:15:08	8/21/96	41.6	41.6	41.5	40.2	41.4	41.7	41.6	41.3	41.6	41.4	41.3	85.9
12:16:08	8/21/96	41.6	41.5	41.4	40.3	41.4	41.5	41.5	41.3	41.6	41.3	41.3	86.2
12:17:08	8/21/96	41.6	41.5	41.4	40.5	41.5	41.6	41.6	41.4	41.7	41.4	41.3	86.0
12:18:08	8/21/96	41.6	41.5	41.4	40.6	41.4	41.6	41.5	41.3	41.6	41.4	41.3	86.1
12:19:08	8/21/96	41.6	41.5	41.4	40.4	41.4	41.5	41.5	41.3	41.7	41.4	41.3	86.0
12:20:08	8/21/96	41.7	41.5	41.4	40.4	41.4	41.6	41.6	41.3	41.6	41.4	41.4	86.0
12:21:08	8/21/96	41.7	41.6	41.4	40.3	41.3	41.6	41.5	41.3	41.7	41.4	41.4	86.0
12:22:08	8/21/96	41.6	41.5	41.5	40.5	41.4	41.4	41.6	41.4	41.6	41.4	41.4	86.1
12:23:08	8/21/96	41.7	41.6	41.4	40.4	41.5	41.6	41.7	41.4	41.7	41.4	41.4	86.2
12:24:08	8/21/96	41.6	41.6	41.5	40.5	41.5	41.5	41.6	41.3	41.7	41.4	41.4	86.3
12:25:08	8/21/96	41.7	41.6	41.6	40.8	41.3	41.6	41.5	41.4	41.7	41.5	41.4	86.2
12:26:08	8/21/96	41.6	41.5	41.5	40.4	41.5	41.6	41.6	41.4	41.7	41.4	41.4	86.0
12:27:08	8/21/96	41.6	41.6	41.5	40.3	41.5	41.7	41.6	41.3	41.8	41.4	41.4	86.2
12:28:08	8/21/96	41.6	41.6	41.5	40.3	41.5	41.6	41.7	41.3	41.7	41.4	41.4	86.2
12:29:08	8/21/96	41.6	41.5	41.6	40.8	41.8	42.0	42.5	41.0	42.2	41.7	41.4	86.2
12:30:08	8/21/96	41.3	41.2	41.6	40.3	41.6	41.7	41.7	41.4	41.4	41.4	41.4	86.0
12:31:08	8/21/96	41.0	41.3	41.4	40.4	41.4	41.6	41.5	41.4	41.2	41.2	41.4	86.0
12:32:08	8/21/96	40.6	41.2	41.1	40.2	41.3	41.3	41.2	41.2	41.3	41.0	41.4	86.2
12:33:08	8/21/96	40.7	41.0	41.1	40.1	41.3	41.1	41.1	41.1	41.3	41.0	41.4	86.3
12:34:08	8/21/96	40.8	41.0	41.0	40.0	41.2	41.0	41.0	41.0	41.5	40.9	41.3	86.2
12:35:08	8/21/96	40.6	40.6	40.8	39.9	41.1	40.9	40.9	40.8	41.1	40.7	41.3	86.2
12:36:08	8/21/96	40.4	40.4	40.8	39.8	40.9	40.7	40.8	40.8	41.0	40.6	41.3	86.2
12:37:08	8/21/96	40.3	40.3	40.7	39.8	40.9	40.7	40.8	40.7	40.8	40.6	41.3	86.0
12:38:08	8/21/96	40.3	40.4	40.6	39.8	40.9	40.7	40.7	40.7	40.9	40.6	41.3	86.1
12:39:08	8/21/96	40.3	40.4	40.5	39.7	40.9	40.7	40.7	40.7	40.9	40.5	41.2	86.1
12:40:08	8/21/96	40.3	40.4	40.6	39.7	40.7	40.7	40.4	40.6	41.0	40.5	41.2	86.1
12:41:08	8/21/96	40.3	40.6	40.6	39.7	40.5	40.6	40.5	40.7	41.1	40.5	41.2	86.4
12:42:08	8/21/96	40.3	40.3	40.3	39.7	40.6	40.5	40.4	40.6	41.1	40.4	41.2	86.3
12:43:08	8/21/96	40.2	40.1	40.4	39.7	40.4	40.6	40.5	40.7	41.2	40.4	41.1	86.2
12:44:08	8/21/96	40.3	40.4	40.5	39.7	40.4	40.7	40.6	40.7	41.1	40.5	41.1	86.4
12:45:08	8/21/96	40.3	40.5	40.2	39.6	40.5	40.8	40.5	40.6	41.2	40.5	41.1	86.0
12:46:08	8/21/96	40.3	40.3	40.4	39.7	40.5	40.8	40.6	40.7	41.0	40.5	41.1	86.1
12:47:08	8/21/96	40.4	40.4	40.4	39.7	40.4	40.6	40.6	40.6	41.0	40.5	41.1	86.2
12:48:08	8/21/96	40.2	40.4	40.5	39.6	40.3	40.7	40.3	40.6	41.1	40.4	41.1	86.2
12:49:08	8/21/96	40.2	40.5	40.4	39.7	40.3	40.7	40.6	40.5	41.1	40.4	41.1	86.2
12:50:08	8/21/96	40.4	40.6	40.6	39.6	40.6	40.5	40.4	40.7	41.0	40.5	41.0	86.1
12:51:08	8/21/96	40.4	40.4	40.3	39.7	40.2	40.8	40.4	40.6	40.9	40.4	41.0	86.5
12:52:08	8/21/96	40.2	40.4	40.3	39.7	40.3	40.9	40.4	40.6	41.0	40.4	41.0	86.2
12:53:08	8/21/96	40.1	40.5	40.2	39.7	40.3	40.8	40.5	40.6	41.0	40.4	41.0	86.4
12:54:08	8/21/96	40.1	40.5	40.2	39.7	40.5	40.8	40.6	40.7	40.7	40.4	41.0	86.3
12:55:08	8/21/96	40.1	40.3	40.4	39.6	40.7	40.7	40.4	40.7	40.9	40.4	41.0	86.1
12:56:08	8/21/96	40.2	40.4	40.5	39.7	40.4	40.7	40.4	40.7	41.1	40.5	41.0	86.1
12:57:08	8/21/96	40.3	40.6	40.4	39.8	40.5	40.6	40.4	40.7	40.9	40.5	41.0	86.1
12:58:08	8/21/96	40.3	40.5	40.3	39.8	40.4	40.6	40.5	40.6	40.9	40.4	41.0	86.5
12:59:08	8/21/96	40.3	40.4	40.4	39.8	40.5	40.7	40.5	40.6	40.9	40.5	40.9	86.3
13:00:08	8/21/96	40.2	40.3	40.5	39.9	40.8	40.5	40.5	40.7	40.9	40.5	40.9	86.1
13:01:08	8/21/96	40.3	40.3	40.5	39.8	40.8	40.6	40.4	40.6	41.1	40.5	40.9	86.5
13:02:08	8/21/96	40.3	40.4	40.6	39.8	40.5	40.8	40.5	40.6	41.1	40.5	40.9	86.3
13:03:08	8/21/96	40.4	40.5	40.6	39.9	40.6	40.4	40.6	40.6	41.0	40.5	40.9	86.2
13:04:08	8/21/96	40.3	40.3	40.6	39.9	40.7	40.7	40.3	40.6	41.0	40.5	40.9	86.2
13:05:08	8/21/96	40.3	40.4	40.5	39.9	40.4	40.8	40.4	40.7	41.2	40.5	40.9	86.4
13:06:08	8/21/96	40.4	40.5	40.6	39.9	40.5	40.7	40.6	40.7	41.2	40.6	40.9	86.1
13:07:08	8/21/96	40.3	40.4	40.6	39.9	40.5	40.7	40.6	40.8	41.3	40.6	40.9	86.1
13:08:08	8/21/96	40.3	40.3	40.4	39.9	40.5	40.7	40.5	40.8	41.1	40.5	40.9	86.5
13:09:08	8/21/96	40.3	40.6	40.6	39.8	40.5	40.7	40.3	40.7	41.2	40.5	40.8	86.2
13:10:08	8/21/96	40.3	40.5	40.7	39.9	40.6	40.7	40.4	40.7	41.2	40.6	40.8	86.3
13:11:08	8/21/96	40.4	40.5	40.6	39.9	40.6	40.8	40.5	40.8	41.2	40.6	40.8	86.4
13:12:08	8/21/96	40.4	40.5	40.7	39.9	40.8	40.8	40.5	40.8	41.1	40.6	40.8	86.3
13:13:08	8/21/96	40.4	40.4	40.7	39.8	40.5	40.7	40.5	40.7	41.2	40.6	40.8	86.2
13:14:08	8/21/96	40.3	40.3	40.5	39.8	40.5	40.9	40.3	40.7	41.2	40.5	40.8	86.3

OMEGA POINT LABORATORIES

3 Layer Cable Tray - Baseline System

Time of Day (hh:mm:ss)	Date (mm/dd/yy)	Room TC # 1 (°C)	Room TC # 2 (°C)	Room TC # 3 (°C)	Room TC # 4 (°C)	Room TC # 5 (°C)	Room TC # 6 (°C)	Room TC # 7 (°C)	Room TC # 8 (°C)	Room TC # 9 (°C)	Room Avg Temp (°C)	Room 1Hr Avg Avg Temp (°C)	3 Layer Tray TC # 1 (°C)
13:15:08	8/21/96	40.4	40.3	40.4	39.8	40.5	40.7	40.5	40.7	41.2	40.5	40.8	86.4
13:16:08	8/21/96	40.4	40.5	40.5	39.8	40.5	40.8	40.4	40.7	41.0	40.5	40.8	86.4
13:17:08	8/21/96	40.5	40.6	40.4	39.8	40.7	40.7	40.5	40.8	41.1	40.6	40.7	86.1
13:18:08	8/21/96	40.3	40.4	40.4	39.8	40.5	40.6	40.3	40.6	41.3	40.5	40.7	86.5
13:19:08	8/21/96	40.4	40.5	40.4	39.8	40.5	40.7	40.5	40.6	41.1	40.5	40.7	86.2
13:20:08	8/21/96	40.4	40.5	40.4	39.8	40.4	40.6	40.4	40.7	41.2	40.5	40.7	86.2
13:21:08	8/21/96	40.4	40.6	40.5	39.8	40.6	40.7	40.3	40.7	41.1	40.5	40.7	86.3
13:22:08	8/21/96	40.4	40.3	40.3	39.9	40.4	40.8	40.5	40.6	40.9	40.5	40.7	86.2
13:23:08	8/21/96	40.3	40.6	40.3	39.9	40.4	40.8	40.4	40.7	41.0	40.5	40.6	86.5
13:24:08	8/21/96	40.3	40.4	40.5	39.8	40.5	40.8	40.7	40.8	41.2	40.6	40.6	86.4
13:25:08	8/21/96	40.3	40.3	40.5	39.8	40.7	40.6	40.6	40.8	41.0	40.5	40.6	86.3
13:26:08	8/21/96	40.3	40.5	40.5	39.8	40.6	40.6	40.3	40.7	40.8	40.5	40.6	86.1
13:27:08	8/21/96	40.4	40.3	40.8	39.9	40.3	40.9	40.5	40.7	41.1	40.5	40.6	86.2
13:28:08	8/21/96	40.5	40.4	40.4	39.9	40.3	40.8	40.3	40.5	40.9	40.4	40.6	86.3
13:29:08	8/21/96	40.3	40.3	40.4	39.8	40.4	40.7	40.6	40.7	41.0	40.5	40.5	86.5
13:30:08	8/21/96	40.3	40.2	40.6	39.8	40.6	40.8	40.6	40.7	41.1	40.5	40.5	86.4
13:31:08	8/21/96	40.3	40.4	40.4	39.9	40.4	40.8	40.4	40.5	41.1	40.5	40.5	86.2
13:32:08	8/21/96	40.3	40.5	40.7	40.0	40.5	40.8	40.5	40.7	41.0	40.6	40.5	86.2
13:33:08	8/21/96	40.3	40.4	40.6	39.9	40.7	40.8	40.7	40.8	41.1	40.6	40.5	86.5
13:34:08	8/21/96	40.4	40.3	40.5	39.9	40.6	40.7	40.6	40.7	41.1	40.5	40.5	86.3
13:35:08	8/21/96	40.3	40.3	40.7	40.0	40.5	40.8	40.6	40.6	41.1	40.5	40.5	86.4
13:36:08	8/21/96	40.3	40.4	40.7	39.8	40.7	40.8	40.2	40.7	41.2	40.5	40.5	86.5
13:37:08	8/21/96	40.3	40.4	40.6	39.8	40.8	40.9	40.6	40.8	41.1	40.6	40.5	86.3
13:38:08	8/21/96	40.3	40.5	40.7	39.9	40.8	40.9	40.5	40.9	41.1	40.6	40.5	86.3
13:39:08	8/21/96	40.3	40.4	40.6	40.0	40.5	40.9	40.6	40.7	41.1	40.6	40.5	86.2
13:40:08	8/21/96	40.3	40.6	40.5	39.9	40.7	40.8	40.6	40.8	41.2	40.6	40.5	86.4
13:41:08	8/21/96	40.3	40.4	40.4	39.9	40.7	40.6	40.5	40.8	41.3	40.5	40.5	86.2
13:42:08	8/21/96	40.3	40.4	40.5	39.9	40.5	40.7	40.5	40.8	41.3	40.5	40.5	86.3
13:43:08	8/21/96	40.3	40.6	40.5	39.9	40.5	40.7	40.6	40.7	41.1	40.5	40.5	86.5
13:44:08	8/21/96	40.4	40.6	40.6	39.9	40.8	40.7	40.5	40.8	41.1	40.6	40.5	86.2
13:45:08	8/21/96	40.3	40.5	40.3	39.9	40.5	40.9	40.7	40.6	41.1	40.5	40.5	86.5
13:46:08	8/21/96	40.3	40.5	40.4	39.8	40.6	40.7	40.5	40.8	41.2	40.5	40.5	86.3
13:47:08	8/21/96	40.5	40.6	40.4	39.8	40.4	40.9	40.6	40.6	41.1	40.5	40.5	86.4
13:48:08	8/21/96	40.4	40.6	40.4	39.9	40.2	40.7	40.4	40.5	41.0	40.5	40.5	86.5
13:49:08	8/21/96	40.3	40.4	40.5	40.0	40.8	40.7	40.4	40.8	41.0	40.5	40.5	86.2
13:50:08	8/21/96	40.3	40.3	40.6	40.0	40.9	40.8	40.3	40.7	41.2	40.6	40.5	86.4
13:51:08	8/21/96	40.5	40.5	40.8	40.2	40.7	40.7	40.7	40.6	41.4	40.7	40.5	86.2
13:52:08	8/21/96	40.5	40.7	40.6	40.0	40.9	40.7	40.7	40.8	41.4	40.7	40.5	86.5
13:53:08	8/21/96	40.5	40.5	40.6	40.1	40.9	40.7	40.8	40.9	41.3	40.7	40.5	86.4
13:54:08	8/21/96	40.5	40.6	40.8	40.2	40.9	40.8	40.8	40.9	41.2	40.7	40.5	86.5
13:55:08	8/21/96	40.7	40.7	41.1	40.4	41.2	41.1	41.1	41.1	41.3	41.0	40.5	86.2
13:56:08	8/21/96	40.8	41.0	41.0	40.2	41.2	41.1	40.7	41.0	41.2	40.9	40.5	86.5
13:57:08	8/21/96	40.6	40.7	40.9	40.1	41.1	41.0	40.9	40.9	41.2	40.8	40.6	86.2
13:58:08	8/21/96	40.6	40.7	40.7	40.0	41.1	41.1	40.9	40.9	41.3	40.8	40.6	86.2
13:59:08	8/21/96	40.6	40.7	40.8	40.0	41.0	40.9	40.7	40.9	41.4	40.8	40.6	86.5
14:00:08	8/21/96	40.6	40.6	40.8	40.1	40.5	40.7	40.6	40.7	41.3	40.7	40.6	86.5
14:01:08	8/21/96	40.5	40.6	40.8	40.1	40.5	40.9	40.6	40.8	41.3	40.7	40.6	86.4
14:02:08	8/21/96	40.5	40.6	40.7	40.1	40.6	40.8	40.6	40.8	41.4	40.7	40.6	86.2
14:03:08	8/21/96	40.5	40.7	40.8	40.0	40.9	40.7	40.6	40.8	41.3	40.7	40.6	86.4
14:04:08	8/21/96	40.5	40.5	40.8	40.0	41.0	40.9	40.8	40.8	41.1	40.7	40.6	86.3
14:05:08	8/21/96	40.6	40.4	40.7	40.1	41.0	40.8	40.6	40.7	41.2	40.7	40.6	86.5
14:06:08	8/21/96	40.6	40.5	40.6	40.1	40.9	40.8	40.6	40.8	41.2	40.7	40.6	86.4
14:07:08	8/21/96	40.7	40.7	40.8	40.3	40.8	40.8	40.8	40.9	41.6	40.8	40.6	86.4
14:08:08	8/21/96	40.6	40.8	40.7	40.1	40.9	40.7	40.7	41.0	41.0	40.7	40.6	86.6
14:09:08	8/21/96	40.5	40.5	40.6	40.0	40.9	40.8	40.8	41.0	41.3	40.7	40.6	86.3
14:10:08	8/21/96	40.5	40.6	40.6	40.0	40.8	40.8	40.8	40.9	41.3	40.7	40.6	86.5
14:11:08	8/21/96	40.4	40.5	40.6	40.0	40.9	40.9	40.6	40.9	41.1	40.7	40.6	86.4
14:12:08	8/21/96	40.4	40.3	40.5	40.0	40.8	41.1	40.8	40.9	41.4	40.7	40.6	86.4
14:13:08	8/21/96	40.6	40.8	40.7	40.2	41.1	41.0	40.8	40.9	41.3	40.8	40.6	86.3
14:14:08	8/21/96	40.5	40.7	40.8	40.0	41.2	41.0	40.9	40.9	41.2	40.8	40.6	86.6
14:15:08	8/21/96	40.4	40.4	40.7	40.1	41.1	41.0	40.9	40.9	41.3	40.8	40.6	86.5
14:16:08	8/21/96	40.5	40.5	40.7	39.9	40.8	40.8	40.8	40.8	41.5	40.7	40.6	86.3
14:17:08	8/21/96	40.6	40.7	40.6	39.9	40.8	40.9	40.8	41.0	41.4	40.8	40.6	86.3
14:18:08	8/21/96	40.6	40.7	40.6	39.9	40.5	40.8	40.7	40.8	41.5	40.7	40.6	86.4
14:19:08	8/21/96	40.5	40.4	40.6	39.8	40.8	40.6	40.6	40.8	41.1	40.6	40.6	86.4
14:20:08	8/21/96	40.5	40.6	40.5	39.8	40.6	40.7	40.6	40.8	41.2	40.6	40.6	86.6
14:21:08	8/21/96	40.4	40.7	40.7	39.9	40.5	40.9	40.7	40.9	41.4	40.7	40.6	86.6
14:22:08	8/21/96	40.4	40.9	40.6	39.9	40.8	40.8	40.8	40.9	41.3	40.7	40.6	86.5
14:23:08	8/21/96	40.5	40.7	40.4	39.9	40.5	40.9	40.6	40.9	41.5	40.7	40.6	86.5

OMEGA POINT LABORATORIES

3 Layer Cable Tray - Baseline System

Time of Day (hh:mm:ss)	Date (mm/dd/yy)	Room TC # 1 (°C)	Room TC # 2 (°C)	Room TC # 3 (°C)	Room TC # 4 (°C)	Room TC # 5 (°C)	Room TC # 6 (°C)	Room TC # 7 (°C)	Room TC # 8 (°C)	Room TC # 9 (°C)	Avg Room Temp (°C)	Room 1Hr Avg Avg Temp (°C)	3 Layer Tray TC # 1 (°C)
14:24:08	8/21/96	40.6	40.5	40.4	39.9	40.5	41.0	40.8	40.8	41.2	40.6	40.6	86.2
14:25:08	8/21/96	40.5	40.5	40.3	39.9	40.6	40.8	40.7	40.8	41.1	40.6	40.6	86.5
14:26:08	8/21/96	40.4	40.5	40.4	39.9	40.6	40.9	40.8	40.8	41.1	40.6	40.6	86.5
14:27:08	8/21/96	40.5	40.5	40.4	39.9	40.8	40.9	40.8	40.8	41.3	40.6	40.6	86.2
14:28:08	8/21/96	40.4	40.8	40.3	39.9	40.8	40.9	40.7	40.8	41.5	40.7	40.6	86.6
14:29:08	8/21/96	40.4	40.5	40.2	39.8	40.6	41.0	40.6	40.7	41.0	40.5	40.7	86.3
14:30:08	8/21/96	40.3	40.4	40.6	39.8	40.8	40.8	40.6	40.8	41.4	40.6	40.7	86.4
14:31:08	8/21/96	40.3	40.4	40.5	39.8	40.5	41.0	40.7	40.6	41.4	40.6	40.7	86.5
14:32:08	8/21/96	40.3	40.5	40.3	39.8	40.5	40.8	40.7	40.6	41.3	40.5	40.7	86.6
14:33:08	8/21/96	40.4	40.3	40.5	39.8	40.8	40.9	40.5	40.7	41.3	40.6	40.7	86.5
14:34:08	8/21/96	40.5	40.5	40.5	39.8	40.5	40.9	40.5	40.6	41.1	40.5	40.7	86.3
14:35:08	8/21/96	40.6	40.8	40.5	39.8	40.6	40.6	40.6	40.8	41.2	40.6	40.7	86.4
14:36:08	8/21/96	40.3	40.5	40.7	39.8	40.8	40.6	40.7	40.9	41.4	40.6	40.7	86.6
14:37:08	8/21/96	40.4	40.5	40.7	39.9	40.9	40.6	40.8	40.8	41.3	40.6	40.7	86.6
14:38:08	8/21/96	40.4	40.6	40.7	39.8	40.8	40.7	40.7	40.8	41.4	40.7	40.7	86.2
14:39:08	8/21/96	40.6	41.0	40.9	40.1	41.0	40.9	40.9	40.9	41.1	40.8	40.7	86.6
14:40:08	8/21/96	40.5	40.7	40.9	39.9	41.1	40.8	40.9	40.9	41.0	40.7	40.7	86.5
14:41:08	8/21/96	40.5	40.6	40.8	39.9	41.0	40.7	40.8	40.9	41.3	40.7	40.7	86.3
14:42:08	8/21/96	40.5	40.7	40.6	39.9	41.0	40.8	40.8	40.9	41.2	40.7	40.7	86.3
14:43:08	8/21/96	40.4	40.8	40.7	39.9	40.9	41.0	40.8	40.9	41.4	40.7	40.7	86.7
14:44:08	8/21/96	40.4	40.9	40.7	39.9	40.8	40.9	40.9	40.9	41.3	40.7	40.7	86.4
14:45:08	8/21/96	40.4	40.8	40.4	39.9	40.5	41.1	40.9	40.9	41.3	40.7	40.7	86.6
14:46:08	8/21/96	40.6	40.9	40.5	39.9	40.7	40.9	40.6	40.8	41.1	40.7	40.7	86.5
14:47:08	8/21/96	40.4	40.5	40.6	39.9	40.8	40.8	40.7	40.9	41.2	40.7	40.7	86.5
14:48:08	8/21/96	40.4	40.8	40.4	40.0	40.8	40.8	40.9	40.9	41.4	40.7	40.7	86.3
14:49:08	8/21/96	40.4	40.7	40.6	39.9	41.0	40.4	40.7	40.9	41.0	40.6	40.7	86.6
14:50:08	8/21/96	40.5	40.7	40.9	40.0	41.0	40.9	41.0	40.8	41.0	40.8	40.7	86.5
14:51:08	8/21/96	40.6	40.9	40.7	40.0	41.1	40.6	40.6	40.9	41.1	40.7	40.7	86.3
14:52:08	8/21/96	40.4	40.3	40.7	39.9	41.1	40.7	40.9	40.9	40.9	40.6	40.7	86.3
14:53:08	8/21/96	40.6	40.6	40.8	39.8	41.0	40.8	40.7	40.7	41.0	40.7	40.7	86.6
14:54:08	8/21/96	40.5	40.5	40.8	39.8	40.8	40.6	40.5	40.6	40.7	40.5	40.7	86.3
14:55:08	8/21/96	40.5	40.5	40.7	39.8	41.0	40.7	40.4	40.7	40.8	40.6	40.7	86.4
14:56:08	8/21/96	40.5	40.5	40.6	39.8	40.8	40.8	40.5	40.8	41.0	40.6	40.7	86.3
14:57:08	8/21/96	40.6	40.4	40.6	39.8	41.0	40.8	40.4	40.7	40.9	40.6	40.7	86.5
14:58:08	8/21/96	40.5	40.3	40.5	39.8	41.0	40.8	40.4	40.6	40.8	40.5	40.7	86.5
14:59:08	8/21/96	40.6	40.5	40.7	39.8	41.0	40.6	40.6	40.7	41.0	40.6	40.7	86.4
15:00:08	8/21/96	40.5	40.4	40.7	39.8	41.0	40.7	40.4	40.7	41.1	40.6	40.7	86.5
15:01:08	8/21/96	40.4	40.1	40.6	39.8	40.8	40.8	40.5	40.7	41.2	40.5	40.7	86.5
15:02:08	8/21/96	40.5	40.5	40.8	39.8	40.5	40.5	40.4	40.7	41.2	40.5	40.7	86.7
15:03:08	8/21/96	40.4	40.5	40.4	39.8	40.4	40.6	40.5	40.7	41.4	40.5	40.7	86.7
15:04:08	8/21/96	40.4	40.4	40.4	39.9	40.6	40.8	40.6	40.8	41.3	40.6	40.7	86.3
15:05:08	8/21/96	40.5	40.5	40.7	39.9	40.6	40.7	40.5	40.7	41.3	40.6	40.7	86.6
Min:											40.4	40.5	
Max:											41.7	41.4	

OMEGA POINT LABORATORIES

3 Layer Cable Tray - Baseline System

Time of Day (hh:mm:ss)	Date (mm/dd/yy)	3 Layer Tray TC # 2 (°C)	3 Layer Tray TC # 3 (°C)	3 Layer Tray TC # 4 (°C)	3 Layer Tray TC # 5 (°C)	3 Layer Tray TC # 6 (°C)	3 Layer Tray TC # 7 (°C)	3 Layer Tray TC # 8 (°C)	3 Layer Tray TC # 9 (°C)	3 Layer Tray TC # 10 (°C)	3 Layer Tray TC # 11 (°C)	3 Layer Tray TC # 12 (°C)	3 Layer Tray TC # 13 (°C)
12:06:08	8/21/96	87.6	88.8	89.1	86.7	87.5	89.3	90.4	89.9	88.2	87.0	87.9	88.5
12:07:08	8/21/96	87.7	88.7	89.0	86.7	87.5	89.2	90.3	90.0	88.1	86.9	87.7	88.4
12:08:08	8/21/96	87.5	88.7	89.2	86.7	87.3	89.3	90.5	89.9	88.0	87.1	87.8	88.7
12:09:08	8/21/96	87.6	88.7	89.2	86.8	87.3	89.2	90.6	89.9	88.0	87.1	87.8	88.7
12:10:08	8/21/96	87.6	88.9	89.1	86.7	87.4	89.3	90.4	89.9	88.2	87.1	87.9	88.6
12:11:08	8/21/96	87.7	88.6	89.1	86.9	87.4	89.1	90.5	90.1	88.1	86.9	87.6	88.5
12:12:08	8/21/96	87.7	88.7	89.1	86.9	87.4	89.1	90.5	90.1	88.0	86.9	87.6	88.6
12:13:08	8/21/96	87.5	88.8	89.2	86.7	87.4	89.3	90.4	89.9	88.1	87.1	87.9	88.6
12:14:08	8/21/96	87.6	88.9	89.1	86.7	87.5	89.3	90.4	90.0	88.2	87.0	87.8	88.5
12:15:08	8/21/96	87.7	88.8	89.0	86.8	87.5	89.3	90.4	90.1	88.2	86.9	87.8	88.4
12:16:08	8/21/96	87.5	88.8	89.3	86.8	87.4	89.4	90.5	89.9	88.1	87.1	88.0	88.7
12:17:08	8/21/96	87.7	88.7	89.1	86.9	87.5	89.1	90.5	90.1	88.1	86.8	87.6	88.5
12:18:08	8/21/96	87.8	88.8	89.1	86.9	87.5	89.2	90.4	90.1	88.2	86.9	87.7	88.5
12:19:08	8/21/96	87.8	88.8	89.1	86.9	87.5	89.2	90.5	90.2	88.2	86.8	87.6	88.5
12:20:08	8/21/96	87.6	88.9	89.1	86.8	87.5	89.3	90.4	90.0	88.3	87.1	87.9	88.6
12:21:08	8/21/96	87.5	88.8	89.3	86.8	87.4	89.4	90.5	90.0	88.1	87.2	88.0	88.7
12:22:08	8/21/96	87.5	88.9	89.3	86.8	87.4	89.4	90.5	90.0	88.2	87.2	88.0	88.7
12:23:08	8/21/96	87.8	88.8	89.1	86.9	87.5	89.2	90.5	90.2	88.2	86.8	87.6	88.5
12:24:08	8/21/96	87.9	88.9	89.1	87.0	87.6	89.3	90.5	90.2	88.2	86.9	87.7	88.5
12:25:08	8/21/96	87.7	88.7	89.2	87.0	87.4	89.2	90.6	90.2	88.1	86.9	87.7	88.7
12:26:08	8/21/96	87.8	88.8	89.1	86.9	87.6	89.2	90.4	90.2	88.2	86.8	87.7	88.5
12:27:08	8/21/96	87.6	88.9	89.3	86.8	87.5	89.4	90.5	90.0	88.2	87.2	88.0	88.7
12:28:08	8/21/96	87.8	88.9	89.2	86.9	87.6	89.3	90.4	90.2	88.3	87.0	87.8	88.5
12:29:08	8/21/96	87.8	89.0	89.2	86.9	87.6	89.4	90.4	90.1	88.3	87.0	87.9	88.5
12:30:08	8/21/96	87.8	88.8	89.1	87.0	87.5	89.2	90.5	90.2	88.2	86.8	87.6	88.6
12:31:08	8/21/96	87.6	88.9	89.3	86.8	87.5	89.4	90.5	90.0	88.2	87.2	88.0	88.7
12:32:08	8/21/96	87.7	88.7	89.2	87.0	87.4	89.2	90.6	90.2	88.1	86.9	87.7	88.7
12:33:08	8/21/96	87.6	88.8	89.3	87.0	87.4	89.3	90.7	90.1	88.1	87.0	87.8	88.8
12:34:08	8/21/96	87.8	88.8	89.2	87.0	87.6	89.2	90.5	90.2	88.2	86.9	87.7	88.6
12:35:08	8/21/96	87.8	88.9	89.2	87.0	87.7	89.3	90.5	90.2	88.3	86.9	87.8	88.5
12:36:08	8/21/96	87.8	88.9	89.2	86.9	87.6	89.3	90.4	90.2	88.3	87.0	87.8	88.5
12:37:08	8/21/96	87.8	88.8	89.1	87.0	87.6	89.2	90.5	90.2	88.3	86.9	87.7	88.6
12:38:08	8/21/96	87.7	89.0	89.3	86.9	87.6	89.4	90.5	90.1	88.4	87.1	88.0	88.7
12:39:08	8/21/96	87.8	88.9	89.2	87.0	87.6	89.3	90.5	90.2	88.3	86.9	87.8	88.6
12:40:08	8/21/96	87.6	88.8	89.4	87.0	87.5	89.4	90.7	90.1	88.2	87.2	87.9	88.9
12:41:08	8/21/96	87.7	88.9	89.4	86.9	87.5	89.5	90.7	90.1	88.2	87.2	87.9	88.8
12:42:08	8/21/96	87.8	89.0	89.3	86.9	87.7	89.4	90.5	90.1	88.4	87.1	87.9	88.6
12:43:08	8/21/96	87.8	88.8	89.3	87.0	87.6	89.3	90.6	90.3	88.2	86.9	87.7	88.7
12:44:08	8/21/96	87.8	88.8	89.3	87.0	87.6	89.3	90.7	90.2	88.1	87.0	87.8	88.8
12:45:08	8/21/96	87.8	88.9	89.1	86.9	87.7	89.3	90.5	90.2	88.3	86.9	87.8	88.5
12:46:08	8/21/96	87.7	89.0	89.2	86.8	87.7	89.4	90.5	90.1	88.4	87.1	88.0	88.6
12:47:08	8/21/96	87.7	88.7	89.3	87.0	87.6	89.3	90.7	90.2	88.1	87.0	87.9	88.8
12:48:08	8/21/96	87.6	88.9	89.3	86.8	87.7	89.5	90.6	90.0	88.3	87.2	88.0	88.7
12:49:08	8/21/96	87.6	88.9	89.3	86.8	87.7	89.5	90.5	90.0	88.3	87.2	88.0	88.7
12:50:08	8/21/96	87.7	88.9	89.2	86.8	87.7	89.5	90.5	90.1	88.3	87.2	88.0	88.7
12:51:08	8/21/96	87.8	88.8	89.4	87.0	87.6	89.4	90.7	90.2	88.1	87.0	87.8	88.8
12:52:08	8/21/96	87.8	89.0	89.2	86.8	87.8	89.5	90.4	90.1	88.3	87.1	88.0	88.6
12:53:08	8/21/96	87.7	88.9	89.4	86.8	87.7	89.5	90.6	90.1	88.2	87.3	88.1	88.8
12:54:08	8/21/96	87.9	88.9	89.1	86.9	87.9	89.4	90.5	90.2	88.3	86.9	87.8	88.6
12:55:08	8/21/96	87.8	88.8	89.1	86.9	87.8	89.3	90.5	90.2	88.2	86.9	87.7	88.6
12:56:08	8/21/96	87.7	89.0	89.2	86.8	87.8	89.5	90.5	90.1	88.3	87.2	88.0	88.6
12:57:08	8/21/96	87.6	88.9	89.3	86.7	87.8	89.5	90.6	90.1	88.2	87.3	88.1	88.8
12:58:08	8/21/96	87.7	88.9	89.4	86.9	87.8	89.5	90.6	90.1	88.2	87.3	88.0	88.8
12:59:08	8/21/96	87.7	89.0	89.3	86.7	87.9	89.6	90.5	90.0	88.3	87.2	88.0	88.7
13:00:08	8/21/96	87.8	88.9	89.1	86.8	87.9	89.6	90.4	90.1	88.3	87.1	87.9	88.5
13:01:08	8/21/96	87.7	88.8	89.3	86.8	87.8	89.5	90.6	90.1	88.1	87.2	87.9	88.8
13:02:08	8/21/96	87.8	88.8	89.2	86.9	87.9	89.4	90.6	90.2	88.1	87.0	87.8	88.7
13:03:08	8/21/96	87.9	88.8	89.1	86.9	87.9	89.3	90.5	90.2	88.1	87.0	87.7	88.6
13:04:08	8/21/96	87.8	88.7	89.2	86.9	87.9	89.3	90.6	90.2	88.1	87.0	87.8	88.7
13:05:08	8/21/96	87.8	88.8	89.2	86.9	87.9	89.4	90.6	90.2	88.1	87.1	87.8	88.7
13:06:08	8/21/96	87.8	88.9	89.1	86.7	88.0	89.5	90.4	90.1	88.3	87.2	87.9	88.5
13:07:08	8/21/96	87.8	88.9	89.1	86.8	88.0	89.5	90.4	90.2	88.2	87.1	87.9	88.5
13:08:08	8/21/96	87.8	88.9	89.3	86.8	87.9	89.5	90.6	90.1	88.1	87.3	88.0	88.8
13:09:08	8/21/96	87.9	88.8	89.1	86.9	88.0	89.4	90.5	90.2	88.0	87.0	87.7	88.6
13:10:08	8/21/96	87.8	89.0	89.2	86.7	88.0	89.5	90.4	90.1	88.3	87.2	88.0	88.6
13:11:08	8/21/96	87.9	88.9	89.1	86.7	88.1	89.5	90.4	90.2	88.2	87.1	87.9	88.5
13:12:08	8/21/96	87.9	88.8	89.1	86.8	88.1	89.4	90.5	90.2	88.1	87.0	87.8	88.5
13:13:08	8/21/96	87.8	88.9	89.2	86.6	88.0	89.6	90.4	90.0	88.2	87.3	88.0	88.6
13:14:08	8/21/96	87.8	88.7	89.2	86.8	87.9	89.4	90.6	90.1	88.0	87.1	87.8	88.8

OMEGA POINT LABORATORIES

3 Layer Cable Tray - Baseline System

Time of Day (hh:mm:ss)	Date (mm/dd/yy)	3 Layer Tray TC # 2 (°C)	3 Layer Tray TC # 3 (°C)	3 Layer Tray TC # 4 (°C)	3 Layer Tray TC # 5 (°C)	3 Layer Tray TC # 6 (°C)	3 Layer Tray TC # 7 (°C)	3 Layer Tray TC # 8 (°C)	3 Layer Tray TC # 9 (°C)	3 Layer Tray TC # 10 (°C)	3 Layer Tray TC # 11 (°C)	3 Layer Tray TC # 12 (°C)	3 Layer Tray TC # 13 (°C)
13:15:08	8/21/96	87.7	88.9	89.3	86.7	88.0	89.6	90.5	90.0	88.1	87.4	88.1	88.8
13:16:08	8/21/96	88.0	88.8	89.1	86.8	88.1	89.4	90.5	90.2	88.2	87.0	87.8	88.5
13:17:08	8/21/96	87.9	88.8	89.1	86.8	88.1	89.4	90.5	90.2	88.0	87.0	87.8	88.6
13:18:08	8/21/96	87.8	88.8	89.3	86.7	87.9	89.5	90.6	90.0	88.0	87.3	88.0	88.8
13:19:08	8/21/96	87.8	88.9	89.1	86.6	88.1	89.6	90.4	90.0	88.2	87.3	88.0	88.6
13:20:08	8/21/96	87.7	88.9	89.2	86.6	88.0	89.6	90.5	89.9	88.1	87.3	88.1	88.7
13:21:08	8/21/96	88.0	88.9	89.0	86.8	88.2	89.5	90.5	90.1	88.1	87.1	87.8	88.5
13:22:08	8/21/96	87.9	88.8	89.0	86.7	88.2	89.4	90.4	90.2	88.1	87.1	87.8	88.5
13:23:08	8/21/96	87.8	88.8	89.3	86.7	88.0	89.5	90.6	90.0	88.0	87.4	88.0	88.8
13:24:08	8/21/96	88.0	88.8	89.1	86.8	88.1	89.4	90.5	90.2	88.1	87.1	87.8	88.6
13:25:08	8/21/96	88.0	88.8	89.0	86.7	88.2	89.4	90.4	90.1	88.1	87.1	87.8	88.5
13:26:08	8/21/96	87.9	88.8	89.0	86.7	88.2	89.5	90.4	90.1	88.1	87.1	87.8	88.5
13:27:08	8/21/96	87.8	88.9	89.1	86.6	88.2	89.6	90.4	90.0	88.2	87.3	88.0	88.6
13:28:08	8/21/96	87.9	88.7	89.1	86.8	88.1	89.4	90.5	90.2	88.0	87.1	87.8	88.7
13:29:08	8/21/96	87.9	88.8	89.2	86.8	88.0	89.5	90.6	90.1	88.0	87.2	87.9	88.8
13:30:08	8/21/96	87.9	88.7	89.1	86.8	88.0	89.5	90.6	90.1	88.0	87.2	87.8	88.7
13:31:08	8/21/96	87.9	88.9	89.0	86.7	88.2	89.5	90.4	90.1	88.1	87.1	87.9	88.5
13:32:08	8/21/96	87.9	88.9	89.1	86.6	88.2	89.6	90.4	90.0	88.2	87.3	88.0	88.5
13:33:08	8/21/96	87.9	88.7	89.2	86.7	88.1	89.5	90.6	90.1	88.0	87.2	87.9	88.8
13:34:08	8/21/96	87.8	89.0	89.1	86.6	88.2	89.7	90.4	90.0	88.2	87.4	88.1	88.6
13:35:08	8/21/96	88.0	88.8	89.1	86.7	88.2	89.5	90.5	90.1	88.1	87.1	87.8	88.6
13:36:08	8/21/96	88.0	88.9	89.0	86.7	88.3	89.5	90.4	90.1	88.1	87.1	87.9	88.5
13:37:08	8/21/96	87.8	88.9	89.2	86.6	88.1	89.7	90.5	89.9	88.1	87.4	88.1	88.7
13:38:08	8/21/96	87.9	89.0	89.1	86.6	88.2	89.6	90.4	90.0	88.2	87.3	88.0	88.6
13:39:08	8/21/96	88.0	88.8	89.0	86.7	88.2	89.5	90.5	90.1	88.0	87.1	87.8	88.6
13:40:08	8/21/96	88.0	88.8	89.1	86.7	88.2	89.5	90.5	90.1	88.0	87.1	87.8	88.6
13:41:08	8/21/96	87.9	88.9	89.0	86.6	88.2	89.6	90.4	90.1	88.1	87.1	87.9	88.5
13:42:08	8/21/96	87.8	88.7	89.2	86.7	88.0	89.5	90.6	90.0	87.9	87.2	87.9	88.8
13:43:08	8/21/96	87.8	88.8	89.2	86.6	88.1	89.6	90.6	90.0	88.0	87.4	88.0	88.8
13:44:08	8/21/96	87.9	88.9	89.0	86.6	88.3	89.6	90.4	90.1	88.1	87.2	87.9	88.5
13:45:08	8/21/96	87.8	88.8	89.2	86.6	88.1	89.6	90.6	90.0	88.0	87.4	88.0	88.8
13:46:08	8/21/96	87.8	88.9	89.2	86.5	88.2	89.7	90.5	89.9	88.1	87.4	88.1	88.7
13:47:08	8/21/96	88.0	88.7	89.1	86.7	88.1	89.5	90.5	90.1	87.9	87.2	87.8	88.7
13:48:08	8/21/96	87.9	88.7	89.1	86.7	88.1	89.5	90.6	90.1	87.9	87.2	87.9	88.7
13:49:08	8/21/96	88.0	88.8	89.0	86.6	88.2	89.5	90.4	90.1	88.0	87.1	87.8	88.5
13:50:08	8/21/96	88.1	88.8	89.0	86.7	88.3	89.5	90.5	90.1	88.0	87.1	87.8	88.5
13:51:08	8/21/96	88.0	88.9	89.0	86.6	88.3	89.6	90.4	90.1	88.1	87.3	88.0	88.5
13:52:08	8/21/96	87.9	88.8	89.2	86.6	88.1	89.6	90.6	90.0	88.0	87.4	88.0	88.8
13:53:08	8/21/96	87.9	88.7	89.2	86.7	88.2	89.5	90.6	90.1	87.9	87.3	87.9	88.7
13:54:08	8/21/96	88.1	88.9	89.0	86.6	88.3	89.6	90.4	90.1	88.1	87.2	87.9	88.5
13:55:08	8/21/96	88.0	88.8	89.0	86.7	88.2	89.5	90.5	90.1	88.0	87.2	87.8	88.6
13:56:08	8/21/96	87.9	88.8	89.2	86.6	88.1	89.6	90.6	90.0	88.0	87.4	88.0	88.8
13:57:08	8/21/96	88.0	88.8	89.0	86.7	88.2	89.5	90.5	90.1	88.0	87.2	87.8	88.6
13:58:08	8/21/96	87.8	88.9	89.1	86.5	88.2	89.7	90.4	89.9	88.1	87.5	88.1	88.6
13:59:08	8/21/96	87.9	88.9	89.2	86.5	88.1	89.7	90.6	89.9	88.0	87.5	88.2	88.8
14:00:08	8/21/96	88.1	88.8	89.0	86.7	88.3	89.5	90.5	90.1	88.0	87.2	87.8	88.6
14:01:08	8/21/96	87.9	88.7	89.1	86.7	88.1	89.5	90.6	90.1	87.9	87.3	87.9	88.7
14:02:08	8/21/96	87.9	88.9	89.0	86.5	88.3	89.6	90.4	90.0	88.1	87.3	88.0	88.5
14:03:08	8/21/96	88.1	88.9	89.0	86.6	88.3	89.6	90.4	90.1	88.1	87.2	87.9	88.5
14:04:08	8/21/96	88.0	88.9	89.0	86.5	88.3	89.7	90.4	90.0	88.1	87.4	88.0	88.5
14:05:08	8/21/96	88.0	88.8	89.2	86.7	88.2	89.6	90.6	90.1	87.9	87.3	87.9	88.8
14:06:08	8/21/96	88.1	88.9	89.0	86.6	88.3	89.6	90.5	90.1	88.1	87.2	87.8	88.5
14:07:08	8/21/96	87.9	88.8	89.2	86.6	88.1	89.6	90.6	90.0	87.9	87.5	88.0	88.8
14:08:08	8/21/96	88.1	88.8	89.1	86.7	88.2	89.5	90.6	90.1	88.0	87.3	87.9	88.7
14:09:08	8/21/96	88.0	88.8	89.0	86.7	88.3	89.5	90.5	90.1	88.0	87.2	87.8	88.6
14:10:08	8/21/96	87.9	88.8	89.2	86.6	88.1	89.7	90.6	90.0	88.0	87.5	88.0	88.8
14:11:08	8/21/96	88.0	88.8	89.1	86.7	88.3	89.5	90.5	90.1	87.9	87.2	87.8	88.6
14:12:08	8/21/96	88.0	88.7	89.1	86.6	88.2	89.6	90.6	90.1	87.9	87.3	87.9	88.8
14:13:08	8/21/96	88.0	88.9	89.0	86.6	88.3	89.6	90.4	90.1	88.1	87.2	88.0	88.5
14:14:08	8/21/96	87.9	88.8	89.2	86.8	88.2	89.7	90.6	90.0	88.0	87.5	88.0	88.8
14:15:08	8/21/96	87.9	89.0	89.1	86.5	88.3	89.8	90.4	90.0	88.1	87.5	88.1	88.6
14:16:08	8/21/96	88.0	89.0	89.0	86.5	88.3	89.7	90.4	90.0	88.1	87.4	88.1	88.6
14:17:08	8/21/96	87.9	88.8	89.2	86.6	88.1	89.7	90.6	90.0	87.9	87.4	88.0	88.8
14:18:08	8/21/96	88.0	89.0	89.1	86.5	88.3	89.8	90.5	90.0	88.1	87.5	88.1	88.7
14:19:08	8/21/96	88.0	88.8	89.1	86.6	88.2	89.6	90.6	90.0	87.9	87.3	87.9	88.7
14:20:08	8/21/96	87.9	88.9	89.2	86.5	88.2	89.8	90.6	89.9	88.0	87.6	88.2	88.8
14:21:08	8/21/96	88.1	88.8	89.1	86.7	88.3	89.6	90.6	90.1	88.0	87.3	87.9	88.7
14:22:08	8/21/96	88.1	88.8	89.0	86.7	88.3	89.6	90.5	90.1	88.0	87.2	87.8	88.6
14:23:08	8/21/96	88.1	88.9	89.0	86.6	88.4	89.6	90.5	90.1	88.0	87.2	87.9	88.6

OMEGA POINT LABORATORIES

3 Layer Cable Tray - Baseline System

Time of Day (hh:mm:ss)	Date (mm/dd/yy)	3 Layer Tray TC # 2 (°C)	3 Layer Tray TC # 3 (°C)	3 Layer Tray TC # 4 (°C)	3 Layer Tray TC # 5 (°C)	3 Layer Tray TC # 6 (°C)	3 Layer Tray TC # 7 (°C)	3 Layer Tray TC # 8 (°C)	3 Layer Tray TC # 9 (°C)	3 Layer Tray TC # 10 (°C)	3 Layer Tray TC # 11 (°C)	3 Layer Tray TC # 12 (°C)	3 Layer Tray TC # 13 (°C)
14:24:08	8/21/96	88.1	88.8	89.0	86.6	88.4	89.6	90.5	90.1	88.0	87.2	87.9	88.6
14:25:08	8/21/96	87.9	88.8	89.2	86.6	88.2	89.7	90.6	90.0	87.9	87.5	88.1	88.8
14:26:08	8/21/96	87.9	88.8	89.2	86.6	88.2	89.6	90.6	90.0	87.9	87.4	88.0	88.8
14:27:08	8/21/96	88.0	88.9	89.0	86.5	88.4	89.7	90.4	90.0	88.1	87.3	88.0	88.5
14:28:08	8/21/96	88.0	88.8	89.2	86.6	88.3	89.7	90.6	90.0	87.9	87.4	88.0	88.8
14:29:08	8/21/96	88.1	88.9	89.0	86.6	88.4	89.7	90.4	90.1	88.1	87.3	88.0	88.5
14:30:08	8/21/96	88.1	88.8	89.0	86.6	88.4	89.6	90.5	90.1	88.0	87.2	87.9	88.6
14:31:08	8/21/96	88.1	88.8	89.1	86.7	88.3	89.6	90.5	90.1	87.9	87.3	87.9	88.7
14:32:08	8/21/96	88.1	88.8	89.0	86.7	88.4	89.6	90.6	90.1	87.9	87.3	87.9	88.7
14:33:08	8/21/96	88.0	88.8	89.2	86.6	88.3	89.7	90.6	90.0	87.9	87.4	88.0	88.8
14:34:08	8/21/96	88.1	88.9	89.0	86.5	88.5	89.7	90.4	90.1	88.1	87.4	88.0	88.5
14:35:08	8/21/96	87.9	88.8	89.2	86.6	88.3	89.7	90.6	90.0	87.9	87.5	88.1	88.8
14:36:08	8/21/96	87.9	89.0	89.2	86.5	88.4	89.8	90.5	89.9	88.0	87.6	88.2	88.7
14:37:08	8/21/96	88.1	88.8	89.1	86.7	88.4	89.6	90.6	90.1	87.9	87.3	87.9	88.7
14:38:08	8/21/96	88.0	89.0	89.0	86.5	88.5	89.7	90.4	90.0	88.1	87.4	88.0	88.5
14:39:08	8/21/96	87.9	88.9	89.2	86.5	88.4	89.8	90.5	89.9	88.0	87.6	88.2	88.8
14:40:08	8/21/96	88.1	88.8	89.1	86.7	88.5	89.6	90.6	90.1	88.0	87.3	87.9	88.7
14:41:08	8/21/96	88.1	89.0	89.0	86.5	88.5	89.7	90.4	90.0	88.1	87.5	88.1	88.5
14:42:08	8/21/96	88.0	89.0	89.1	86.4	88.5	89.8	90.4	89.9	88.1	87.5	88.1	88.6
14:43:08	8/21/96	88.0	88.8	89.2	86.6	88.4	89.7	90.6	89.9	87.9	87.5	88.1	88.8
14:44:08	8/21/96	88.0	89.0	89.1	86.5	88.5	89.8	90.4	89.9	88.0	87.6	88.2	88.7
14:45:08	8/21/96	88.1	88.8	89.1	86.7	88.5	89.6	90.6	90.1	87.9	87.3	87.9	88.7
14:46:08	8/21/96	88.0	88.8	89.1	86.6	88.4	89.7	90.6	90.0	87.8	87.4	88.0	88.8
14:47:08	8/21/96	88.0	89.0	89.1	86.5	88.6	89.8	90.4	89.9	88.1	87.6	88.2	88.6
14:48:08	8/21/96	88.1	88.7	89.0	86.6	88.5	89.6	90.5	90.1	88.0	87.3	87.9	88.6
14:49:08	8/21/96	88.0	88.8	89.2	86.6	88.4	89.7	90.6	90.0	87.9	87.4	88.0	88.8
14:50:08	8/21/96	88.0	88.8	89.1	86.6	88.4	89.6	90.6	90.0	87.9	87.4	87.9	88.7
14:51:08	8/21/96	88.1	88.8	89.0	86.6	88.5	89.6	90.5	90.1	87.9	87.3	87.9	88.6
14:52:08	8/21/96	88.0	89.0	89.1	86.4	88.5	89.8	90.4	89.9	88.1	87.6	88.2	88.6
14:53:08	8/21/96	88.0	88.8	89.1	86.6	88.4	89.7	90.6	90.0	87.8	87.4	88.0	88.7
14:54:08	8/21/96	88.1	89.0	89.0	86.5	88.6	89.7	90.4	90.0	88.1	87.5	88.1	88.5
14:55:08	8/21/96	87.9	88.9	89.2	86.5	88.4	89.8	90.6	89.9	87.9	87.6	88.1	88.8
14:56:08	8/21/96	88.0	89.0	89.1	86.4	88.5	89.8	90.4	89.8	88.0	87.6	88.2	88.6
14:57:08	8/21/96	88.0	88.8	89.1	86.6	88.4	89.7	90.6	90.0	87.8	87.4	88.0	88.7
14:58:08	8/21/96	88.0	89.0	89.1	86.4	88.6	89.8	90.4	89.9	88.0	87.6	88.2	88.6
14:59:08	8/21/96	88.1	88.9	89.0	86.6	88.6	89.6	90.4	90.1	88.0	87.3	87.9	88.5
15:00:08	8/21/96	88.0	89.0	89.1	86.4	88.6	89.8	90.4	89.9	88.0	87.6	88.2	88.6
15:01:08	8/21/96	88.1	88.9	89.0	86.5	88.6	89.7	90.4	90.0	88.0	87.4	88.0	88.5
15:02:08	8/21/96	88.0	88.9	89.2	86.5	88.4	89.8	90.6	89.9	87.9	87.6	88.1	88.8
15:03:08	8/21/96	88.2	88.8	89.0	86.6	88.6	89.6	90.5	90.0	87.9	87.3	87.9	88.6
15:04:08	8/21/96	88.1	88.8	88.9	86.5	88.6	89.6	90.4	90.0	87.9	87.3	87.9	88.5
15:05:08	8/21/96	87.9	88.8	89.1	86.5	88.4	89.8	90.5	89.9	87.8	87.6	88.1	88.7
Min:													
Max:													

OMEGA POINT LABORATORIES

3 Layer Cable Tray - Baseline System

Time of Day (hh:mm:ss)	Date (mm/dd/yy)	3 Layer Tray TC # 14 (°C)	3 Layer Tray TC # 15 (°C)	3 Layer Pos. 1 Avg (°C)	3 Layer Pos. 2 Avg (°C)	3 Layer 1Hr Avg Pos. 2 Avg (°C)	3 Layer Pos. 3 Avg (°C)	3 Layer Diff. Pos. 1-2 (°C)	3 Layer Diff. Pos. 3-2 (°C)	3 Layer Pos. 2 Max (°C)	3 Layer 1Hr Avg Pos. 2 Max (°C)	3 Layer Temp Slope (°C/Hr)
12:06:08	8/21/96	87.8	86.0	87.7	89.1	89.1	87.5	-1.4	-1.6	90.4	90.4	0.199
12:07:08	8/21/96	87.9	86.0	87.6	89.0	89.0	87.4	-1.4	-1.7	90.3	90.3	0.204
12:08:08	8/21/96	87.9	85.9	87.6	89.0	89.0	87.5	-1.4	-1.5	90.5	90.4	0.205
12:09:08	8/21/96	88.0	85.9	87.7	89.0	89.0	87.5	-1.3	-1.5	90.6	90.4	0.202
12:10:08	8/21/96	87.8	86.0	87.7	89.1	89.0	87.5	-1.4	-1.6	90.4	90.4	0.203
12:11:08	8/21/96	88.0	85.9	87.7	89.0	89.0	87.4	-1.4	-1.6	90.5	90.4	0.204
12:12:08	8/21/96	88.0	86.0	87.7	89.0	89.0	87.4	-1.3	-1.6	90.5	90.4	0.207
12:13:08	8/21/96	87.8	86.0	87.6	89.0	89.0	87.5	-1.4	-1.5	90.4	90.4	0.207
12:14:08	8/21/96	87.9	86.1	87.6	89.1	89.0	87.5	-1.4	-1.6	90.4	90.4	0.212
12:15:08	8/21/96	87.9	86.1	87.7	89.1	89.1	87.4	-1.4	-1.7	90.4	90.4	0.221
12:16:08	8/21/96	87.9	86.0	87.7	89.1	89.1	87.5	-1.4	-1.5	90.5	90.4	0.225
12:17:08	8/21/96	88.1	86.0	87.7	89.1	89.1	87.4	-1.4	-1.7	90.5	90.4	0.224
12:18:08	8/21/96	88.0	86.1	87.7	89.1	89.1	87.4	-1.4	-1.7	90.4	90.4	0.228
12:19:08	8/21/96	88.0	86.1	87.7	89.1	89.1	87.4	-1.4	-1.7	90.5	90.4	0.233
12:20:08	8/21/96	87.9	86.1	87.7	89.1	89.1	87.5	-1.4	-1.6	90.4	90.4	0.241
12:21:08	8/21/96	88.0	86.0	87.7	89.1	89.1	87.6	-1.4	-1.5	90.5	90.4	0.240
12:22:08	8/21/96	87.9	86.1	87.7	89.1	89.1	87.6	-1.4	-1.5	90.5	90.4	0.243
12:23:08	8/21/96	88.0	86.1	87.8	89.1	89.1	87.4	-1.3	-1.7	90.5	90.5	0.248
12:24:08	8/21/96	88.0	86.1	87.8	89.1	89.1	87.4	-1.3	-1.7	90.5	90.5	0.254
12:25:08	8/21/96	88.1	86.0	87.8	89.1	89.1	87.5	-1.3	-1.6	90.6	90.5	0.256
12:26:08	8/21/96	88.0	86.1	87.7	89.1	89.1	87.5	-1.4	-1.7	90.4	90.5	0.258
12:27:08	8/21/96	87.9	86.1	87.8	89.1	89.1	87.6	-1.4	-1.5	90.5	90.5	0.258
12:28:08	8/21/96	88.0	86.2	87.8	89.2	89.1	87.5	-1.4	-1.7	90.4	90.5	0.263
12:29:08	8/21/96	88.0	86.2	87.8	89.2	89.1	87.5	-1.4	-1.6	90.4	90.5	0.265
12:30:08	8/21/96	88.1	86.1	87.7	89.1	89.1	87.4	-1.4	-1.7	90.5	90.5	0.268
12:31:08	8/21/96	88.0	86.1	87.7	89.1	89.1	87.6	-1.4	-1.5	90.5	90.5	0.271
12:32:08	8/21/96	88.1	86.0	87.8	89.1	89.1	87.5	-1.3	-1.6	90.6	90.5	0.270
12:33:08	8/21/96	88.1	86.0	87.8	89.1	89.1	87.6	-1.3	-1.6	90.7	90.5	0.271
12:34:08	8/21/96	88.1	86.1	87.8	89.2	89.1	87.5	-1.3	-1.7	90.5	90.5	0.270
12:35:08	8/21/96	88.0	86.2	87.8	89.2	89.1	87.5	-1.4	-1.7	90.5	90.5	0.272
12:36:08	8/21/96	88.0	86.2	87.8	89.2	89.1	87.5	-1.4	-1.7	90.4	90.5	0.275
12:37:08	8/21/96	88.1	86.2	87.7	89.2	89.1	87.5	-1.4	-1.7	90.5	90.5	0.276
12:38:08	8/21/96	88.0	86.3	87.8	89.2	89.1	87.6	-1.4	-1.6	90.5	90.5	0.279
12:39:08	8/21/96	88.1	86.2	87.8	89.2	89.1	87.5	-1.4	-1.7	90.5	90.5	0.280
12:40:08	8/21/96	88.1	86.1	87.8	89.2	89.1	87.6	-1.4	-1.5	90.7	90.5	0.280
12:41:08	8/21/96	88.1	86.1	87.9	89.2	89.1	87.6	-1.3	-1.6	90.7	90.5	0.280
12:42:08	8/21/96	88.0	86.3	87.9	89.2	89.1	87.6	-1.4	-1.6	90.5	90.5	0.281
12:43:08	8/21/96	88.2	86.1	87.8	89.2	89.1	87.5	-1.4	-1.7	90.6	90.5	0.280
12:44:08	8/21/96	88.2	86.1	87.9	89.2	89.1	87.6	-1.3	-1.6	90.7	90.5	0.275
12:45:08	8/21/96	88.1	86.2	87.8	89.2	89.1	87.5	-1.4	-1.7	90.5	90.5	0.276
12:46:08	8/21/96	88.0	86.3	87.8	89.2	89.1	87.6	-1.5	-1.6	90.5	90.5	0.275
12:47:08	8/21/96	88.1	86.1	87.8	89.2	89.1	87.6	-1.4	-1.6	90.7	90.5	0.273
12:48:08	8/21/96	88.0	86.2	87.8	89.2	89.1	87.6	-1.4	-1.6	90.6	90.5	0.269
12:49:08	8/21/96	88.0	86.2	87.8	89.2	89.1	87.6	-1.4	-1.6	90.5	90.5	0.271
12:50:08	8/21/96	88.0	86.2	87.8	89.2	89.1	87.6	-1.5	-1.6	90.5	90.5	0.269
12:51:08	8/21/96	88.1	86.1	87.9	89.2	89.1	87.6	-1.3	-1.6	90.7	90.5	0.267
12:52:08	8/21/96	88.0	86.3	87.8	89.2	89.1	87.6	-1.4	-1.7	90.4	90.5	0.264
12:53:08	8/21/96	88.0	86.1	87.8	89.2	89.1	87.7	-1.4	-1.5	90.6	90.5	0.264
12:54:08	8/21/96	88.1	86.2	87.8	89.2	89.1	87.5	-1.4	-1.7	90.5	90.5	0.263
12:55:08	8/21/96	88.1	86.1	87.8	89.2	89.1	87.5	-1.4	-1.7	90.5	90.5	0.260
12:56:08	8/21/96	88.0	86.2	87.8	89.2	89.1	87.6	-1.5	-1.6	90.5	90.5	0.257
12:57:08	8/21/96	88.0	86.1	87.7	89.2	89.1	87.7	-1.5	-1.6	90.6	90.5	0.252
12:58:08	8/21/96	88.0	86.1	87.9	89.2	89.1	87.6	-1.4	-1.6	90.6	90.5	0.250
12:59:08	8/21/96	87.9	86.2	87.8	89.2	89.1	87.6	-1.5	-1.6	90.5	90.5	0.246
13:00:08	8/21/96	88.0	86.2	87.7	89.3	89.1	87.6	-1.5	-1.7	90.4	90.5	0.246
13:01:08	8/21/96	88.0	86.0	87.8	89.2	89.1	87.6	-1.4	-1.6	90.6	90.5	0.243
13:02:08	8/21/96	88.1	86.0	87.8	89.2	89.1	87.5	-1.4	-1.7	90.6	90.5	0.237
13:03:08	8/21/96	88.1	86.1	87.8	89.2	89.2	87.5	-1.4	-1.7	90.5	90.5	0.230
13:04:08	8/21/96	88.1	86.0	87.8	89.2	89.2	87.5	-1.4	-1.7	90.6	90.5	0.223
13:05:08	8/21/96	88.1	86.0	87.8	89.2	89.2	87.5	-1.4	-1.7	90.6	90.5	0.214
13:06:08	8/21/96	88.0	86.2	87.7	89.2	89.2	87.6	-1.5	-1.7	90.4	90.5	0.213
13:07:08	8/21/96	88.0	86.2	87.7	89.3	89.2	87.5	-1.5	-1.7	90.4	90.5	0.211
13:08:08	8/21/96	88.0	86.0	87.8	89.2	89.2	87.6	-1.4	-1.6	90.6	90.5	0.205
13:09:08	8/21/96	88.1	86.0	87.8	89.2	89.2	87.5	-1.4	-1.7	90.5	90.5	0.196
13:10:08	8/21/96	87.9	86.2	87.8	89.3	89.2	87.6	-1.5	-1.7	90.4	90.5	0.195
13:11:08	8/21/96	88.0	86.1	87.8	89.3	89.2	87.5	-1.5	-1.8	90.4	90.5	0.193
13:12:08	8/21/96	88.0	86.1	87.8	89.2	89.2	87.5	-1.5	-1.8	90.5	90.5	0.187
13:13:08	8/21/96	87.9	86.2	87.7	89.2	89.2	87.6	-1.5	-1.7	90.4	90.5	0.180
13:14:08	8/21/96	88.0	85.9	87.8	89.2	89.2	87.5	-1.5	-1.7	90.6	90.5	0.175

OMEGA POINT LABORATORIES

3 Layer Cable Tray - Baseline System

Time of Day (hh:mm:ss)	Date (mm/dd/yy)	3 Layer Tray TC # 14 (°C)	3 Layer Tray TC # 15 (°C)	3 Layer Pos. 1 Avg (°C)	3 Layer Pos. 2 Avg (°C)	3 Layer 1Hr Avg Pos. 2 Avg (°C)	3 Layer Pos. 3 Avg (°C)	3 Layer Diff. Pos. 1-2 (°C)	3 Layer Diff. Pos. 3-2 (°C)	3 Layer Pos. 2 Max (°C)	3 Layer 1Hr Avg Pos. 2 Max (°C)	3 Layer Temp Slope (°C/Hr)
13:15:08	8/21/96	87.9	86.0	87.8	89.2	89.2	87.6	-1.4	-1.6	90.5	90.5	0.172
13:16:08	8/21/96	88.0	86.1	87.8	89.3	89.2	87.5	-1.5	-1.8	90.5	90.5	0.169
13:17:08	8/21/96	88.1	86.0	87.7	89.2	89.2	87.5	-1.5	-1.7	90.5	90.5	0.161
13:18:08	8/21/96	88.0	85.9	87.8	89.2	89.2	87.6	-1.4	-1.6	90.6	90.5	0.154
13:19:08	8/21/96	87.9	86.1	87.7	89.3	89.2	87.6	-1.5	-1.7	90.4	90.5	0.152
13:20:08	8/21/96	87.8	86.0	87.7	89.2	89.2	87.6	-1.5	-1.6	90.5	90.5	0.146
13:21:08	8/21/96	88.0	86.0	87.8	89.3	89.2	87.5	-1.5	-1.8	90.5	90.5	0.142
13:22:08	8/21/96	87.9	86.0	87.7	89.3	89.2	87.5	-1.5	-1.8	90.4	90.5	0.135
13:23:08	8/21/96	87.9	85.9	87.8	89.2	89.2	87.6	-1.4	-1.6	90.6	90.5	0.130
13:24:08	8/21/96	88.0	86.0	87.8	89.3	89.2	87.5	-1.4	-1.8	90.5	90.5	0.130
13:25:08	8/21/96	88.0	86.0	87.8	89.3	89.2	87.5	-1.5	-1.8	90.4	90.5	0.125
13:26:08	8/21/96	87.9	86.0	87.7	89.3	89.2	87.5	-1.6	-1.8	90.4	90.5	0.122
13:27:08	8/21/96	87.9	86.1	87.7	89.3	89.2	87.6	-1.5	-1.7	90.4	90.5	0.119
13:28:08	8/21/96	88.0	86.0	87.8	89.3	89.2	87.5	-1.5	-1.7	90.5	90.5	0.117
13:29:08	8/21/96	88.0	85.9	87.8	89.2	89.2	87.6	-1.4	-1.7	90.6	90.5	0.114
13:30:08	8/21/96	88.0	85.9	87.8	89.2	89.2	87.5	-1.4	-1.7	90.6	90.5	0.106
13:31:08	8/21/96	87.9	86.0	87.7	89.3	89.2	87.5	-1.5	-1.8	90.4	90.5	0.101
13:32:08	8/21/96	87.8	86.1	87.7	89.3	89.2	87.5	-1.5	-1.7	90.4	90.5	0.096
13:33:08	8/21/96	88.0	85.9	87.8	89.2	89.2	87.6	-1.4	-1.7	90.6	90.5	0.090
13:34:08	8/21/96	87.8	86.0	87.8	89.3	89.2	87.6	-1.5	-1.7	90.4	90.5	0.089
13:35:08	8/21/96	87.9	86.0	87.8	89.3	89.2	87.5	-1.5	-1.8	90.5	90.5	0.089
13:36:08	8/21/96	87.9	86.0	87.8	89.3	89.2	87.5	-1.5	-1.8	90.4	90.5	0.089
13:37:08	8/21/96	87.8	86.0	87.7	89.3	89.2	87.6	-1.5	-1.6	90.5	90.5	0.084
13:38:08	8/21/96	87.8	86.0	87.8	89.3	89.2	87.6	-1.5	-1.7	90.4	90.5	0.085
13:39:08	8/21/96	88.0	85.9	87.7	89.3	89.2	87.5	-1.5	-1.8	90.5	90.5	0.082
13:40:08	8/21/96	88.0	86.0	87.8	89.3	89.2	87.5	-1.5	-1.8	90.5	90.5	0.077
13:41:08	8/21/96	87.9	86.0	87.7	89.3	89.2	87.5	-1.6	-1.8	90.4	90.5	0.075
13:42:08	8/21/96	87.9	85.8	87.7	89.2	89.2	87.5	-1.5	-1.7	90.6	90.5	0.069
13:43:08	8/21/96	87.9	85.9	87.8	89.2	89.2	87.6	-1.4	-1.6	90.6	90.5	0.063
13:44:08	8/21/96	87.9	86.0	87.7	89.3	89.2	87.5	-1.6	-1.8	90.4	90.5	0.061
13:45:08	8/21/96	87.9	85.9	87.8	89.2	89.2	87.6	-1.4	-1.6	90.6	90.5	0.056
13:46:08	8/21/96	87.8	86.0	87.7	89.3	89.2	87.6	-1.5	-1.7	90.5	90.5	0.054
13:47:08	8/21/96	88.0	85.9	87.8	89.2	89.2	87.5	-1.5	-1.7	90.5	90.5	0.047
13:48:08	8/21/96	88.0	85.8	87.8	89.3	89.2	87.5	-1.4	-1.7	90.6	90.5	0.044
13:49:08	8/21/96	87.9	85.9	87.7	89.2	89.2	87.5	-1.5	-1.8	90.4	90.5	0.040
13:50:08	8/21/96	87.9	85.9	87.8	89.3	89.2	87.5	-1.5	-1.8	90.5	90.5	0.040
13:51:08	8/21/96	87.9	86.0	87.7	89.3	89.2	87.5	-1.6	-1.8	90.4	90.5	0.041
13:52:08	8/21/96	87.9	85.9	87.8	89.3	89.2	87.6	-1.4	-1.6	90.6	90.5	0.040
13:53:08	8/21/96	87.9	85.8	87.8	89.3	89.2	87.5	-1.5	-1.7	90.6	90.5	0.036
13:54:08	8/21/96	87.9	86.0	87.8	89.3	89.3	87.5	-1.5	-1.8	90.4	90.5	0.037
13:55:08	8/21/96	88.0	85.9	87.7	89.3	89.3	87.5	-1.5	-1.8	90.5	90.5	0.033
13:56:08	8/21/96	87.9	85.8	87.8	89.3	89.3	87.6	-1.5	-1.7	90.6	90.5	0.031
13:57:08	8/21/96	87.9	85.9	87.7	89.3	89.3	87.5	-1.5	-1.8	90.5	90.5	0.028
13:58:08	8/21/96	87.8	86.0	87.7	89.3	89.3	87.6	-1.6	-1.7	90.4	90.5	0.027
13:59:08	8/21/96	87.8	85.9	87.8	89.3	89.3	87.6	-1.5	-1.6	90.6	90.5	0.027
14:00:08	8/21/96	87.9	85.9	87.8	89.3	89.3	87.5	-1.5	-1.8	90.5	90.5	0.033
14:01:08	8/21/96	88.0	85.8	87.8	89.2	89.3	87.5	-1.5	-1.7	90.6	90.5	0.027
14:02:08	8/21/96	87.8	86.0	87.7	89.3	89.3	87.5	-1.6	-1.7	90.4	90.5	0.027
14:03:08	8/21/96	87.9	86.0	87.8	89.3	89.3	87.5	-1.5	-1.8	90.4	90.5	0.026
14:04:08	8/21/96	87.8	86.0	87.7	89.3	89.3	87.6	-1.5	-1.7	90.4	90.5	0.026
14:05:08	8/21/96	88.0	85.8	87.8	89.3	89.3	87.6	-1.5	-1.7	90.6	90.5	0.025
14:06:08	8/21/96	87.9	86.0	87.8	89.3	89.3	87.5	-1.5	-1.8	90.5	90.5	0.028
14:07:08	8/21/96	87.9	85.8	87.8	89.3	89.3	87.6	-1.5	-1.7	90.6	90.5	0.027
14:08:08	8/21/96	88.0	85.9	87.9	89.3	89.3	87.5	-1.4	-1.7	90.6	90.5	0.028
14:09:08	8/21/96	88.0	85.9	87.8	89.3	89.3	87.5	-1.5	-1.8	90.5	90.5	0.028
14:10:08	8/21/96	87.9	85.8	87.8	89.3	89.3	87.6	-1.5	-1.6	90.6	90.5	0.028
14:11:08	8/21/96	88.0	85.9	87.8	89.3	89.3	87.5	-1.5	-1.8	90.5	90.5	0.032
14:12:08	8/21/96	88.0	85.8	87.8	89.3	89.3	87.6	-1.5	-1.7	90.6	90.5	0.032
14:13:08	8/21/96	87.9	86.0	87.7	89.3	89.3	87.5	-1.6	-1.8	90.4	90.5	0.035
14:14:08	8/21/96	87.9	85.8	87.9	89.3	89.3	87.6	-1.4	-1.7	90.6	90.5	0.033
14:15:08	8/21/96	87.8	86.0	87.8	89.3	89.3	87.6	-1.5	-1.7	90.4	90.5	0.035
14:16:08	8/21/96	87.8	86.0	87.7	89.3	89.3	87.6	-1.6	-1.7	90.4	90.5	0.040
14:17:08	8/21/96	87.9	85.8	87.7	89.3	89.3	87.6	-1.5	-1.7	90.6	90.5	0.038
14:18:08	8/21/96	87.8	86.0	87.8	89.3	89.3	87.6	-1.5	-1.7	90.5	90.5	0.038
14:19:08	8/21/96	87.9	85.8	87.8	89.3	89.3	87.5	-1.5	-1.7	90.6	90.5	0.039
14:20:08	8/21/96	87.9	85.9	87.8	89.3	89.3	87.7	-1.5	-1.6	90.6	90.5	0.038
14:21:08	8/21/96	88.0	85.8	87.9	89.3	89.3	87.5	-1.5	-1.8	90.6	90.5	0.042
14:22:08	8/21/96	88.0	85.9	87.8	89.3	89.3	87.5	-1.5	-1.8	90.5	90.5	0.044
14:23:08	8/21/96	87.9	85.9	87.8	89.3	89.3	87.5	-1.5	-1.8	90.5	90.5	0.047

OMEGA POINT LABORATORIES

3 Layer Cable Tray - Baseline System

Time of Day (hh:mm:ss)	Date (mm/dd/yy)	3 Layer Tray TC # 14 (°C)	3 Layer Tray TC # 15 (°C)	3 Layer Pos. 1 Avg (°C)	3 Layer Pos. 2 Avg (°C)	3 Layer 1Hr Avg Pos. 2 Avg (°C)	3 Layer Pos. 3 Avg (°C)	3 Layer Diff. Pos. 1-2 (°C)	3 Layer Diff. Pos. 3-2 (°C)	3 Layer Pos. 2 Max (°C)	3 Layer 1Hr Avg Pos. 2 Max (°C)	3 Layer Temp Slope (°C/Hr)
14:24:08	8/21/96	87.9	85.9	87.7	89.3	89.3	87.5	-1.6	-1.8	90.5	90.5	0.051
14:25:08	8/21/96	87.9	85.8	87.8	89.3	89.3	87.6	-1.5	-1.7	90.6	90.5	0.052
14:26:08	8/21/96	87.9	85.8	87.8	89.3	89.3	87.6	-1.5	-1.7	90.6	90.5	0.052
14:27:08	8/21/96	87.8	86.0	87.7	89.3	89.3	87.5	-1.6	-1.8	90.4	90.5	0.056
14:28:08	8/21/96	87.9	85.8	87.8	89.3	89.3	87.6	-1.5	-1.7	90.6	90.5	0.056
14:29:08	8/21/96	87.9	86.0	87.8	89.3	89.3	87.5	-1.6	-1.8	90.4	90.5	0.060
14:30:08	8/21/96	87.9	85.9	87.8	89.3	89.3	87.5	-1.5	-1.8	90.5	90.5	0.060
14:31:08	8/21/96	88.0	85.9	87.8	89.3	89.3	87.5	-1.5	-1.8	90.5	90.5	0.060
14:32:08	8/21/96	88.0	85.9	87.8	89.3	89.3	87.5	-1.5	-1.8	90.6	90.5	0.064
14:33:08	8/21/96	87.9	85.8	87.8	89.3	89.3	87.6	-1.5	-1.7	90.6	90.5	0.063
14:34:08	8/21/96	87.8	86.0	87.8	89.4	89.3	87.5	-1.6	-1.8	90.4	90.5	0.072
14:35:08	8/21/96	87.9	85.8	87.8	89.3	89.3	87.6	-1.5	-1.7	90.6	90.5	0.074
14:36:08	8/21/96	87.8	85.9	87.8	89.3	89.3	87.6	-1.5	-1.7	90.5	90.5	0.077
14:37:08	8/21/96	87.9	85.8	87.9	89.3	89.3	87.5	-1.5	-1.8	90.6	90.5	0.078
14:38:08	8/21/96	87.8	86.0	87.7	89.4	89.3	87.6	-1.6	-1.8	90.4	90.5	0.085
14:39:08	8/21/96	87.8	85.9	87.8	89.3	89.3	87.6	-1.5	-1.7	90.5	90.5	0.087
14:40:08	8/21/96	87.9	85.9	87.8	89.3	89.3	87.5	-1.5	-1.8	90.6	90.5	0.090
14:41:08	8/21/96	87.8	86.0	87.8	89.3	89.3	87.6	-1.6	-1.8	90.4	90.5	0.094
14:42:08	8/21/96	87.8	86.0	87.7	89.3	89.3	87.6	-1.6	-1.7	90.4	90.5	0.091
14:43:08	8/21/96	87.9	85.8	87.9	89.3	89.3	87.6	-1.4	-1.7	90.6	90.5	0.087
14:44:08	8/21/96	87.7	85.9	87.8	89.3	89.3	87.6	-1.5	-1.7	90.4	90.5	0.090
14:45:08	8/21/96	87.9	85.8	87.9	89.3	89.3	87.5	-1.5	-1.8	90.6	90.5	0.087
14:46:08	8/21/96	87.9	85.8	87.8	89.3	89.3	87.6	-1.5	-1.7	90.6	90.5	0.084
14:47:08	8/21/96	87.7	86.0	87.8	89.4	89.3	87.6	-1.5	-1.7	90.4	90.5	0.085
14:48:08	8/21/96	87.9	85.9	87.7	89.3	89.3	87.5	-1.6	-1.8	90.5	90.5	0.082
14:49:08	8/21/96	87.9	85.8	87.8	89.3	89.3	87.6	-1.5	-1.7	90.6	90.5	0.078
14:50:08	8/21/96	87.9	85.8	87.8	89.3	89.3	87.5	-1.5	-1.8	90.6	90.5	0.076
14:51:08	8/21/96	87.9	85.9	87.8	89.3	89.3	87.5	-1.6	-1.8	90.5	90.5	0.078
14:52:08	8/21/96	87.7	85.9	87.7	89.3	89.3	87.6	-1.6	-1.7	90.4	90.5	0.076
14:53:08	8/21/96	87.9	85.7	87.8	89.3	89.3	87.6	-1.5	-1.7	90.6	90.5	0.072
14:54:08	8/21/96	87.8	86.0	87.8	89.4	89.3	87.6	-1.6	-1.8	90.4	90.5	0.075
14:55:08	8/21/96	87.8	85.8	87.8	89.3	89.3	87.6	-1.5	-1.7	90.6	90.5	0.071
14:56:08	8/21/96	87.7	85.9	87.7	89.3	89.3	87.6	-1.6	-1.7	90.4	90.5	0.068
14:57:08	8/21/96	87.9	85.7	87.8	89.3	89.3	87.5	-1.5	-1.7	90.6	90.5	0.061
14:58:08	8/21/96	87.7	85.9	87.8	89.3	89.3	87.6	-1.5	-1.7	90.4	90.5	0.059
14:59:08	8/21/96	87.8	85.9	87.8	89.3	89.3	87.5	-1.5	-1.9	90.4	90.5	0.057
15:00:08	8/21/96	87.7	85.9	87.8	89.3	89.3	87.6	-1.5	-1.8	90.4	90.5	0.059
15:01:08	8/21/96	87.8	85.9	87.8	89.3	89.3	87.5	-1.5	-1.8	90.4	90.5	0.055
15:02:08	8/21/96	87.8	85.8	87.8	89.3	89.3	87.6	-1.5	-1.7	90.6	90.5	0.054
15:03:08	8/21/96	87.9	85.8	87.9	89.3	89.3	87.5	-1.5	-1.8	90.5	90.5	0.052
15:04:08	8/21/96	87.8	85.8	87.7	89.3	89.3	87.5	-1.6	-1.8	90.4	90.5	0.048
15:05:08	8/21/96	87.7	85.8	87.8	89.3	89.3	87.6	-1.5	-1.7	90.5	90.5	0.043
Min:								-1.6	-1.9	90.3	90.3	0.027
Max:								-1.3	-1.5	90.7	90.5	0.094

OMEGA POINT LABORATORIES

CLAD TEST DATA
24" x 4" Cable Tray

OMEGA POINT LABORATORIES

3 Layer Cable Tray - Clad System

Time of Day (hh:mm:ss)	Date (mm/dd/yy)	Room TC # 1 (°C)	Room TC # 2 (°C)	Room TC # 3 (°C)	Room TC # 4 (°C)	Room TC # 5 (°C)	Room TC # 6 (°C)	Room TC # 7 (°C)	Room TC # 8 (°C)	Room TC # 9 (°C)	Room Avg Temp (°C)	Room 1Hr Avg Avg Temp (°C)	3 Layer Tray TC # 1 (°C)
10:13:45	10/10/96	40.3	39.7	40.5	39.9	40.1	43.0	40.1	39.9	40.5	40.4	40.5	87.2
10:14:45	10/10/96	40.2	40.1	40.7	40.2	40.5	43.4	40.2	39.9	40.5	40.7	40.6	87.3
10:15:45	10/10/96	40.2	39.9	40.8	40.3	40.8	44.6	40.3	40.1	40.8	40.9	40.6	87.2
10:16:45	10/10/96	40.3	39.8	40.9	40.1	40.8	44.0	40.3	40.1	41.0	40.8	40.6	87.3
10:17:45	10/10/96	40.2	40.0	41.0	40.2	40.6	45.0	40.3	40.0	41.0	40.9	40.6	87.2
10:18:45	10/10/96	40.2	40.0	40.9	40.0	40.5	41.8	40.4	39.8	40.7	40.5	40.6	87.2
10:19:45	10/10/96	40.2	39.7	40.6	39.9	39.7	41.0	40.1	39.5	40.5	40.1	40.6	87.2
10:20:45	10/10/96	40.2	40.3	40.6	40.2	40.8	42.7	40.0	39.9	40.4	40.6	40.6	87.2
10:21:45	10/10/96	40.1	40.3	40.6	40.4	41.0	44.7	40.3	39.9	40.6	40.9	40.6	87.2
10:22:45	10/10/96	40.2	40.4	40.7	40.5	41.2	44.1	40.3	40.2	40.7	40.9	40.6	87.3
10:23:45	10/10/96	40.3	40.3	40.9	40.6	41.1	44.1	40.6	40.1	40.9	41.0	40.6	87.2
10:24:45	10/10/96	40.3	40.1	40.8	40.4	41.2	42.0	40.4	40.2	40.8	40.7	40.6	87.3
10:25:45	10/10/96	40.2	39.8	40.8	40.2	40.1	41.0	40.1	40.0	40.5	40.3	40.6	87.3
10:26:45	10/10/96	40.2	39.8	40.6	40.2	40.5	41.9	40.2	40.0	40.6	40.4	40.6	87.2
10:27:45	10/10/96	40.2	39.8	40.7	40.4	40.8	44.1	40.4	40.2	40.6	40.8	40.6	87.3
10:28:45	10/10/96	40.2	40.2	40.6	40.6	41.0	43.5	40.5	40.2	40.9	40.9	40.6	87.2
10:29:45	10/10/96	40.4	40.2	40.7	40.5	41.1	43.5	40.4	40.0	40.9	40.9	40.6	87.2
10:30:45	10/10/96	40.6	40.0	41.0	40.4	40.7	44.3	40.3	40.2	41.1	41.0	40.6	87.2
10:31:45	10/10/96	40.6	40.1	40.9	40.4	40.9	44.7	40.3	40.1	41.1	41.0	40.6	87.2
10:32:45	10/10/96	40.6	40.0	41.0	40.2	40.3	41.3	40.4	40.1	40.7	40.5	40.6	87.2
10:33:45	10/10/96	40.4	40.0	40.6	40.3	40.0	42.1	40.3	39.7	40.7	40.5	40.6	87.3
10:34:45	10/10/96	40.3	40.1	40.6	40.5	41.1	42.8	40.4	40.0	40.7	40.7	40.6	87.3
10:35:45	10/10/96	40.2	40.4	40.8	40.3	41.0	44.0	40.4	40.1	40.7	40.9	40.6	87.3
10:36:45	10/10/96	40.2	40.0	41.0	40.4	40.6	43.9	40.4	40.1	41.0	40.8	40.6	87.3
10:37:45	10/10/96	40.5	40.2	41.0	40.4	41.1	43.8	40.5	40.0	41.0	40.9	40.7	87.3
10:38:45	10/10/96	40.3	40.1	40.9	40.3	40.5	41.8	40.5	40.2	40.9	40.6	40.7	87.2
10:39:45	10/10/96	40.3	39.8	40.6	40.1	40.1	42.1	40.3	39.7	40.5	40.4	40.6	87.2
10:40:45	10/10/96	40.2	39.9	40.7	40.3	40.5	43.0	40.4	40.0	40.7	40.6	40.6	87.3
10:41:45	10/10/96	40.5	40.6	40.7	40.5	41.1	43.6	40.4	40.3	40.8	40.9	40.7	87.3
10:42:45	10/10/96	40.4	40.2	40.9	40.6	41.0	44.6	40.5	40.0	41.0	41.0	40.7	87.2
10:43:45	10/10/96	40.3	40.0	41.1	40.5	40.7	43.7	40.5	40.3	41.0	40.9	40.7	87.2
10:44:45	10/10/96	40.6	40.0	41.1	40.2	40.3	41.8	40.5	40.2	41.0	40.6	40.7	87.2
10:45:45	10/10/96	40.3	39.8	40.7	40.2	40.0	41.4	40.4	39.7	40.6	40.3	40.7	87.3
10:46:45	10/10/96	40.3	40.4	40.6	40.3	41.0	43.1	40.2	40.0	40.6	40.7	40.7	87.2
10:47:45	10/10/96	40.3	40.9	40.7	40.5	41.1	43.1	40.3	40.2	40.8	40.9	40.7	87.2
10:48:45	10/10/96	40.4	40.7	40.9	40.7	41.2	43.9	40.4	40.4	40.9	41.1	40.7	87.3
10:49:45	10/10/96	40.4	40.7	40.8	40.7	41.2	43.9	40.6	40.4	41.0	41.1	40.7	87.3
10:50:45	10/10/96	40.3	40.6	41.0	40.8	41.0	43.6	40.7	40.3	41.0	41.0	40.7	87.2
10:51:45	10/10/96	40.6	40.6	40.9	40.8	41.5	42.3	40.6	40.4	41.0	41.0	40.7	87.3
10:52:45	10/10/96	40.5	40.1	40.9	40.3	40.1	40.7	40.4	40.1	40.7	40.4	40.7	87.2
10:53:45	10/10/96	40.3	40.1	40.8	40.5	40.9	42.8	40.4	40.3	40.7	40.8	40.7	87.3
10:54:45	10/10/96	40.4	40.5	40.9	40.5	41.4	44.0	40.4	40.3	40.7	41.0	40.7	87.3
10:55:45	10/10/96	40.4	40.4	41.2	40.7	41.2	44.2	40.4	40.3	40.7	41.1	40.7	87.3
10:56:45	10/10/96	40.5	40.2	41.3	40.6	41.0	44.9	40.5	40.5	41.1	41.2	40.7	87.2
10:57:45	10/10/96	40.6	40.1	41.1	40.5	40.7	44.3	40.5	40.2	41.1	41.0	40.7	87.3
10:58:45	10/10/96	40.7	40.0	41.2	40.4	40.9	43.9	40.5	40.5	41.2	41.0	40.7	87.3
10:59:45	10/10/96	40.5	40.0	41.0	40.4	40.2	41.3	40.4	40.2	41.0	40.6	40.7	87.3
11:00:45	10/10/96	40.4	39.8	40.8	40.4	40.4	41.7	40.3	40.0	40.8	40.5	40.7	87.3
11:01:45	10/10/96	40.5	40.2	40.8	40.3	41.1	44.0	40.6	40.3	40.8	41.0	40.8	87.3
11:02:45	10/10/96	40.5	40.3	41.0	40.5	41.1	44.3	40.5	40.2	41.0	41.1	40.8	87.3
11:03:45	10/10/96	40.6	40.1	41.1	40.5	40.7	44.8	40.4	40.4	41.1	41.1	40.8	87.2
11:04:45	10/10/96	40.5	40.3	41.2	40.3	40.8	45.8	40.6	40.5	41.2	41.2	40.8	87.3
11:05:45	10/10/96	40.5	39.9	40.9	40.2	40.2	41.1	40.4	40.1	40.7	40.5	40.8	87.2
11:06:45	10/10/96	40.6	39.8	40.8	40.2	40.0	42.6	40.3	40.2	40.8	40.6	40.8	87.2
11:07:45	10/10/96	40.6	40.4	40.8	40.5	40.7	43.7	40.5	40.3	40.8	40.9	40.8	87.2
11:08:45	10/10/96	40.5	40.2	40.9	40.6	41.1	44.9	40.4	40.6	41.0	41.1	40.8	87.2
11:09:45	10/10/96	40.6	40.3	41.0	40.6	41.2	44.5	40.7	40.3	41.2	41.2	40.8	87.3
11:10:45	10/10/96	40.6	40.4	41.0	40.7	40.8	44.4	40.8	40.3	41.0	41.1	40.8	87.3
11:11:45	10/10/96	40.6	40.2	41.3	40.4	40.6	42.1	40.7	40.6	41.2	40.8	40.8	87.2
11:12:45	10/10/96	40.5	40.0	40.8	40.2	40.5	41.2	40.4	40.0	40.8	40.5	40.8	87.3
11:13:45	10/10/96	40.5	40.2	40.9	40.5	40.9	42.6	40.4	40.3	40.9	40.8	40.8	87.3
11:14:45	10/10/96	40.6	40.2	41.1	40.5	40.9	43.7	40.7	40.5	41.0	41.0	40.8	87.3
11:15:45	10/10/96	40.8	40.3	41.1	40.5	41.0	44.6	40.7	40.3	41.2	41.2	40.8	87.3
11:16:45	10/10/96	40.7	40.3	41.0	40.5	40.5	41.6	40.6	40.4	41.0	40.7	40.8	87.3
11:17:45	10/10/96	40.5	40.2	40.7	40.4	40.2	41.7	40.6	40.1	40.9	40.6	40.8	87.2
11:18:45	10/10/96	40.6	40.1	40.9	40.5	41.2	42.7	40.6	40.4	40.9	40.9	40.8	87.3
11:19:45	10/10/96	40.6	40.2	41.1	40.6	41.1	44.5	40.5	40.3	40.9	41.1	40.8	87.3
11:20:45	10/10/96	40.4	40.4	41.2	40.7	41.3	44.1	40.5	40.4	41.0	41.1	40.8	87.3
11:21:45	10/10/96	40.4	40.3	41.0	40.6	40.6	42.1	40.3	40.0	41.0	40.7	40.8	87.3

OMEGA POINT LABORATORIES

3 Layer Cable Tray - Clad System

Time of Day (hh:mm:ss)	Date (mm/dd/yy)	Room TC # 1 (°C)	Room TC # 2 (°C)	Room TC # 3 (°C)	Room TC # 4 (°C)	Room TC # 5 (°C)	Room TC # 6 (°C)	Room TC # 7 (°C)	Room TC # 8 (°C)	Room TC # 9 (°C)	Room Avg Temp (°C)	Room 1Hr Avg Avg Temp (°C)	3 Layer Tray TC # 1 (°C)
11:22:45	10/10/96	40.2	39.8	40.6	40.4	40.2	41.4	40.2	39.8	40.4	40.3	40.8	87.3
11:23:45	10/10/96	40.1	39.8	40.7	40.4	40.5	41.8	40.3	40.1	40.6	40.5	40.8	87.3
11:24:45	10/10/96	40.3	40.0	40.8	40.3	40.7	43.0	40.2	39.9	40.7	40.7	40.8	87.3
11:25:45	10/10/96	40.3	40.0	40.8	40.4	40.3	43.5	40.2	39.7	40.8	40.7	40.8	87.2
11:26:45	10/10/96	40.1	39.9	40.8	40.4	40.3	43.6	40.3	40.0	40.8	40.7	40.8	87.3
11:27:45	10/10/96	39.9	39.6	40.6	40.2	39.7	40.6	39.9	39.6	40.3	40.0	40.8	87.3
11:28:45	10/10/96	39.9	39.3	40.5	40.2	39.5	41.5	40.0	39.4	40.4	40.1	40.8	87.3
11:29:45	10/10/96	39.9	39.5	40.5	40.2	40.0	42.7	40.0	39.8	40.5	40.3	40.8	87.2
11:30:45	10/10/96	39.9	39.7	40.5	40.1	39.8	42.9	40.1	39.6	40.6	40.3	40.8	87.3
11:31:45	10/10/96	39.9	39.7	40.6	40.1	40.5	42.3	39.9	39.6	40.6	40.4	40.8	87.3
11:32:45	10/10/96	40.0	39.6	40.6	40.0	40.3	43.0	39.9	39.6	40.6	40.4	40.8	87.3
11:33:45	10/10/96	40.1	39.6	40.5	40.2	39.9	42.6	40.0	39.8	40.6	40.4	40.8	87.3
11:34:45	10/10/96	39.9	39.8	40.5	40.3	40.1	41.1	39.9	39.7	40.4	40.2	40.8	87.2
11:35:45	10/10/96	39.9	39.4	40.2	40.0	39.6	40.6	39.9	39.3	40.1	39.9	40.7	87.2
11:36:45	10/10/96	39.7	39.7	40.2	40.1	40.4	41.9	39.8	39.5	40.2	40.2	40.7	87.2
11:37:45	10/10/96	39.9	39.6	40.6	40.1	40.4	43.4	40.0	39.6	40.2	40.4	40.7	87.3
11:38:45	10/10/96	39.9	39.6	40.3	40.0	40.2	42.4	39.9	39.7	40.5	40.3	40.7	87.3
11:39:45	10/10/96	39.7	39.5	40.5	40.0	40.0	42.6	39.9	39.7	40.5	40.3	40.7	87.3
11:40:45	10/10/96	39.9	39.6	40.4	40.0	40.0	42.3	40.0	39.6	40.5	40.3	40.7	87.3
11:41:45	10/10/96	39.7	39.5	40.5	39.8	40.0	42.7	40.0	39.7	40.5	40.3	40.7	87.3
11:42:45	10/10/96	40.0	39.4	40.4	39.8	40.3	42.6	39.9	39.7	40.6	40.3	40.7	87.2
11:43:48	10/10/96	39.7	39.3	40.2	39.9	39.5	40.0	39.7	39.3	39.9	39.7	40.7	87.3
11:44:45	10/10/96	39.5	39.2	39.8	39.8	39.3	41.5	39.5	39.2	40.0	39.8	40.7	87.3
11:45:45	10/10/96	39.6	39.2	40.0	40.0	39.8	41.7	39.9	39.5	40.1	40.0	40.6	87.3
11:46:45	10/10/96	39.6	39.3	40.2	39.9	39.4	42.9	39.8	39.5	40.1	40.1	40.6	87.3
11:47:45	10/10/96	39.5	39.2	40.2	39.8	39.7	41.7	39.6	39.5	40.2	39.9	40.6	87.3
11:48:45	10/10/96	39.7	39.4	40.2	39.6	40.2	43.5	39.7	39.2	40.3	40.2	40.6	87.3
11:49:45	10/10/96	39.8	39.5	40.2	39.6	40.4	42.8	39.7	39.5	40.1	40.2	40.6	87.2
11:50:45	10/10/96	39.8	39.3	40.3	39.7	39.6	42.8	39.8	39.5	40.4	40.1	40.6	87.3
11:51:45	10/10/96	39.6	39.1	39.9	39.7	39.1	39.8	39.5	39.2	39.9	39.5	40.5	87.3
11:52:45	10/10/96	39.6	39.0	40.1	39.8	39.6	41.1	39.4	39.2	40.0	39.7	40.5	87.2
11:53:45	10/10/96	39.5	39.1	40.1	39.7	39.6	42.7	39.6	39.2	39.9	39.9	40.5	87.3
11:54:45	10/10/96	39.4	39.2	40.0	39.6	39.7	41.4	39.6	39.3	40.0	39.8	40.5	87.3
11:55:45	10/10/96	39.5	39.1	40.1	39.8	39.6	41.8	39.6	39.3	40.1	39.9	40.5	87.2
11:56:45	10/10/96	39.6	39.5	40.0	39.7	39.9	43.2	39.6	39.3	40.2	40.1	40.5	87.2
11:57:45	10/10/96	39.7	39.4	40.1	39.6	39.9	43.1	39.7	39.5	40.2	40.1	40.5	87.3
11:58:45	10/10/96	39.6	39.2	40.0	39.6	39.4	40.1	39.5	39.3	39.7	39.6	40.4	87.3
11:59:45	10/10/96	39.3	38.8	39.8	39.4	39.4	41.0	39.4	39.0	39.7	39.5	40.4	87.3
12:00:45	10/10/96	39.5	39.1	40.0	39.5	40.0	42.3	39.5	39.0	39.8	39.8	40.4	87.3
12:01:45	10/10/96	39.3	39.0	39.9	39.5	39.5	41.7	39.3	38.9	39.8	39.7	40.4	87.3
12:02:45	10/10/96	39.3	39.0	40.0	39.6	39.5	41.9	39.4	39.4	40.0	39.8	40.4	87.3
12:03:45	10/10/96	39.5	39.0	40.0	39.4	39.4	43.3	39.6	39.2	40.0	40.0	40.3	87.3
12:04:45	10/10/96	39.5	39.0	40.0	39.6	39.5	42.9	39.6	39.2	40.1	39.9	40.3	87.3
12:05:45	10/10/96	39.6	39.1	40.1	39.4	39.7	42.9	39.5	39.1	40.1	40.0	40.3	87.3
12:06:45	10/10/96	39.5	39.3	40.0	39.4	39.6	43.0	39.5	39.2	40.1	40.0	40.3	87.3
12:07:45	10/10/96	39.5	39.0	39.9	39.4	39.1	40.1	39.3	38.9	39.8	39.5	40.3	87.3
12:08:45	10/10/96	39.1	38.6	39.6	39.4	38.9	39.9	39.1	38.4	39.3	39.1	40.2	87.3
12:09:45	10/10/96	39.2	38.7	39.8	39.5	39.7	40.7	39.2	38.9	39.6	39.5	40.2	87.3
12:10:45	10/10/96	39.3	38.9	39.7	39.5	39.4	40.5	39.3	39.1	39.6	39.5	40.2	87.3
12:11:45	10/10/96	39.2	39.0	39.9	39.6	40.0	41.9	39.5	39.1	39.7	39.8	40.2	87.3
12:12:45	10/10/96	39.3	38.9	39.9	39.5	39.3	42.5	39.5	38.8	39.8	39.7	40.2	87.3
12:13:45	10/10/96	39.2	38.8	39.9	39.4	39.2	42.8	39.4	38.9	39.9	39.7	40.1	87.3
12:14:45	10/10/96	39.2	38.8	39.9	39.5	39.1	42.6	39.4	39.0	39.8	39.7	40.1	87.2
12:15:45	10/10/96	39.3	38.9	39.8	39.4	39.4	41.7	39.3	38.9	39.8	39.6	40.1	87.4
12:16:45	10/10/96	39.3	39.1	39.8	39.5	39.5	41.6	39.4	39.0	39.8	39.7	40.1	87.3
12:17:45	10/10/96	39.6	39.3	39.9	39.3	39.5	42.7	39.4	39.0	40.0	39.9	40.1	87.3
12:18:45	10/10/96	39.6	39.0	40.0	39.4	39.6	43.1	39.4	39.1	40.0	39.9	40.0	87.3
12:19:45	10/10/96	39.5	38.9	40.0	39.4	39.5	42.7	39.4	38.9	40.1	39.8	40.0	87.2
12:20:45	10/10/96	39.4	38.8	40.0	39.4	39.5	41.4	39.4	39.1	40.0	39.7	40.0	87.3
12:21:45	10/10/96	39.0	38.6	39.1	38.8	38.9	39.6	38.9	38.3	39.3	39.0	40.0	87.3
12:22:45	10/10/96	39.0	38.6	39.3	39.2	38.9	40.4	39.2	38.8	39.4	39.2	39.9	87.3
12:23:45	10/10/96	39.2	38.8	39.6	39.4	39.7	40.5	39.2	38.8	39.4	39.4	39.9	87.4
12:24:45	10/10/96	39.2	38.8	39.6	39.3	39.9	41.6	39.3	39.1	39.5	39.6	39.9	87.3
12:25:45	10/10/96	39.2	38.8	39.7	39.5	39.3	41.3	39.3	38.9	39.6	39.5	39.9	87.3
12:26:45	10/10/96	39.2	39.0	39.9	39.4	39.7	41.8	39.3	38.8	39.8	39.6	39.9	87.3
12:27:45	10/10/96	39.3	38.8	39.7	39.3	39.2	42.2	39.2	38.9	39.8	39.6	39.9	87.2
12:28:45	10/10/96	39.0	38.9	39.7	39.2	39.1	42.3	39.5	39.0	39.7	39.6	39.9	87.3
12:29:45	10/10/96	39.3	38.8	39.8	39.2	39.1	41.5	39.3	38.8	39.8	39.5	39.8	87.3
12:30:45	10/10/96	39.4	38.7	39.8	38.9	39.1	41.3	39.2	38.8	39.8	39.5	39.8	87.3

OMEGA POINT LABORATORIES

3 Layer Cable Tray - Clad System

Time of Day (hh:mm:ss)	Date (mm/dd/yy)	Room TC # 1 (°C)	Room TC # 2 (°C)	Room TC # 3 (°C)	Room TC # 4 (°C)	Room TC # 5 (°C)	Room TC # 6 (°C)	Room TC # 7 (°C)	Room TC # 8 (°C)	Room TC # 9 (°C)	Avg Room Temp (°C)	Room 1Hr Avg Avg Temp (°C)	3 Layer Tray TC # 1 (°C)
12:31:45	10/10/96	39.4	38.9	39.8	38.9	39.7	40.9	39.3	38.8	39.7	39.5	39.8	87.4
12:32:45	10/10/96	39.4	38.9	39.8	39.2	39.4	41.4	39.2	38.8	39.9	39.5	39.8	87.3
12:33:45	10/10/96	39.5	39.0	39.8	39.3	39.7	41.8	39.1	39.2	39.8	39.7	39.8	87.3
12:34:45	10/10/96	39.2	38.8	39.9	39.3	39.2	42.3	39.2	39.1	39.8	39.6	39.8	87.3
12:35:45	10/10/96	39.2	38.8	39.8	39.3	39.1	41.6	39.3	38.7	39.8	39.5	39.8	87.3
12:36:45	10/10/96	39.1	38.8	39.8	39.4	39.1	42.0	39.3	38.8	39.7	39.6	39.8	87.3
12:37:45	10/10/96	39.3	38.7	39.8	39.2	39.2	41.8	39.2	38.8	39.7	39.5	39.8	87.3
12:38:45	10/10/96	39.1	38.7	39.8	39.2	39.3	41.2	39.2	38.8	39.7	39.4	39.7	87.4
12:39:45	10/10/96	39.2	38.6	39.7	39.1	39.4	41.3	39.3	38.8	39.7	39.4	39.7	87.3
12:40:45	10/10/96	39.4	38.6	39.7	39.4	39.5	42.1	39.3	39.2	39.7	39.6	39.7	87.4
12:41:45	10/10/96	39.2	38.8	39.6	39.3	39.6	41.0	39.2	38.9	39.7	39.5	39.7	87.3
12:42:45	10/10/96	39.1	38.8	39.6	39.3	39.5	41.7	39.2	38.8	39.8	39.5	39.7	87.3
12:43:45	10/10/96	39.1	38.7	39.8	39.4	39.6	42.0	39.4	38.9	39.6	39.6	39.7	87.3
12:44:45	10/10/96	39.1	38.7	39.8	39.0	39.2	41.2	39.3	38.9	39.7	39.4	39.7	87.3
12:45:45	10/10/96	39.2	38.6	39.8	39.1	39.3	40.9	39.2	38.8	39.7	39.4	39.7	87.4
12:46:45	10/10/96	39.1	38.7	39.7	39.2	39.6	40.8	39.3	38.7	39.7	39.4	39.7	87.3
12:47:45	10/10/96	39.4	38.8	39.7	39.1	39.5	41.1	39.2	38.9	39.6	39.5	39.7	87.4
12:48:45	10/10/96	39.3	38.8	39.7	39.2	39.3	41.9	39.4	39.1	39.7	39.6	39.6	87.3
12:49:45	10/10/96	39.2	38.9	39.6	39.3	39.7	41.2	39.1	38.9	39.8	39.5	39.6	87.3
12:50:45	10/10/96	39.2	38.8	39.8	39.3	39.6	41.8	39.1	38.8	39.7	39.6	39.6	87.4
12:51:45	10/10/96	39.2	38.6	39.9	39.1	39.3	42.1	39.2	38.8	39.8	39.6	39.6	87.3
12:52:45	10/10/96	39.0	38.6	39.7	39.3	38.9	41.8	39.1	38.8	39.8	39.4	39.6	87.3
12:53:45	10/10/96	39.1	38.9	39.8	39.2	39.4	40.8	39.3	38.9	39.8	39.5	39.6	87.3
12:54:45	10/10/96	39.3	39.0	39.7	38.9	39.5	41.9	39.2	38.9	39.7	39.6	39.6	87.4
12:55:45	10/10/96	39.2	38.9	39.7	39.1	39.5	42.3	39.2	38.8	39.7	39.6	39.6	87.4
12:56:45	10/10/96	39.1	38.8	39.6	39.1	39.2	42.0	39.2	39.0	39.7	39.5	39.6	87.3
12:57:45	10/10/96	39.0	38.9	39.7	39.2	39.6	41.7	39.3	38.9	39.6	39.6	39.6	87.3
12:58:45	10/10/96	39.0	38.9	39.8	39.2	39.3	41.7	39.2	38.8	39.8	39.5	39.6	87.3
12:59:45	10/10/96	39.1	38.6	39.6	39.1	39.4	40.5	39.3	38.7	39.7	39.3	39.6	87.3
13:00:45	10/10/96	39.0	38.6	39.7	39.2	39.2	41.4	39.3	38.6	39.6	39.4	39.6	87.3
13:01:45	10/10/96	39.1	38.8	39.7	39.3	39.4	41.2	39.3	39.0	39.7	39.5	39.6	87.3
13:02:45	10/10/96	39.1	38.8	39.7	39.3	39.3	41.8	39.2	38.8	39.6	39.5	39.6	87.4
13:03:45	10/10/96	39.1	38.8	39.8	39.4	39.2	41.3	39.2	38.7	39.7	39.5	39.6	87.3
13:04:45	10/10/96	39.1	38.7	39.7	39.2	39.5	41.2	39.2	38.8	39.6	39.4	39.5	87.4
13:05:45	10/10/96	39.1	38.7	39.7	39.0	39.4	42.1	39.2	38.7	39.7	39.5	39.5	87.4
13:06:45	10/10/96	39.1	38.6	39.7	39.1	39.2	40.8	39.1	38.6	39.6	39.3	39.5	87.3
13:07:45	10/10/96	39.0	38.6	39.8	39.3	39.0	41.3	39.2	38.9	39.6	39.4	39.5	87.3
13:08:45	10/10/96	39.0	38.6	39.5	39.2	39.2	41.4	39.2	38.8	39.7	39.4	39.5	87.4
13:09:45	10/10/96	39.2	38.7	39.7	39.2	39.2	41.5	39.2	39.0	39.6	39.5	39.5	87.3
13:10:45	10/10/96	39.2	38.7	39.8	39.2	39.4	42.7	39.2	39.0	39.9	39.7	39.5	87.3
13:11:45	10/10/96	38.9	38.6	39.8	39.1	39.0	41.3	39.2	38.7	39.7	39.4	39.5	87.4
13:12:45	10/10/96	39.0	38.7	39.7	39.2	39.0	42.2	39.2	38.7	39.7	39.5	39.5	87.4
Min:											39.0	39.5	
Max:											41.2	40.8	

OMEGA POINT LABORATORIES

3 Layer Cable Tray - Clad System

Time of Day (hh:mm:ss)	Date (mm/dd/yy)	3 Layer Tray TC # 2 (°C)	3 Layer Tray TC # 3 (°C)	3 Layer Tray TC # 4 (°C)	3 Layer Tray TC # 5 (°C)	3 Layer Tray TC # 6 (°C)	3 Layer Tray TC # 7 (°C)	3 Layer Tray TC # 8 (°C)	3 Layer Tray TC # 9 (°C)	3 Layer Tray TC # 10 (°C)
10:13:45	10/10/96	88.8	89.1	89.3	87.9	88.9	90.4	90.6	90.6	88.6
10:14:45	10/10/96	88.8	89.1	89.3	87.7	88.9	90.4	90.6	90.6	88.6
10:15:45	10/10/96	88.9	89.1	89.2	87.7	88.9	90.3	90.5	90.6	88.6
10:16:45	10/10/96	89.0	89.2	89.2	87.8	89.0	90.4	90.5	90.6	88.7
10:17:45	10/10/96	88.9	89.1	89.2	87.7	88.9	90.4	90.6	90.6	88.6
10:18:45	10/10/96	88.8	89.1	89.3	87.7	88.9	90.4	90.6	90.6	88.6
10:19:45	10/10/96	88.9	89.1	89.2	87.8	88.9	90.4	90.6	90.7	88.6
10:20:45	10/10/96	88.8	89.1	89.3	87.8	88.8	90.4	90.7	90.6	88.6
10:21:45	10/10/96	88.9	89.1	89.2	87.8	88.9	90.3	90.6	90.7	88.6
10:22:45	10/10/96	88.9	89.2	89.2	87.7	88.9	90.4	90.6	90.6	88.7
10:23:45	10/10/96	88.9	89.1	89.2	87.8	88.9	90.3	90.6	90.7	88.5
10:24:45	10/10/96	88.9	89.1	89.2	87.7	88.9	90.4	90.5	90.6	88.6
10:25:45	10/10/96	88.8	89.1	89.3	87.7	88.9	90.4	90.6	90.5	88.6
10:26:45	10/10/96	88.8	89.1	89.3	87.7	88.9	90.4	90.6	90.6	88.6
10:27:45	10/10/96	88.8	89.1	89.3	87.7	88.9	90.4	90.6	90.5	88.6
10:28:45	10/10/96	88.9	89.2	89.2	87.7	88.9	90.4	90.5	90.6	88.6
10:29:45	10/10/96	88.9	89.1	89.2	87.8	88.9	90.3	90.6	90.7	88.6
10:30:45	10/10/96	88.9	89.0	89.2	87.8	88.9	90.3	90.6	90.6	88.5
10:31:45	10/10/96	88.9	89.0	89.2	87.8	88.9	90.3	90.6	90.6	88.6
10:32:45	10/10/96	88.8	89.1	89.3	87.8	88.8	90.4	90.6	90.6	88.6
10:33:45	10/10/96	88.9	89.1	89.2	87.8	88.9	90.3	90.6	90.7	88.6
10:34:45	10/10/96	88.9	89.1	89.2	87.7	88.9	90.4	90.5	90.6	88.6
10:35:45	10/10/96	88.8	89.1	89.3	87.7	88.9	90.4	90.6	90.6	88.6
10:36:45	10/10/96	88.9	89.1	89.2	87.8	88.9	90.3	90.6	90.7	88.6
10:37:45	10/10/96	88.8	89.1	89.3	87.7	88.9	90.4	90.6	90.5	88.6
10:38:45	10/10/96	88.9	89.1	89.2	87.7	88.9	90.4	90.5	90.6	88.6
10:39:45	10/10/96	88.9	89.1	89.2	87.8	88.9	90.3	90.5	90.6	88.6
10:40:45	10/10/96	89.0	89.2	89.2	87.8	88.9	90.4	90.5	90.6	88.7
10:41:45	10/10/96	88.8	89.1	89.3	87.7	88.9	90.4	90.6	90.5	88.6
10:42:45	10/10/96	89.0	89.1	89.2	87.8	89.0	90.4	90.6	90.6	88.6
10:43:45	10/10/96	88.9	89.1	89.2	87.7	88.9	90.3	90.6	90.6	88.6
10:44:45	10/10/96	88.8	89.0	89.2	87.8	88.9	90.3	90.6	90.6	88.6
10:45:45	10/10/96	88.9	89.2	89.2	87.7	88.9	90.4	90.5	90.6	88.7
10:46:45	10/10/96	88.8	89.1	89.3	87.8	88.9	90.4	90.6	90.6	88.5
10:47:45	10/10/96	88.9	89.1	89.2	87.8	88.9	90.3	90.7	90.7	88.6
10:48:45	10/10/96	89.0	89.2	89.2	87.7	89.0	90.4	90.6	90.6	88.7
10:49:45	10/10/96	89.0	89.1	89.2	87.8	88.9	90.4	90.6	90.6	88.6
10:50:45	10/10/96	88.9	89.1	89.2	87.8	88.9	90.3	90.6	90.6	88.6
10:51:45	10/10/96	88.9	89.2	89.2	87.7	88.9	90.4	90.6	90.6	88.7
10:52:45	10/10/96	88.9	89.1	89.2	87.8	88.9	90.3	90.6	90.7	88.6
10:53:45	10/10/96	88.9	89.2	89.3	87.7	88.9	90.4	90.6	90.6	88.6
10:54:45	10/10/96	88.8	89.1	89.3	87.8	88.9	90.4	90.7	90.6	88.6
10:55:45	10/10/96	89.0	89.1	89.2	87.8	88.9	90.3	90.6	90.7	88.6
10:56:45	10/10/96	88.8	89.1	89.2	87.8	88.9	90.3	90.7	90.6	88.6
10:57:45	10/10/96	88.9	89.1	89.2	87.8	88.9	90.3	90.6	90.7	88.6
10:58:45	10/10/96	88.9	89.1	89.2	87.8	88.9	90.3	90.7	90.7	88.6
10:59:45	10/10/96	88.9	89.2	89.2	87.7	89.0	90.5	90.5	90.6	88.7
11:00:45	10/10/96	88.9	89.1	89.2	87.8	88.9	90.3	90.6	90.7	88.6
11:01:45	10/10/96	88.9	89.2	89.2	87.7	89.0	90.4	90.6	90.6	88.7
11:02:45	10/10/96	88.9	89.2	89.3	87.7	88.9	90.4	90.6	90.6	88.7
11:03:45	10/10/96	88.9	89.1	89.2	87.8	89.0	90.4	90.6	90.7	88.6
11:04:45	10/10/96	88.8	89.1	89.3	87.8	88.9	90.4	90.6	90.6	88.6
11:05:45	10/10/96	88.9	89.1	89.2	87.8	88.9	90.4	90.6	90.7	88.6
11:06:45	10/10/96	88.9	89.1	89.2	87.8	88.9	90.3	90.6	90.6	88.6
11:07:45	10/10/96	88.9	89.1	89.2	87.8	88.9	90.3	90.6	90.6	88.6
11:08:45	10/10/96	88.9	89.1	89.2	87.8	88.9	90.3	90.6	90.7	88.6
11:09:45	10/10/96	88.9	89.1	89.3	87.8	88.9	90.4	90.7	90.6	88.6
11:10:45	10/10/96	88.9	89.1	89.3	87.8	88.9	90.4	90.7	90.6	88.6
11:11:45	10/10/96	88.9	89.1	89.2	87.8	88.9	90.3	90.6	90.6	88.5
11:12:45	10/10/96	88.9	89.1	89.2	87.8	88.9	90.3	90.7	90.7	88.6
11:13:45	10/10/96	88.9	89.2	89.2	87.7	88.9	90.4	90.6	90.6	88.7
11:14:45	10/10/96	88.9	89.1	89.2	87.8	88.9	90.3	90.6	90.7	88.6
11:15:45	10/10/96	89.0	89.2	89.2	87.8	89.0	90.4	90.6	90.7	88.7
11:16:45	10/10/96	88.8	89.1	89.3	87.8	88.9	90.5	90.7	90.6	88.6
11:17:45	10/10/96	88.9	89.1	89.3	87.8	88.9	90.3	90.7	90.7	88.6
11:18:45	10/10/96	88.9	89.1	89.3	87.8	88.9	90.3	90.7	90.7	88.6
11:19:45	10/10/96	89.0	89.1	89.2	87.8	89.0	90.4	90.6	90.6	88.6
11:20:45	10/10/96	88.8	89.1	89.3	87.8	88.9	90.5	90.7	90.6	88.6
11:21:45	10/10/96	88.9	89.2	89.3	87.7	89.0	90.4	90.6	90.6	88.7

OMEGA POINT LABORATORIES

3 Layer Cable Tray - Clad System

Time of Day (hh:mm:ss)	Date (mm/dd/yy)	3 Layer Tray TC # 2 (°C)	3 Layer Tray TC # 3 (°C)	3 Layer Tray TC # 4 (°C)	3 Layer Tray TC # 5 (°C)	3 Layer Tray TC # 6 (°C)	3 Layer Tray TC # 7 (°C)	3 Layer Tray TC # 8 (°C)	3 Layer Tray TC # 9 (°C)	3 Layer Tray TC # 10 (°C)
11:22:45	10/10/96	89.0	89.2	89.2	87.8	89.0	90.4	90.6	90.6	88.7
11:23:45	10/10/96	88.8	89.1	89.3	87.8	88.9	90.4	90.7	90.6	88.6
11:24:45	10/10/96	88.9	89.2	89.2	87.8	89.0	90.4	90.6	90.6	88.7
11:25:45	10/10/96	88.9	89.0	89.2	87.8	88.9	90.3	90.7	90.7	88.6
11:26:45	10/10/96	88.8	89.1	89.3	87.8	88.9	90.4	90.7	90.6	88.6
11:27:45	10/10/96	88.9	89.2	89.3	87.8	89.0	90.4	90.6	90.6	88.7
11:28:45	10/10/96	88.9	89.1	89.3	87.8	88.9	90.5	90.6	90.6	88.7
11:29:45	10/10/96	88.9	89.1	89.2	87.9	88.9	90.4	90.6	90.7	88.6
11:30:45	10/10/96	88.8	89.1	89.3	87.8	88.9	90.4	90.7	90.6	88.6
11:31:45	10/10/96	88.9	89.2	89.2	87.8	89.0	90.4	90.6	90.6	88.7
11:32:45	10/10/96	88.9	89.2	89.3	87.7	88.9	90.5	90.6	90.6	88.7
11:33:45	10/10/96	88.9	89.1	89.3	87.7	88.9	90.4	90.6	90.6	88.7
11:34:45	10/10/96	88.9	89.1	89.3	87.8	88.9	90.4	90.7	90.7	88.6
11:35:45	10/10/96	88.9	89.1	89.2	87.8	88.9	90.4	90.7	90.7	88.6
11:36:45	10/10/96	88.9	89.1	89.3	87.8	88.9	90.4	90.7	90.6	88.6
11:37:45	10/10/96	88.9	89.1	89.2	87.8	88.9	90.3	90.6	90.7	88.6
11:38:45	10/10/96	88.8	89.1	89.3	87.8	88.9	90.4	90.7	90.6	88.6
11:39:45	10/10/96	88.9	89.2	89.2	87.8	89.0	90.5	90.6	90.6	88.7
11:40:45	10/10/96	88.8	89.1	89.3	87.8	88.9	90.4	90.7	90.6	88.6
11:41:45	10/10/96	88.9	89.2	89.3	87.7	89.0	90.5	90.6	90.6	88.7
11:42:45	10/10/96	88.9	89.1	89.3	87.8	88.9	90.4	90.7	90.7	88.6
11:43:48	10/10/96	88.9	89.1	89.2	87.8	88.9	90.4	90.7	90.7	88.6
11:44:45	10/10/96	88.9	89.1	89.2	87.8	88.9	90.3	90.6	90.7	88.6
11:45:45	10/10/96	89.0	89.2	89.2	87.8	89.0	90.4	90.6	90.7	88.7
11:46:45	10/10/96	88.9	89.2	89.2	87.7	89.0	90.4	90.6	90.6	88.7
11:47:45	10/10/96	88.8	89.1	89.3	87.7	88.9	90.4	90.7	90.6	88.7
11:48:45	10/10/96	88.8	89.2	89.3	87.8	88.9	90.5	90.6	90.6	88.7
11:49:45	10/10/96	88.9	89.1	89.2	87.8	88.9	90.3	90.6	90.7	88.6
11:50:45	10/10/96	88.9	89.2	89.3	87.8	88.9	90.5	90.6	90.6	88.7
11:51:45	10/10/96	88.9	89.2	89.3	87.8	88.9	90.5	90.6	90.6	88.7
11:52:45	10/10/96	89.0	89.1	89.2	87.8	89.0	90.4	90.6	90.7	88.7
11:53:45	10/10/96	89.0	89.2	89.2	87.7	89.0	90.5	90.6	90.7	88.7
11:54:45	10/10/96	89.0	89.2	89.2	87.8	89.0	90.4	90.6	90.7	88.7
11:55:45	10/10/96	88.8	89.1	89.3	87.8	88.9	90.4	90.7	90.7	88.6
11:56:45	10/10/96	88.9	89.1	89.3	87.8	88.9	90.4	90.7	90.7	88.6
11:57:45	10/10/96	88.8	89.1	89.3	87.8	88.9	90.4	90.7	90.6	88.6
11:58:45	10/10/96	88.8	89.1	89.3	87.8	88.9	90.4	90.7	90.6	88.6
11:59:45	10/10/96	88.9	89.2	89.3	87.7	89.0	90.5	90.7	90.6	88.7
12:00:45	10/10/96	88.8	89.1	89.3	87.8	88.9	90.4	90.7	90.7	88.6
12:01:45	10/10/96	89.0	89.2	89.2	87.8	89.0	90.4	90.6	90.7	88.7
12:02:45	10/10/96	88.9	89.1	89.2	87.8	88.9	90.4	90.7	90.7	88.6
12:03:45	10/10/96	88.9	89.2	89.3	87.8	88.9	90.5	90.6	90.6	88.7
12:04:45	10/10/96	89.0	89.2	89.2	87.8	89.0	90.4	90.6	90.7	88.7
12:05:45	10/10/96	88.8	89.1	89.3	87.8	88.9	90.4	90.7	90.6	88.6
12:06:45	10/10/96	89.0	89.1	89.2	87.8	89.0	90.4	90.6	90.7	88.7
12:07:45	10/10/96	88.9	89.2	89.3	87.7	89.0	90.5	90.6	90.6	88.7
12:08:45	10/10/96	88.9	89.1	89.3	87.8	88.9	90.4	90.7	90.7	88.6
12:09:45	10/10/96	88.9	89.1	89.2	87.8	89.0	90.4	90.6	90.7	88.7
12:10:45	10/10/96	89.0	89.2	89.2	87.8	89.0	90.4	90.6	90.7	88.7
12:11:45	10/10/96	88.9	89.2	89.3	87.7	88.9	90.5	90.6	90.6	88.7
12:12:45	10/10/96	88.9	89.1	89.2	87.8	88.9	90.4	90.6	90.7	88.6
12:13:45	10/10/96	88.9	89.2	89.3	87.7	88.9	90.5	90.6	90.6	88.7
12:14:45	10/10/96	89.0	89.1	89.2	87.8	89.0	90.4	90.6	90.7	88.6
12:15:45	10/10/96	88.9	89.2	89.3	87.7	89.0	90.5	90.7	90.6	88.7
12:16:45	10/10/96	88.8	89.1	89.3	87.8	88.9	90.4	90.7	90.7	88.7
12:17:45	10/10/96	88.8	89.1	89.3	87.8	88.9	90.5	90.7	90.6	88.6
12:18:45	10/10/96	88.9	89.2	89.3	87.8	89.0	90.5	90.6	90.7	88.7
12:19:45	10/10/96	89.0	89.1	89.2	87.8	89.0	90.4	90.6	90.7	88.7
12:20:45	10/10/96	89.0	89.1	89.2	87.8	88.9	90.4	90.6	90.7	88.7
12:21:45	10/10/96	88.9	89.1	89.3	87.8	88.9	90.4	90.7	90.7	88.6
12:22:45	10/10/96	88.9	89.1	89.3	87.9	88.9	90.4	90.7	90.7	88.6
12:23:45	10/10/96	88.9	89.2	89.3	87.7	89.0	90.5	90.6	90.6	88.7
12:24:45	10/10/96	88.9	89.2	89.3	87.8	88.9	90.5	90.7	90.6	88.7
12:25:45	10/10/96	88.9	89.2	89.3	87.8	89.0	90.5	90.7	90.6	88.7
12:26:45	10/10/96	88.9	89.2	89.3	87.8	89.0	90.5	90.7	90.6	88.7
12:27:45	10/10/96	88.9	89.1	89.3	87.8	88.9	90.4	90.7	90.7	88.6
12:28:45	10/10/96	88.8	89.1	89.3	87.8	88.9	90.4	90.7	90.6	88.6
12:29:45	10/10/96	89.0	89.1	89.2	87.8	89.0	90.4	90.7	90.7	88.7
12:30:45	10/10/96	88.9	89.2	89.3	87.8	88.9	90.5	90.7	90.6	88.7

OMEGA POINT LABORATORIES

3 Layer Cable Tray - Clad System

Time of Day (hh:mm:ss)	Date (mm/dd/yy)	3 Layer Tray TC # 2 (°C)	3 Layer Tray TC # 3 (°C)	3 Layer Tray TC # 4 (°C)	3 Layer Tray TC # 5 (°C)	3 Layer Tray TC # 6 (°C)	3 Layer Tray TC # 7 (°C)	3 Layer Tray TC # 8 (°C)	3 Layer Tray TC # 9 (°C)	3 Layer Tray TC # 10 (°C)
12:31:45	10/10/96	88.9	89.2	89.3	87.8	88.9	90.5	90.7	90.6	88.7
12:32:45	10/10/96	88.9	89.2	89.3	87.8	89.0	90.5	90.6	90.6	88.7
12:33:45	10/10/96	89.0	89.2	89.2	87.8	89.0	90.4	90.6	90.7	88.7
12:34:45	10/10/96	88.8	89.1	89.3	87.8	88.9	90.4	90.7	90.7	88.6
12:35:45	10/10/96	88.9	89.1	89.2	87.8	88.9	90.4	90.7	90.7	88.7
12:36:45	10/10/96	88.9	89.1	89.3	87.8	88.9	90.4	90.7	90.7	88.6
12:37:45	10/10/96	89.0	89.2	89.2	87.8	89.0	90.4	90.6	90.7	88.7
12:38:45	10/10/96	88.9	89.2	89.3	87.8	89.0	90.5	90.7	90.7	88.7
12:39:45	10/10/96	88.8	89.1	89.3	87.8	88.9	90.4	90.7	90.6	88.6
12:40:45	10/10/96	88.9	89.2	89.3	87.7	89.0	90.5	90.7	90.6	88.7
12:41:45	10/10/96	88.9	89.1	89.3	87.8	88.9	90.4	90.7	90.7	88.6
12:42:45	10/10/96	89.0	89.2	89.2	87.8	89.0	90.4	90.6	90.7	88.7
12:43:45	10/10/96	88.9	89.1	89.2	87.8	88.9	90.4	90.7	90.7	88.7
12:44:45	10/10/96	89.0	89.1	89.2	87.8	89.0	90.4	90.7	90.7	88.6
12:45:45	10/10/96	88.9	89.2	89.2	87.8	89.0	90.5	90.6	90.7	88.7
12:46:45	10/10/96	88.9	89.1	89.3	87.8	88.9	90.4	90.7	90.7	88.6
12:47:45	10/10/96	88.9	89.2	89.3	87.8	88.9	90.5	90.7	90.6	88.7
12:48:45	10/10/96	88.9	89.1	89.3	87.8	88.9	90.4	90.7	90.7	88.6
12:49:45	10/10/96	88.8	89.1	89.3	87.8	88.9	90.5	90.7	90.6	88.6
12:50:45	10/10/96	88.9	89.2	89.3	87.7	88.9	90.5	90.7	90.6	88.7
12:51:45	10/10/96	88.9	89.2	89.3	87.8	88.9	90.5	90.7	90.7	88.7
12:52:45	10/10/96	88.9	89.1	89.3	87.8	88.9	90.4	90.7	90.7	88.6
12:53:45	10/10/96	89.0	89.1	89.2	87.8	89.0	90.4	90.6	90.7	88.6
12:54:45	10/10/96	89.0	89.2	89.2	87.8	89.0	90.4	90.6	90.7	88.7
12:55:45	10/10/96	88.9	89.2	89.3	87.8	88.9	90.5	90.7	90.6	88.7
12:56:45	10/10/96	89.0	89.1	89.2	87.8	89.0	90.4	90.6	90.7	88.7
12:57:45	10/10/96	88.9	89.2	89.3	87.8	88.9	90.5	90.7	90.6	88.7
12:58:45	10/10/96	88.8	89.1	89.3	87.8	88.9	90.4	90.7	90.7	88.6
12:59:45	10/10/96	89.0	89.2	89.2	87.8	89.0	90.4	90.6	90.7	88.7
13:00:45	10/10/96	89.0	89.2	89.2	87.8	89.0	90.4	90.6	90.7	88.7
13:01:45	10/10/96	88.9	89.1	89.3	87.8	88.9	90.4	90.7	90.7	88.6
13:02:45	10/10/96	89.0	89.2	89.3	87.8	89.0	90.5	90.6	90.7	88.7
13:03:45	10/10/96	89.0	89.2	89.2	87.8	89.0	90.4	90.7	90.7	88.7
13:04:45	10/10/96	89.0	89.1	89.2	87.8	89.0	90.4	90.7	90.8	88.7
13:05:45	10/10/96	89.0	89.2	89.2	87.8	89.0	90.4	90.7	90.8	88.7
13:06:45	10/10/96	88.9	89.1	89.3	87.8	88.9	90.4	90.7	90.7	88.6
13:07:45	10/10/96	88.9	89.1	89.3	87.8	88.9	90.4	90.7	90.7	88.6
13:08:45	10/10/96	88.9	89.2	89.3	87.8	89.0	90.5	90.7	90.6	88.7
13:09:45	10/10/96	89.0	89.2	89.2	87.8	89.0	90.4	90.6	90.7	88.7
13:10:45	10/10/96	89.0	89.2	89.2	87.8	89.0	90.4	90.6	90.7	88.7
13:11:45	10/10/96	89.0	89.2	89.3	87.8	89.1	90.5	90.6	90.7	88.7
13:12:45	10/10/96	89.0	89.2	89.3	87.8	89.0	90.5	90.7	90.7	88.7
Min:										
Max:										

OMEGA POINT LABORATORIES

3 Layer Cable Tray - Clad System

Time of Day (hh:mm:ss)	Date (mm/dd/yy)	3 Layer Tray TC # 11 (°C)	3 Layer Tray TC # 12 (°C)	3 Layer Tray TC # 13 (°C)	3 Layer Tray TC # 14 (°C)	3 Layer Tray TC # 15 (°C)	3 Layer Pos. 1 Avg (°C)	3 Layer Pos. 2 Avg (°C)	3 Layer 1Hr Avg Pos. 2 Avg (°C)	3 Layer Pos. 3 Avg (°C)	3 Layer Diff. Pos. 1-2 (°C)
10:13:45	10/10/96	87.4	88.7	88.4	88.5	86.4	88.4	89.8	89.8	87.9	-1.4
10:14:45	10/10/96	87.4	88.7	88.4	88.5	86.4	88.4	89.8	89.8	87.9	-1.4
10:15:45	10/10/96	87.3	88.6	88.3	88.5	86.4	88.4	89.8	89.8	87.8	-1.4
10:16:45	10/10/96	87.4	88.6	88.3	88.5	86.5	88.5	89.8	89.8	87.8	-1.3
10:17:45	10/10/96	87.3	88.6	88.3	88.5	86.4	88.4	89.8	89.8	87.8	-1.4
10:18:45	10/10/96	87.4	88.7	88.4	88.5	86.4	88.4	89.8	89.8	87.9	-1.4
10:19:45	10/10/96	87.3	88.6	88.3	88.5	86.4	88.4	89.8	89.8	87.8	-1.4
10:20:45	10/10/96	87.4	88.6	88.4	88.5	86.3	88.4	89.8	89.8	87.9	-1.4
10:21:45	10/10/96	87.3	88.6	88.3	88.5	86.4	88.4	89.8	89.8	87.8	-1.4
10:22:45	10/10/96	87.4	88.7	88.3	88.5	86.5	88.5	89.8	89.8	87.9	-1.4
10:23:45	10/10/96	87.3	88.6	88.3	88.5	86.4	88.4	89.8	89.8	87.8	-1.4
10:24:45	10/10/96	87.3	88.6	88.3	88.5	86.4	88.4	89.8	89.8	87.8	-1.4
10:25:45	10/10/96	87.4	88.7	88.4	88.4	86.4	88.4	89.8	89.8	87.9	-1.4
10:26:45	10/10/96	87.4	88.7	88.4	88.5	86.4	88.4	89.8	89.8	87.9	-1.4
10:27:45	10/10/96	87.4	88.7	88.4	88.5	86.4	88.4	89.8	89.8	87.9	-1.4
10:28:45	10/10/96	87.4	88.7	88.3	88.4	86.4	88.4	89.8	89.8	87.9	-1.4
10:29:45	10/10/96	87.3	88.5	88.3	88.5	86.4	88.4	89.8	89.8	87.8	-1.4
10:30:45	10/10/96	87.3	88.5	88.3	88.5	86.4	88.4	89.8	89.8	87.8	-1.4
10:31:45	10/10/96	87.3	88.6	88.3	88.5	86.4	88.4	89.8	89.8	87.8	-1.4
10:32:45	10/10/96	87.4	88.7	88.4	88.5	86.4	88.4	89.8	89.8	87.9	-1.4
10:33:45	10/10/96	87.2	88.5	88.3	88.5	86.4	88.4	89.8	89.8	87.8	-1.4
10:34:45	10/10/96	87.3	88.6	88.3	88.5	86.4	88.5	89.8	89.8	87.8	-1.4
10:35:45	10/10/96	87.4	88.7	88.4	88.5	86.4	88.4	89.8	89.8	87.9	-1.4
10:36:45	10/10/96	87.3	88.5	88.3	88.5	86.4	88.5	89.8	89.8	87.8	-1.4
10:37:45	10/10/96	87.4	88.7	88.4	88.5	86.4	88.4	89.8	89.8	87.9	-1.4
10:38:45	10/10/96	87.3	88.6	88.3	88.5	86.4	88.4	89.8	89.8	87.8	-1.4
10:39:45	10/10/96	87.3	88.6	88.3	88.5	86.4	88.4	89.8	89.8	87.8	-1.4
10:40:45	10/10/96	87.4	88.6	88.3	88.5	86.5	88.5	89.8	89.8	87.8	-1.4
10:41:45	10/10/96	87.4	88.7	88.4	88.5	86.4	88.4	89.8	89.8	87.9	-1.4
10:42:45	10/10/96	87.3	88.6	88.3	88.5	86.5	88.5	89.8	89.8	87.8	-1.4
10:43:45	10/10/96	87.3	88.6	88.3	88.5	86.4	88.4	89.8	89.8	87.8	-1.4
10:44:45	10/10/96	87.4	88.6	88.4	88.6	86.4	88.4	89.8	89.8	87.9	-1.4
10:45:45	10/10/96	87.4	88.7	88.3	88.5	86.5	88.5	89.8	89.8	87.9	-1.4
10:46:45	10/10/96	87.4	88.6	88.4	88.5	86.3	88.4	89.8	89.8	87.9	-1.4
10:47:45	10/10/96	87.3	88.6	88.3	88.5	86.4	88.4	89.8	89.8	87.8	-1.4
10:48:45	10/10/96	87.4	88.7	88.3	88.5	86.5	88.5	89.8	89.8	87.9	-1.4
10:49:45	10/10/96	87.3	88.6	88.3	88.5	86.4	88.5	89.8	89.8	87.8	-1.4
10:50:45	10/10/96	87.3	88.6	88.3	88.5	86.4	88.4	89.8	89.8	87.8	-1.4
10:51:45	10/10/96	87.4	88.7	88.3	88.5	86.4	88.5	89.8	89.8	87.9	-1.4
10:52:45	10/10/96	87.3	88.6	88.3	88.6	86.4	88.4	89.8	89.8	87.8	-1.4
10:53:45	10/10/96	87.4	88.7	88.4	88.5	86.4	88.5	89.8	89.8	87.9	-1.4
10:54:45	10/10/96	87.4	88.7	88.4	88.5	86.4	88.5	89.8	89.8	87.9	-1.4
10:55:45	10/10/96	87.3	88.6	88.3	88.5	86.4	88.5	89.8	89.8	87.8	-1.4
10:56:45	10/10/96	87.3	88.6	88.4	88.6	86.4	88.4	89.8	89.8	87.9	-1.4
10:57:45	10/10/96	87.3	88.6	88.4	88.6	86.4	88.5	89.8	89.8	87.8	-1.4
10:58:45	10/10/96	87.3	88.6	88.4	88.6	86.4	88.5	89.8	89.8	87.8	-1.4
10:59:45	10/10/96	87.4	88.7	88.3	88.5	86.5	88.5	89.9	89.8	87.9	-1.4
11:00:45	10/10/96	87.3	88.6	88.3	88.6	86.4	88.4	89.8	89.8	87.8	-1.4
11:01:45	10/10/96	87.4	88.7	88.3	88.5	86.5	88.5	89.8	89.8	87.9	-1.4
11:02:45	10/10/96	87.4	88.7	88.4	88.5	86.5	88.5	89.8	89.8	87.9	-1.4
11:03:45	10/10/96	87.3	88.6	88.3	88.5	86.4	88.5	89.8	89.8	87.8	-1.4
11:04:45	10/10/96	87.4	88.7	88.4	88.5	86.4	88.4	89.8	89.8	87.9	-1.4
11:05:45	10/10/96	87.3	88.5	88.3	88.5	86.4	88.4	89.8	89.8	87.8	-1.4
11:06:45	10/10/96	87.3	88.6	88.3	88.5	86.4	88.4	89.8	89.8	87.8	-1.4
11:07:45	10/10/96	87.3	88.6	88.4	88.6	86.4	88.4	89.8	89.8	87.8	-1.4
11:08:45	10/10/96	87.3	88.6	88.3	88.6	86.4	88.4	89.8	89.8	87.8	-1.4
11:09:45	10/10/96	87.4	88.6	88.4	88.5	86.4	88.5	89.8	89.8	87.9	-1.4
11:10:45	10/10/96	87.4	88.6	88.4	88.5	86.4	88.5	89.8	89.8	87.9	-1.4
11:11:45	10/10/96	87.3	88.6	88.4	88.6	86.4	88.4	89.8	89.8	87.8	-1.4
11:12:45	10/10/96	87.4	88.6	88.4	88.6	86.4	88.5	89.8	89.8	87.9	-1.4
11:13:45	10/10/96	87.4	88.7	88.4	88.5	86.5	88.5	89.8	89.8	87.9	-1.4
11:14:45	10/10/96	87.3	88.6	88.4	88.6	86.4	88.5	89.8	89.8	87.9	-1.4
11:15:45	10/10/96	87.3	88.7	88.3	88.5	86.5	88.5	89.9	89.8	87.9	-1.4
11:16:45	10/10/96	87.4	88.7	88.4	88.5	86.4	88.5	89.8	89.8	87.9	-1.4
11:17:45	10/10/96	87.3	88.6	88.4	88.6	86.4	88.5	89.8	89.8	87.9	-1.4
11:18:45	10/10/96	87.3	88.6	88.4	88.6	86.4	88.5	89.8	89.8	87.9	-1.4
11:19:45	10/10/96	87.3	88.6	88.3	88.5	86.5	88.5	89.8	89.8	87.9	-1.4
11:20:45	10/10/96	87.4	88.7	88.4	88.5	86.4	88.5	89.8	89.8	87.9	-1.4
11:21:45	10/10/96	87.5	88.7	88.3	88.5	86.5	88.5	89.8	89.8	87.9	-1.4

OMEGA POINT LABORATORIES

3 Layer Cable Tray - Clad System

Time of Day (hh:mm:ss)	Date (mm/dd/yy)	3 Layer Tray TC # 11 (°C)	3 Layer Tray TC # 12 (°C)	3 Layer Tray TC # 13 (°C)	3 Layer Tray TC # 14 (°C)	3 Layer Tray TC # 15 (°C)	3 Layer Pos. 1 Avg (°C)	3 Layer Pos. 2 Avg (°C)	3 Layer 1Hr Avg Pos. 2 Avg (°C)	3 Layer Pos. 3 Avg (°C)	3 Layer Diff. Pos. 1-2 (°C)
11:22:45	10/10/96	87.4	88.7	88.3	88.5	86.5	88.5	89.8	89.8	87.9	-1.4
11:23:45	10/10/96	87.4	88.7	88.5	88.6	86.4	88.5	89.8	89.8	87.9	-1.4
11:24:45	10/10/96	87.4	88.7	88.4	88.5	86.5	88.5	89.9	89.8	87.9	-1.4
11:25:45	10/10/96	87.3	88.6	88.4	88.6	86.4	88.4	89.8	89.8	87.9	-1.4
11:26:45	10/10/96	87.5	88.7	88.5	88.5	86.4	88.5	89.8	89.8	87.9	-1.4
11:27:45	10/10/96	87.5	88.7	88.4	88.5	86.5	88.5	89.9	89.8	87.9	-1.4
11:28:45	10/10/96	87.5	88.7	88.4	88.5	86.4	88.5	89.8	89.8	87.9	-1.4
11:29:45	10/10/96	87.3	88.6	88.4	88.6	86.4	88.5	89.9	89.8	87.9	-1.4
11:30:45	10/10/96	87.5	88.7	88.5	88.5	86.4	88.5	89.8	89.8	87.9	-1.4
11:31:45	10/10/96	87.4	88.7	88.3	88.5	86.5	88.5	89.9	89.8	87.9	-1.4
11:32:45	10/10/96	87.5	88.8	88.4	88.5	86.5	88.5	89.9	89.8	87.9	-1.4
11:33:45	10/10/96	87.5	88.8	88.4	88.5	86.5	88.5	89.8	89.8	87.9	-1.4
11:34:45	10/10/96	87.4	88.6	88.4	88.6	86.4	88.5	89.8	89.8	87.9	-1.4
11:35:45	10/10/96	87.4	88.6	88.5	88.6	86.4	88.4	89.8	89.8	87.9	-1.4
11:36:45	10/10/96	87.4	88.7	88.5	88.6	86.4	88.5	89.8	89.8	87.9	-1.4
11:37:45	10/10/96	87.4	88.6	88.4	88.6	86.5	88.5	89.8	89.8	87.9	-1.4
11:38:45	10/10/96	87.5	88.7	88.5	88.6	86.4	88.5	89.8	89.8	87.9	-1.4
11:39:45	10/10/96	87.5	88.7	88.4	88.6	86.5	88.5	89.9	89.8	87.9	-1.4
11:40:45	10/10/96	87.5	88.7	88.5	88.6	86.4	88.5	89.8	89.8	87.9	-1.4
11:41:45	10/10/96	87.5	88.8	88.4	88.5	86.5	88.5	89.9	89.8	88.0	-1.4
11:42:45	10/10/96	87.4	88.7	88.5	88.6	86.4	88.4	89.8	89.8	87.9	-1.4
11:43:48	10/10/96	87.4	88.7	88.5	88.6	86.4	88.5	89.8	89.8	87.9	-1.4
11:44:45	10/10/96	87.3	88.6	88.4	88.6	86.5	88.5	89.8	89.8	87.9	-1.4
11:45:45	10/10/96	87.4	88.7	88.3	88.6	86.5	88.5	89.9	89.8	87.9	-1.4
11:46:45	10/10/96	87.4	88.7	88.3	88.5	86.5	88.5	89.8	89.8	87.9	-1.4
11:47:45	10/10/96	87.5	88.7	88.5	88.6	86.5	88.5	89.9	89.8	88.0	-1.4
11:48:45	10/10/96	87.5	88.8	88.5	88.5	86.5	88.5	89.9	89.8	87.9	-1.4
11:49:45	10/10/96	87.3	88.6	88.4	88.6	86.4	88.4	89.8	89.8	87.9	-1.4
11:50:45	10/10/96	87.5	88.8	88.5	88.5	86.5	88.5	89.9	89.8	88.0	-1.4
11:51:45	10/10/96	87.5	88.8	88.4	88.5	86.5	88.5	89.9	89.8	87.9	-1.4
11:52:45	10/10/96	87.4	88.7	88.4	88.6	86.5	88.5	89.9	89.8	87.9	-1.4
11:53:45	10/10/96	87.5	88.8	88.4	88.5	86.6	88.5	89.9	89.8	87.9	-1.4
11:54:45	10/10/96	87.4	88.7	88.4	88.6	86.5	88.5	89.9	89.8	87.9	-1.4
11:55:45	10/10/96	87.4	88.7	88.5	88.6	86.4	88.4	89.9	89.8	87.9	-1.4
11:56:45	10/10/96	87.4	88.7	88.5	88.6	86.4	88.5	89.8	89.8	87.9	-1.4
11:57:45	10/10/96	87.5	88.7	88.5	88.6	86.4	88.5	89.8	89.8	87.9	-1.4
11:58:45	10/10/96	87.5	88.7	88.5	88.6	86.4	88.5	89.8	89.8	87.9	-1.4
11:59:45	10/10/96	87.5	88.8	88.5	88.6	86.5	88.5	89.9	89.8	88.0	-1.4
12:00:45	10/10/96	87.5	88.7	88.5	88.6	86.4	88.5	89.9	89.8	88.0	-1.4
12:01:45	10/10/96	87.4	88.7	88.4	88.6	86.5	88.5	89.9	89.8	87.9	-1.4
12:02:45	10/10/96	87.3	88.7	88.4	88.7	86.5	88.5	89.9	89.8	87.9	-1.4
12:03:45	10/10/96	87.5	88.8	88.5	88.6	86.5	88.5	89.9	89.8	88.0	-1.4
12:04:45	10/10/96	87.4	88.7	88.4	88.6	86.5	88.5	89.9	89.8	87.9	-1.4
12:05:45	10/10/96	87.4	88.7	88.5	88.6	86.4	88.5	89.8	89.8	88.0	-1.4
12:06:45	10/10/96	87.4	88.7	88.4	88.6	86.5	88.5	89.9	89.8	87.9	-1.4
12:07:45	10/10/96	87.5	88.8	88.5	88.5	86.5	88.5	89.9	89.8	88.0	-1.4
12:08:45	10/10/96	87.4	88.7	88.5	88.7	86.5	88.5	89.9	89.9	87.9	-1.4
12:09:45	10/10/96	87.4	88.6	88.4	88.6	86.5	88.5	89.9	89.9	87.9	-1.4
12:10:45	10/10/96	87.4	88.7	88.4	88.6	86.5	88.5	89.9	89.9	87.9	-1.4
12:11:45	10/10/96	87.5	88.8	88.5	88.6	86.5	88.5	89.9	89.9	88.0	-1.4
12:12:45	10/10/96	87.3	88.7	88.4	88.6	86.5	88.5	89.9	89.9	87.9	-1.4
12:13:45	10/10/96	87.4	88.8	88.4	88.5	86.5	88.5	89.9	89.9	87.9	-1.4
12:14:45	10/10/96	87.4	88.7	88.4	88.7	86.5	88.5	89.9	89.9	87.9	-1.4
12:15:45	10/10/96	87.5	88.8	88.5	88.6	86.5	88.5	89.9	89.9	88.0	-1.4
12:16:45	10/10/96	87.5	88.8	88.5	88.6	86.5	88.5	89.9	89.9	88.0	-1.4
12:17:45	10/10/96	87.5	88.8	88.5	88.6	86.5	88.5	89.9	89.9	88.0	-1.4
12:18:45	10/10/96	87.5	88.8	88.4	88.6	86.5	88.5	89.9	89.9	88.0	-1.4
12:19:45	10/10/96	87.4	88.7	88.4	88.7	86.5	88.5	89.9	89.9	87.9	-1.4
12:20:45	10/10/96	87.4	88.6	88.4	88.6	86.5	88.5	89.9	89.9	87.9	-1.4
12:21:45	10/10/96	87.5	88.8	88.5	88.6	86.5	88.5	89.9	89.9	88.0	-1.4
12:22:45	10/10/96	87.4	88.7	88.5	88.7	86.5	88.5	89.9	89.9	87.9	-1.4
12:23:45	10/10/96	87.5	88.8	88.5	88.6	86.5	88.5	89.9	89.9	88.0	-1.4
12:24:45	10/10/96	87.5	88.8	88.5	88.6	86.5	88.5	89.9	89.9	88.0	-1.4
12:25:45	10/10/96	87.5	88.8	88.5	88.6	86.5	88.5	89.9	89.9	88.0	-1.4
12:26:45	10/10/96	87.5	88.8	88.5	88.6	86.5	88.5	89.9	89.9	88.0	-1.4
12:27:45	10/10/96	87.4	88.7	88.5	88.6	86.5	88.5	89.9	89.9	87.9	-1.4
12:28:45	10/10/96	87.5	88.7	88.5	88.6	86.5	88.5	89.9	89.9	88.0	-1.4
12:29:45	10/10/96	87.4	88.6	88.4	88.6	86.5	88.5	89.9	89.9	87.9	-1.4
12:30:45	10/10/96	87.5	88.8	88.5	88.6	86.5	88.5	89.9	89.9	88.0	-1.4

OMEGA POINT LABORATORIES

3 Layer Cable Tray - Clad System

Time of Day (hh:mm:ss)	Date (mm/dd/yy)	3 Layer Tray TC # 11 (°C)	3 Layer Tray TC # 12 (°C)	3 Layer Tray TC # 13 (°C)	3 Layer Tray TC # 14 (°C)	3 Layer Tray TC # 15 (°C)	3 Layer Pos. 1 Avg (°C)	3 Layer Pos. 2 Avg (°C)	3 Layer 1Hr Avg Pos. 2 Avg (°C)	3 Layer Pos. 3 Avg (°C)	3 Layer Diff. Pos. 1-2 (°C)
12:31:45	10/10/96	87.5	88.8	88.5	88.6	86.5	88.5	89.9	89.9	88.0	-1.4
12:32:45	10/10/96	87.5	88.8	88.5	88.6	86.5	88.5	89.9	89.9	88.0	-1.4
12:33:45	10/10/96	87.4	88.8	88.4	88.6	86.6	88.5	89.9	89.9	87.9	-1.4
12:34:45	10/10/96	87.4	88.7	88.5	88.6	86.5	88.5	89.9	89.9	88.0	-1.4
12:35:45	10/10/96	87.3	88.6	88.4	88.7	86.5	88.5	89.9	89.9	87.9	-1.4
12:36:45	10/10/96	87.4	88.7	88.5	88.6	86.5	88.5	89.9	89.9	88.0	-1.4
12:37:45	10/10/96	87.4	88.7	88.4	88.6	86.6	88.5	89.9	89.9	87.9	-1.4
12:38:45	10/10/96	87.5	88.8	88.5	88.6	86.5	88.5	89.9	89.9	88.0	-1.4
12:39:45	10/10/96	87.5	88.7	88.5	88.6	86.5	88.5	89.8	89.9	88.0	-1.4
12:40:45	10/10/96	87.5	88.8	88.5	88.6	86.5	88.5	89.9	89.9	88.0	-1.4
12:41:45	10/10/96	87.5	88.8	88.5	88.6	86.5	88.5	89.9	89.9	88.0	-1.4
12:42:45	10/10/96	87.4	88.7	88.4	88.6	86.5	88.5	89.9	89.9	87.9	-1.4
12:43:45	10/10/96	87.4	88.6	88.4	88.7	86.5	88.5	89.9	89.9	87.9	-1.4
12:44:45	10/10/96	87.4	88.7	88.4	88.7	86.5	88.5	89.9	89.9	87.9	-1.4
12:45:45	10/10/96	87.4	88.8	88.4	88.6	86.6	88.5	89.9	89.9	87.9	-1.4
12:46:45	10/10/96	87.4	88.7	88.5	88.6	86.5	88.5	89.9	89.9	88.0	-1.4
12:47:45	10/10/96	87.5	88.8	88.5	88.6	86.5	88.5	89.9	89.9	88.0	-1.4
12:48:45	10/10/96	87.4	88.7	88.5	88.6	86.5	88.5	89.9	89.9	88.0	-1.4
12:49:45	10/10/96	87.5	88.7	88.5	88.6	86.5	88.5	89.9	89.9	88.0	-1.4
12:50:45	10/10/96	87.5	88.8	88.5	88.6	86.5	88.5	89.9	89.9	88.0	-1.4
12:51:45	10/10/96	87.5	88.8	88.5	88.6	86.5	88.5	89.9	89.9	88.0	-1.4
12:52:45	10/10/96	87.4	88.7	88.5	88.7	86.5	88.5	89.9	89.9	88.0	-1.4
12:53:45	10/10/96	87.4	88.6	88.4	88.6	86.5	88.5	89.9	89.9	87.9	-1.4
12:54:45	10/10/96	87.5	88.7	88.4	88.6	86.6	88.5	89.9	89.9	88.0	-1.4
12:55:45	10/10/96	87.5	88.8	88.5	88.6	86.5	88.5	89.9	89.9	88.0	-1.4
12:56:45	10/10/96	87.4	88.7	88.4	88.6	86.5	88.5	89.9	89.9	87.9	-1.4
12:57:45	10/10/96	87.5	88.8	88.5	88.6	86.5	88.5	89.9	89.9	88.0	-1.4
12:58:45	10/10/96	87.4	88.7	88.5	88.7	86.5	88.5	89.9	89.9	88.0	-1.4
12:59:45	10/10/96	87.4	88.7	88.4	88.6	86.6	88.5	89.9	89.9	87.9	-1.4
13:00:45	10/10/96	87.4	88.7	88.4	88.7	86.6	88.5	89.9	89.9	87.9	-1.4
13:01:45	10/10/96	87.4	88.7	88.5	88.7	86.5	88.5	89.9	89.9	88.0	-1.4
13:02:45	10/10/96	87.5	88.8	88.5	88.6	86.6	88.5	89.9	89.9	88.0	-1.4
13:03:45	10/10/96	87.4	88.7	88.4	88.6	86.5	88.5	89.9	89.9	87.9	-1.4
13:04:45	10/10/96	87.4	88.7	88.4	88.7	86.5	88.5	89.9	89.9	87.9	-1.4
13:05:45	10/10/96	87.4	88.7	88.4	88.7	86.5	88.5	89.9	89.9	87.9	-1.4
13:06:45	10/10/96	87.4	88.7	88.5	88.7	86.5	88.5	89.9	89.9	88.0	-1.4
13:07:45	10/10/96	87.4	88.7	88.5	88.7	86.5	88.5	89.9	89.9	88.0	-1.4
13:08:45	10/10/96	87.5	88.8	88.5	88.6	86.5	88.5	89.9	89.9	88.0	-1.4
13:09:45	10/10/96	87.4	88.7	88.4	88.6	86.6	88.5	89.9	89.9	87.9	-1.4
13:10:45	10/10/96	87.4	88.7	88.4	88.6	86.6	88.5	89.9	89.9	87.9	-1.4
13:11:45	10/10/96	87.5	88.8	88.5	88.6	86.6	88.5	89.9	89.9	88.0	-1.4
13:12:45	10/10/96	87.5	88.8	88.5	88.6	86.5	88.5	89.9	89.9	88.0	-1.4
Min:											-1.4
Max:											-1.3

OMEGA POINT LABORATORIES

3 Layer Cable Tray - Clad System

Time of Day (hh:mm:ss)	Date (mm/dd/yy)	3 Layer Diff. Pos. 3-2 (°C)	3 Layer Pos. 2 Max (°C)	3 Layer 1Hr Avg Pos. 2 Max (°C)	3 Layer Temp Slope (°C/Hr)
10:13:45	10/10/96	-1.9	90.6	90.6	0.044
10:14:45	10/10/96	-1.9	90.6	90.6	0.042
10:15:45	10/10/96	-2.0	90.6	90.6	0.042
10:16:45	10/10/96	-2.0	90.6	90.6	0.041
10:17:45	10/10/96	-2.0	90.6	90.6	0.043
10:18:45	10/10/96	-1.9	90.6	90.6	0.042
10:19:45	10/10/96	-2.0	90.7	90.6	0.041
10:20:45	10/10/96	-1.9	90.7	90.6	0.039
10:21:45	10/10/96	-2.0	90.7	90.6	0.041
10:22:45	10/10/96	-1.9	90.6	90.6	0.044
10:23:45	10/10/96	-2.0	90.7	90.6	0.042
10:24:45	10/10/96	-2.0	90.6	90.6	0.042
10:25:45	10/10/96	-1.9	90.6	90.6	0.041
10:26:45	10/10/96	-1.9	90.6	90.6	0.040
10:27:45	10/10/96	-1.9	90.6	90.6	0.039
10:28:45	10/10/96	-2.0	90.6	90.6	0.036
10:29:45	10/10/96	-2.0	90.7	90.6	0.033
10:30:45	10/10/96	-2.0	90.6	90.6	0.028
10:31:45	10/10/96	-2.0	90.6	90.6	0.027
10:32:45	10/10/96	-1.9	90.6	90.6	0.024
10:33:45	10/10/96	-2.0	90.7	90.6	0.025
10:34:45	10/10/96	-2.0	90.6	90.6	0.025
10:35:45	10/10/96	-1.9	90.6	90.6	0.024
10:36:45	10/10/96	-2.0	90.7	90.6	0.024
10:37:45	10/10/96	-1.9	90.6	90.6	0.023
10:38:45	10/10/96	-2.0	90.6	90.6	0.021
10:39:45	10/10/96	-2.0	90.6	90.6	0.020
10:40:45	10/10/96	-2.0	90.6	90.6	0.020
10:41:45	10/10/96	-1.9	90.6	90.6	0.017
10:42:45	10/10/96	-2.0	90.6	90.6	0.018
10:43:45	10/10/96	-2.0	90.6	90.6	0.018
10:44:45	10/10/96	-2.0	90.6	90.6	0.016
10:45:45	10/10/96	-2.0	90.6	90.6	0.018
10:46:45	10/10/96	-1.9	90.6	90.6	0.015
10:47:45	10/10/96	-2.0	90.7	90.6	0.014
10:48:45	10/10/96	-2.0	90.6	90.6	0.015
10:49:45	10/10/96	-2.0	90.6	90.6	0.015
10:50:45	10/10/96	-2.0	90.6	90.6	0.013
10:51:45	10/10/96	-2.0	90.6	90.6	0.015
10:52:45	10/10/96	-2.0	90.7	90.6	0.014
10:53:45	10/10/96	-1.9	90.6	90.6	0.015
10:54:45	10/10/96	-1.9	90.7	90.6	0.016
10:55:45	10/10/96	-2.0	90.7	90.6	0.018
10:56:45	10/10/96	-2.0	90.7	90.6	0.015
10:57:45	10/10/96	-2.0	90.7	90.6	0.018
10:58:45	10/10/96	-2.0	90.7	90.6	0.016
10:59:45	10/10/96	-2.0	90.6	90.6	0.019
11:00:45	10/10/96	-2.0	90.7	90.6	0.019
11:01:45	10/10/96	-2.0	90.6	90.6	0.020
11:02:45	10/10/96	-1.9	90.6	90.6	0.021
11:03:45	10/10/96	-2.0	90.7	90.6	0.022
11:04:45	10/10/96	-1.9	90.6	90.6	0.021
11:05:45	10/10/96	-2.0	90.7	90.6	0.021
11:06:45	10/10/96	-2.0	90.6	90.6	0.021
11:07:45	10/10/96	-2.0	90.6	90.6	0.020
11:08:45	10/10/96	-2.0	90.7	90.6	0.021
11:09:45	10/10/96	-1.9	90.7	90.6	0.021
11:10:45	10/10/96	-2.0	90.7	90.6	0.022
11:11:45	10/10/96	-2.0	90.6	90.6	0.017
11:12:45	10/10/96	-2.0	90.7	90.6	0.018
11:13:45	10/10/96	-2.0	90.6	90.6	0.018
11:14:45	10/10/96	-2.0	90.7	90.6	0.019
11:15:45	10/10/96	-2.0	90.7	90.6	0.021
11:16:45	10/10/96	-1.9	90.7	90.6	0.024
11:17:45	10/10/96	-2.0	90.7	90.6	0.026
11:18:45	10/10/96	-2.0	90.7	90.6	0.027
11:19:45	10/10/96	-2.0	90.6	90.6	0.029
11:20:45	10/10/96	-1.9	90.7	90.6	0.029
11:21:45	10/10/96	-2.0	90.6	90.6	0.031

OMEGA POINT LABORATORIES

3 Layer Cable Tray - Clad System

Time of Day (hh:mm:ss)	Date (mm/dd/yy)	3 Layer Diff. Pos. 3-2 (°C)	3 Layer Pos. 2 Max (°C)	3 Layer 1Hr Avg Pos. 2 Max (°C)	3 Layer Temp Slope (°C/Hr)
11:22:45	10/10/96	-2.0	90.6	90.6	0.033
11:23:45	10/10/96	-1.9	90.7	90.6	0.031
11:24:45	10/10/96	-2.0	90.6	90.6	0.035
11:25:45	10/10/96	-2.0	90.7	90.6	0.033
11:26:45	10/10/96	-1.9	90.7	90.6	0.033
11:27:45	10/10/96	-1.9	90.6	90.6	0.035
11:28:45	10/10/96	-1.9	90.6	90.6	0.036
11:29:45	10/10/96	-2.0	90.7	90.6	0.037
11:30:45	10/10/96	-1.9	90.7	90.6	0.034
11:31:45	10/10/96	-2.0	90.6	90.6	0.034
11:32:45	10/10/96	-1.9	90.6	90.6	0.034
11:33:45	10/10/96	-1.9	90.6	90.6	0.035
11:34:45	10/10/96	-2.0	90.7	90.6	0.035
11:35:45	10/10/96	-1.9	90.7	90.6	0.034
11:36:45	10/10/96	-1.9	90.7	90.6	0.034
11:37:45	10/10/96	-2.0	90.7	90.6	0.033
11:38:45	10/10/96	-1.9	90.7	90.6	0.033
11:39:45	10/10/96	-1.9	90.6	90.6	0.035
11:40:45	10/10/96	-1.9	90.7	90.6	0.037
11:41:45	10/10/96	-1.9	90.6	90.6	0.038
11:42:45	10/10/96	-1.9	90.7	90.6	0.038
11:43:48	10/10/96	-1.9	90.7	90.6	0.038
11:44:45	10/10/96	-1.9	90.7	90.7	0.035
11:45:45	10/10/96	-2.0	90.7	90.7	0.037
11:46:45	10/10/96	-2.0	90.6	90.7	0.034
11:47:45	10/10/96	-1.9	90.7	90.7	0.035
11:48:45	10/10/96	-1.9	90.6	90.7	0.037
11:49:45	10/10/96	-2.0	90.7	90.7	0.037
11:50:45	10/10/96	-1.9	90.6	90.7	0.037
11:51:45	10/10/96	-1.9	90.6	90.7	0.039
11:52:45	10/10/96	-2.0	90.7	90.7	0.038
11:53:45	10/10/96	-1.9	90.7	90.7	0.040
11:54:45	10/10/96	-2.0	90.7	90.7	0.042
11:55:45	10/10/96	-1.9	90.7	90.7	0.041
11:56:45	10/10/96	-1.9	90.7	90.7	0.039
11:57:45	10/10/96	-1.9	90.7	90.7	0.038
11:58:45	10/10/96	-1.9	90.7	90.7	0.038
11:59:45	10/10/96	-1.9	90.7	90.7	0.042
12:00:45	10/10/96	-1.9	90.7	90.7	0.041
12:01:45	10/10/96	-2.0	90.7	90.7	0.044
12:02:45	10/10/96	-1.9	90.7	90.7	0.044
12:03:45	10/10/96	-1.9	90.6	90.7	0.046
12:04:45	10/10/96	-2.0	90.7	90.7	0.047
12:05:45	10/10/96	-1.9	90.7	90.7	0.045
12:06:45	10/10/96	-2.0	90.7	90.7	0.046
12:07:45	10/10/96	-1.9	90.6	90.7	0.045
12:08:45	10/10/96	-1.9	90.7	90.7	0.044
12:09:45	10/10/96	-2.0	90.7	90.7	0.042
12:10:45	10/10/96	-1.9	90.7	90.7	0.043
12:11:45	10/10/96	-1.9	90.6	90.7	0.040
12:12:45	10/10/96	-1.9	90.7	90.7	0.036
12:13:45	10/10/96	-1.9	90.6	90.7	0.036
12:14:45	10/10/96	-1.9	90.7	90.7	0.035
12:15:45	10/10/96	-1.9	90.7	90.7	0.038
12:16:45	10/10/96	-1.9	90.7	90.7	0.038
12:17:45	10/10/96	-1.9	90.7	90.7	0.036
12:18:45	10/10/96	-1.9	90.7	90.7	0.038
12:19:45	10/10/96	-2.0	90.7	90.7	0.037
12:20:45	10/10/96	-2.0	90.7	90.7	0.036
12:21:45	10/10/96	-1.9	90.7	90.7	0.036
12:22:45	10/10/96	-1.9	90.7	90.7	0.036
12:23:45	10/10/96	-1.9	90.6	90.7	0.033
12:24:45	10/10/96	-1.9	90.7	90.7	0.036
12:25:45	10/10/96	-1.9	90.7	90.7	0.035
12:26:45	10/10/96	-1.9	90.7	90.7	0.036
12:27:45	10/10/96	-1.9	90.7	90.7	0.035
12:28:45	10/10/96	-1.9	90.7	90.7	0.033
12:29:45	10/10/96	-2.0	90.7	90.7	0.033
12:30:45	10/10/96	-1.9	90.7	90.7	0.033

OMEGA POINT LABORATORIES

3 Layer Cable Tray - Clad System

Time of Day (hh:mm:ss)	Date (mm/dd/yy)	3 Layer Diff. Pos. 3-2 (°C)	3 Layer Pos. 2 Max (°C)	3 Layer 1Hr Avg Pos. 2 Max (°C)	3 Layer Temp Slope (°C/Hr)
12:31:45	10/10/96	-1.9	90.7	90.7	0.033
12:32:45	10/10/96	-1.9	90.6	90.7	0.035
12:33:45	10/10/96	-1.9	90.7	90.7	0.036
12:34:45	10/10/96	-1.9	90.7	90.7	0.034
12:35:45	10/10/96	-2.0	90.7	90.7	0.032
12:36:45	10/10/96	-1.9	90.7	90.7	0.029
12:37:45	10/10/96	-1.9	90.7	90.7	0.029
12:38:45	10/10/96	-1.9	90.7	90.7	0.030
12:39:45	10/10/96	-1.9	90.7	90.7	0.029
12:40:45	10/10/96	-1.9	90.7	90.7	0.029
12:41:45	10/10/96	-1.9	90.7	90.7	0.030
12:42:45	10/10/96	-2.0	90.7	90.7	0.029
12:43:45	10/10/96	-1.9	90.7	90.7	0.027
12:44:45	10/10/96	-2.0	90.7	90.7	0.023
12:45:45	10/10/96	-1.9	90.7	90.7	0.023
12:46:45	10/10/96	-1.9	90.7	90.7	0.020
12:47:45	10/10/96	-1.9	90.7	90.7	0.019
12:48:45	10/10/96	-1.9	90.7	90.7	0.018
12:49:45	10/10/96	-1.9	90.7	90.7	0.015
12:50:45	10/10/96	-1.9	90.7	90.7	0.015
12:51:45	10/10/96	-1.9	90.7	90.7	0.017
12:52:45	10/10/96	-1.9	90.7	90.7	0.015
12:53:45	10/10/96	-2.0	90.7	90.7	0.016
12:54:45	10/10/96	-1.9	90.7	90.7	0.018
12:55:45	10/10/96	-1.9	90.7	90.7	0.018
12:56:45	10/10/96	-2.0	90.7	90.7	0.016
12:57:45	10/10/96	-1.9	90.7	90.7	0.014
12:58:45	10/10/96	-1.9	90.7	90.7	0.011
12:59:45	10/10/96	-1.9	90.7	90.7	0.012
13:00:45	10/10/96	-2.0	90.7	90.7	0.012
13:01:45	10/10/96	-1.9	90.7	90.7	0.013
13:02:45	10/10/96	-1.9	90.7	90.7	0.013
13:03:45	10/10/96	-2.0	90.7	90.7	0.014
13:04:45	10/10/96	-2.0	90.8	90.7	0.017
13:05:45	10/10/96	-2.0	90.8	90.7	0.016
13:06:45	10/10/96	-1.9	90.7	90.7	0.016
13:07:45	10/10/96	-1.9	90.7	90.7	0.017
13:08:45	10/10/96	-1.9	90.7	90.7	0.018
13:09:45	10/10/96	-2.0	90.7	90.7	0.020
13:10:45	10/10/96	-2.0	90.7	90.7	0.021
13:11:45	10/10/96	-1.9	90.7	90.7	0.025
13:12:45	10/10/96	-1.9	90.7	90.7	0.025
Min:		-2.0	90.6	90.6	0.011
Max:		-1.9	90.8	90.7	0.038

OMEGA POINT LABORATORIES

Appendix C

QUALITY ASSURANCE

OMEGA POINT LABORATORIES

Quality Assurance Statement

Omega Point Laboratories, Inc. is an independent, wholly owned company incorporated in the state of Texas, devoted to engineering, inspection, quality assurance and testing of building materials, products and assemblies. The company has developed and implemented a Quality Assurance Program designed to provide its clients with a planned procedure of order and document processing for inspection and testing services it provides to assure conformity to requirements, codes, standards and specifications. The Program is designed to meet the intent of ANSI 45.2 Quality Assurance Program Requirements for Nuclear Power Plants, and complies with the requirements of the ASME Code, SPPE, Military Standards and other less stringent programs. It is the Laboratory's intention to adhere strictly to this Program, to assure that the services offered to its clients remains of the highest quality and accuracy possible.

The overall responsibility of the supervision, operation and coordination of this Quality Assurance Program is that of the Quality Assurance Manager, a person not involved with the performance of the inspection or testing services, and who is under the full time employ of the Laboratory. This individual is responsible for implementing and enforcing all procedures presented in the Quality Assurance Manual and the Procedures Manual. All personnel involved with activities which fall under the scope of this Program are required to cooperate with the letter and intent of this Program.

All QA Surveillance documents remain on file at the Laboratory, and are available for inspection by authorized personnel in the performance of an on-site QA Audit. All materials, services and supplies used herein were obtained with appropriate QA Certifications of Compliance, which may be found in the following pages.

OMEGA POINT LABORATORIES

Test Data Log

OMEGA POINT LABORATORIES

AMPACITY TEST DATA LOG

Client: OPL	**Project No.:** 99233 **File-Name:** Tray / 8/5/96 / 8/14/96
Test Item #1	**Test Item #2**
Desc: 2 Layer Tray : Baseline	**Desc:** 3 Layer Tray : Baseline

Energized:				**Energized:**			
Date:	8/1/96	Time:	2:42p	Date:	8/1/96	Time:	2:10p
Current:	15.49	Set Pt:	1.02	Current:	23.08	Set Pt:	1.41
		Init.:	HWS			Init.:	HWS
In-Test Adjustments:				**In-Test Adjustments:**			
Date:	8/2/96	Time:	1:20p	Date:	8/2/96	Time:	1:20p
Current:	18.44	Set Pt:	1.07	Current:	24.22	Set Pt:	1.47
Equil. ?		Init.:	HWS	Equil. ?		Init.:	HWS
Date:	8/5/96	Time:	9:42a	Date:	8/5/96	Time:	9:32a
Current:	23.12	Set Pt:	1.50	Current:	27.26	Set Pt:	1.65
Equil. ?		Init.:	HWS	Equil. ?		Init.:	HWS
Date:	8/5/96	Time:	3:07p	Date:	8/5/96	Time:	3:07p
Current:	27.17	Set Pt:	1.67	Current:	28.43	Set Pt:	1.73
Equil. ?		Init.:	HWS	Equil. ?		Init.:	HWS
Date:	8/6/96	Time:	7:25a	Date:	8/6/96	Time:	7:25a
Current:	28.07	Set Pt:	1.54	Current:	29.35	Set Pt:	1.79
Equil. ?		Init.:	HWS	Equil. ?		Init.:	HWS
Date:	8/6/96	Time:	9:50a	Date:	8/14/96	Time:	9:30a
Current:	31.99	Set Pt:	2.07	Current:	29.31	Set Pt:	1.79
Equil. ?		Init.:	HWS	Equil. ?		Init.:	HWS
Date:	8/14/96	Time:	9:30a	Date:	8/20/96	Time:	9:17a
Current:	34.55	Set Pt:	2.23	Current:	29.02	Set Pt:	1.75
Equil. ?		Init.:	HWS	Equil. ?		Init.:	HWS
Date:	8/14/96	Time:	1:55p	Date:	8/20/96	Time:	12:15p
Current:	38.28	Set Pt:	2.47	Current:	28.69	Set Pt:	1.71
Equil. ?		Init.:	HWS	Equil. ?		Init.:	HWS
Date:	8/20/96	Time:	7:20a	Date:	8/21/96	Time:	7:35a
Current:	38.45	Set Pt:	2.48	Current:	28.48	Set Pt:	1.67
Equil. ?		Init.:	HWS	Equil. ?		Init.:	HWS
Date:	8/20/96	Time:	10:40a	Date:	8/21/96	Time:	3:00p
Current:	37.95	Set Pt:	2.45	Current:	28.34A	Set Pt:	1.67
Equil. ?		Init.:	HWS	Equil. ? X		Init.:	HWS
Date:	8/21/96	Time:	7:35a	Date:		Time:	
Current:	37.48	Set Pt:	2.42	Current:		Set Pt:	
Equil. ?		Init.:	HWS	Equil. ?		Init.:	

53.48V

AMPACITY TEST DATA LOG

Client: OPL	**Project No.:** 99233 **File-Name:** 9/30/96 / 10/10/96
Test Item #1	**Test Item #2**
Desc: 2 Layer Tray: Clad	**Desc:** 3 Layer Tray: Clad

Energized:				**Energized:**			
Date:	9/30/96	Time:	11:04a	Date:	9/30/96	Time:	11:05a
Current:	12.79	Set Pt:	0.84	Current:	13.62	Set Pt:	0.84
		Init.:	HWS			Init.:	HWS

In-Test Adjustments:				**In-Test Adjustments:**			
Date:	10/1/96	Time:	5:34p	Date:	10/1/96	Time:	5:33p
Current:	15.28	Set Pt:	1.00	Current:	14.51	Set Pt:	0.92
Equil. ?		Init.:	HWS	Equil. ?		Init.:	HWS
Date:	10/3/96	Time:	12:45p	Date:	10/3/96	Time:	12:44p
Current:	17.84	Set Pt:	1.16	Current:	15.22	Set Pt:	0.93
Equil. ?		Init.:	HWS	Equil. ?		Init.:	HWS
Date:	10/7/96	Time:	7:44a	Date:	10/7/96	Time:	7:44a
Current:	17.62	Set Pt:	1.15	Current:	14.77	Set Pt:	0.89
Equil. ?		Init.:	HWS	Equil. ?		Init.:	HWS
Date:	10/10/96	Time:	7:40a	Date:	10/8/96	Time:	9:14a
Current:	17.44	Set Pt:	1.14	Current:	14.32	Set Pt:	0.87
Equil. ?		Init.:	HWS	Equil. ?		Init.:	HWS
Date:	10/10/96	Time:	9:08a	Date:	10/10/96	Time:	1:09p
Current:	17.16	Set Pt:	1.12	Current:	14.43A	Set Pt:	0.87
Equil. ?		Init.:	HWS	Equil. ? ☒		Init.:	HWS
Date:	10/10/96	Time:	1:09p	Date:		Time:	
Current:	17.18A	Set Pt:	1.12	Current:		Set Pt:	
Equil. ? ☒		Init.:	HWS	Equil. ?		Init.:	
Date:		Time:		Date:		Time:	
Current:		Set Pt:		Current:		Set Pt:	
Equil. ?		Init.:		Equil. ?		Init.:	
Date:		Time:		Date:		Time:	
Current:		Set Pt:		Current:		Set Pt:	
Equil. ?		Init.:		Equil. ?		Init.:	
Date:		Time:		Date:		Time:	
Current:		Set Pt:		Current:		Set Pt:	
Equil. ?		Init.:		Equil. ?		Init.:	
Date:		Time:		Date:		Time:	
Current:		Set Pt:		Current:		Set Pt:	
Equil. ?		Init.:		Equil. ?		Init.:	

22.03V

27.49V

ERFBS Installation Data

OMEGA POINT LABORATORIES

Form QC-2003.1
Rev. 0 5/30/96

DAILY INSPECTION REPORT
3M INTERAM™ ONE HOUR FIRE PROTECTIVE SYSTEMS

WORK LOCATION:

BLDG. N/A ELEV. N/A

AREA/ROOM: N/A

PROJECT INFORMATION:

PROJECT NAME: Ampacity Test

PROJECT LOCATION: Omega Lab.

REPORT NO. N/A DATE: 9-4-96

PROJECT NO. 100D-99233

LAYER	DESCRIPTION OF APPLICATION	Adequate Cleanliness (sat / unsat)	12" Marking (sat / unsat)	Layer I.D. (sat / unsat)	Longitudinal Overlap (sat / unsat)	Joints Caulked & Taped (sat / unsat)	1" Overlap at Corners (sat / unsat)	Butt Joints Gap Caulked ≥1/8" ≤1/4" (sat / unsat)	Butt Joints Gap ≤ 1/4 (sat / unsat)
		REFERENCE QCP 2003 PARAGRAPHS 6.8 & 6.9							
1	START: Full Lenght 3 Layers of cable - Tray END:	☑	N/A	☑	☑	☑	N/A	N/A	☑
2	START: END:	☑	N/A	☑	☑	☑	N/A	N/A	☑
3	END: END:	☑	N/A	☑	☑	☑	N/A	N/A	☑
	START: END:								
	START: END:								
	START: END:								
	START: END:								
	START: END:								
	START: END:								
	START: END:								

COMMENTS: E-54AMAT

PEAK SEALS QUALITY CONTROL: Mike Jordan DATE: 9-4-96

PAGE 1 OF 1

Form QC-2003
Rev. 0 6/30/96

FINAL INSPECTION REPORT
3M INTERAM™ ONE HOUR FIRE PROTECTIVE SYSTEM

WORK LOCATION:

BLDG. N/A ELEV. N/A

AREA/ROOM: N/A

PROJECT INFORMATION:

PROJECT NAME: Ampacity Test

PROJECT LOCATION: Omega Lab

REPORT NO. N/A DATE: 9-6-96

PROJECT NO. 1000-99233

PEAK SEALS REFERENCE DRAWINGS: N/A

UTILITY REFERENCE DRAWINGS: N/A

COMMENTS: 3-M E-54A used

ITEM I.D.	DESCRIPTION OF COMPLETED SECTION	Proper layer count (sat / unsat)	Collars and Coverstrips (sat / unsat)	Taping Joints, Collars, etc. (sat / unsat)	Support Coverage (sat / unsat)	Heat Transfer & Interferences (sat / unsat)	Bands Applied (sat / unsat)	Terminations Sealed (sat / unsat)
		REFERENCE QCP 2003 PARAGRAPH 6.10 & 6.11						
4 Layers of cable	START: Full Lenght END:	☑ ☐	☑ ☐	☑ ☐	N/A ☐	N/A ☐	☑ ☐	N/A ☐
3 Layers of cable	START: END:	☑ ☐	☑ ☐	☑ ☐	N/A ☐	N/A ☐	☑ ☐	N/A ☐
2 Layers of cable	START: END:	☑ ☐	☑ ☐	☑ ☐	N/A ☐	N/A ☐	☑ ☐	N/A ☐
1 Layer of cable	START: END:	☑ ☐	☑ ☐	☑ ☐	N/A ☐	N/A ☐	☑ ☐	N/A ☐
1/2 Layer of cable	START: END:	☑ ☐	☑ ☐	☑ ☐	N/A ☐	N/A ☐	☑ ☐	N/A ☐

ITEM I.D.	DESCRIPTION OF REPAIRED AREA:	GAPS 1/8" TO ≤ 1/4" Tears & Gaps Taped (sat / unsat)	GAPS 1/8" TO ≤ 1/4" Gaps >1/8", ≤ 1/4" Caulked/ Taped (sat / unsat)	INNER LAYER PATCH ≤ 1/8" Gap (sat / unsat)	INNER LAYER PATCH Gaps Taped (sat / unsat)	OUTER LAYER PATCH 2" Min. Overlap (sat / unsat)	OUTER LAYER PATCH Overlaps Caulked & Taped (sat / unsat)	OUTER LAYER PATCH Proper Restraint (sat / unsat)
		REFERENCE QCP 2003 PARAGRAPH 6.11						
	START: END: N/A	☐ ☐	☐ ☐	☐ ☐	☐ ☐	☐ ☐	☐ ☐	☐ ☐
	START: END:	☐ ☐	☐ ☐	☐ ☐	☐ ☐	☐ ☐	☐ ☐	☐ ☐

PEAK SEALS QUALITY CONTROL: Mike W Jordan DATE: 9-6-96

PAGE 1 OF 1

Certifications of Calibration and Conformance

OMEGA POINT LABORATORIES

Q/A RECEIVING REPORT

OMEGA POINT LABORATORIES

CLIENT/PROJECT NAME: Omega Point Labs
CLIENT/PROJECT NUMBER: OPL Equipment
RECEIVED FROM: John Fluke Mfg. Co.
PROJECT LOCATION: Omega Point Labs

REPORT NUMBER: 1609 - OPL
DATE RECEIVED: 8-16-96
DATE INSPECTED: 8-16-96
INSPECTED BY: C. Patton

ITEM DESCRIPTION	P.O. NO.	QUANTITY Order	QUANTITY Rec'd	QUANTITY B.O.	I.D. NO.	COND MATL Y/N	CERT. REQD Y/N	CONTAINER INTEGRITY	EXCEPTIONS	ACCEPTANCE Accept	ACCEPTANCE Hold	ACCEPTANCE Reject	REMARKS
Clampon Meter	10294Q	1	1	~~0~~	SN-815211	Y	Y	Good	None	X			Calibration Service
Volt-Ohmmeter	10294Q	1	1	~~0~~	SN-4405196	Y	Y	Good	None	X			

FORM
1/29/93

OMEGA POINT LABORATORIES, INC.
16015 SHADY FALLS RD.
ELMENDORF, TEXAS 78112
PH (210) 635-8100

PO Number: **10294Q**

Date 8/9/96
Page: 1

Order From: John Fluke Mfg. Co., Inc.
P.O. Box 65963
Charlotte NC
28265-0963

Deliver to: Omega Point Laboratories, Inc.
16015 Shady Falls Road
Elmendorf, Texas 78112-9784

Vendor # 0158

Your Item Number / Item Description	Our Reference	Qty Ordered	Units	Unit Cost	Extension
Volt-Ohmmeter SN 4405196	001	1.00	Each	$38.00	$38.00
Calibration Data Trail	002	1.00	Each	$25.00	$25.00
Clamp on Meter SN 815211	003	1.00	Each	$100.00	$100.00
Calibration Data Trail	004	1.00	Each	$25.00	$25.00
Expedite Services	005	2.00	Each	$25.00	$50.00

"See Special Instructions Regarding Purchasing Specifications for Quality Assurance Requirements."
QA Approval C Patton
Date 8-9-96

Calibrate individually and as a unit.

Please Quote Purchase Order Number on all correspondence.

Special Instructions:
Please provide Certificate of Calibration data traceable to NIST. Per attached Vendor Purchasing Specification and

Subtotal:	$238.00
Freight:	$0.00
Tax amount:	$0.00
Total Value:	$238.00

VENDOR PURCHASING SPECIFICATION AND

QUALITY ASSURANCE REQUIREMENTS

Vendor John Fleck Mfg.

Purchase Order No. 102940

Any or all of the following Quality Assurance requirements shall be incorporated as conditions to this procurement when corresponding box is marked. Failure to comply with any requirement specified herein may result in rejection and/or return of shipment at seller's expense.

1.0 QUALITY PROGRAM

☒ Seller shall furnish all items on this Purchase Order in accordance with Quality Program approved by Buyer.

2.0 QUALITY VERIFICATION

When additional quality verification activities are required as a condition to this procurement, invoices will not be paid until satisfactory completion of such activities. Excessive rejection rates may result in removal from buyer's Approved Vendors List.

☒ Receiving Inspection - Buyer shall inspect items upon receipt to verify compliance with purchase order requirements. Rejected items shall be returned at seller's expense.

☐ Independent Laboratory Tests - Samples of materials furnished shall be tested independently for conformance to specification requirements proir to final acceptance. Rejected materials shall be returned at seller's expense.

☒ Document Review - Final acceptance shall be based on satisfactory review of required certifications and other supporting documents.

3.0 CERTIFICATIONS

When certifications are required as a condition to this procurement, the seller shall furnish one reproducible copy either with or prior to each shipment. Shipments will not be accepted and invoices will not be paid until certifications are in buyer's possession.

VENDOR John Fluke Mfg
PURCHASE ORDER NO. 102940

☐ Certificate of Compliance/Conformance Required - Certification that materials and/or services comply with purchase order requirements. Certification shall reference purchase order number and traceability numbers (when applicable).

☐ Certified Test Report Required - Certification that material complies with applicable material specification(s) and the purchase order. Include actual results of required tests.

☒ Certificate of Calibration Required - Certification shall be traceable to National Bureau of Standards. (Renamed NIST, Nat. Institute of Science & Technology)

4.0 AUDITS/RIGHT OF ACCESS

☒ The buyer reserves the right to audit your facility to verify compliance with purchase order, code and specification requirements with minimum of ten (10) days notice.

☒ Shipments shall only originate from facilities approved by the buyer.

☐ Buyer reserves the right to inspect any or all work included in this order at seller's facility with as early notice as practicable.

5.0 IDENTIFICATION

☐ Seller shall identify each item with a unique traceability number by physical marking or tagging. Traceability numbers shall be traceable to certifications and packing lists.

☒ Seller shall identify each container with a unique identification number. The identification number shall be traceable to certifications and packing lists.

6.0 10 CFR, PART 21

☐ The material, equipment and/or services to be furnished under the provisions of this purchase order are involved in the testing of basic components of a Nuclear Regulatory Commission (NCR) licensed facility. Accordingly, the seller is subject to the provisions of 10 CFR, Part 21 (Reporting of Defects and Non-compliance)

PURCHASING SPECIFICATIONS

VENDOR John Fluke Mfg.
PURCHASE ORDER NO. 102940

7.0 PACKING/SHIPPING

☒ All materials shall be packaged in air tight, moisture free containers and shall be free from all foreign substances such as dirt, oil, grease or other deleterious material.

☐ All materials and equipment shall be suitably crated, boxed or otherwise prepared for shipment to prevent damage during handling and shipping. Wherever practical, equipment shall be palletized for ease of unloading and storage at destination. each container shall be clearly marked with buyer's purchase order number.

QUALITY ASSURANCE APPROVAL C Patton DATE 8/9/96

FLUKE®

FLUKE CORPORATION 49

OMEGA POINT LABORATORIES, INC.
16015 SHADY FALLS RD
ELMENDORF TX 78112
ACCOUNTS PAYABLE.

OMEGA POINT LABORATORIES, INC.
16015 SHADY FALLS RD
ELMENDORF TX 78112

FROM: FLUKE SERVICE CENTER
2104 HUTTON DRIVE, SUITE 112
CARROLLTON, TX 75006-6807

SHIP TO: OMEGA POINT LABORATORIES, INC.
16015 SHADY FALLS RD
ELMENDORF TX 78112
CLETA PATTON

CUST. PO 102940

SERVICE NUMBE: 196338

REFERENCE ORD

MANUFACTURER	MODEL	SERIAL NUMBER	ACCESSORIES / PARTS
FLUKE	8062A	4405196	PROBES

DESCRIPTION	CALIBRATION PROCEDURE
DIGITAL MULTIMETER	MANUFACTURER'S MANUAL REV 03-02-93

	DATE	CALIBRATION STATUS	CAL. CONDITIONS
RECEIVED	08/14/96	IN TOLERANCE	23
RETURNED	08/14/96	IN TOL MIL-STD-45662A & ANSI/NCSL Z540-1	43

SERVICE INFORMATION

VERIFIED OPERATION OF ALL FUNCTIONS
CALIBRATED UNIT - TRACEABLE TO N.I.S.T.

QUANTITY	BOARD	CIRCUIT	PART NO.	DESCRIPTION
1				NON-MATERIAL CHARGES FOR SERVI
1			614487	BATTERY,PRIMARY

CALIBRATION DATA		BY
S/N	4405196	247
DATE	AUG-14-96	
DUE	AUG-14-97	

REMARKS:

FORM NO SR02 REV 3/96

SHIP VIA: UPS RED

FLUKE®

CERTIFICATE OF CALIBRATION

50

TRACEABILITY CERTIFICATE NO.: 196339

REFERENCE NO.:

CALIBRATED BY: FLUKE SERVICE CENTER
2104 HUTTON DRIVE, SUITE 112
CARROLLTON, TX 75006-6807

SUBMITTED BY: OMEGA POINT LABORATORIES, INC.
16015 SHADY FALLS RD
ELMENDORF TX 78112
CLETA PATTON

CUST. PO: 102940

MANUFACTURER	MODEL	SERIAL NUMBER	ACCESSORIES / PARTS
LUKE	8062A	4405196	PROBES

DESCRIPTION	CALIBRATION PROCEDURE
DIGITAL MULTIMETER	MANUFACTURER'S MANUAL REV 03-02-93

	CALIBRATION STATUS	CAL. CONDITIONS
RECEIVED	IN TOLERANCE	23
RETURNED	IN TOL MIL-STD-45662A & ANSI/NCSL Z540-1	49

Fluke Corporation certifies that the instrument listed meets or exceeds all specifications as stated in the referenced procedure. It has been calibrated using measurement standards traceable to the National Institute of Standards and Technology (NIST), or to NIST accepted intrinsic standards of measurement, or derived by the ratio type of self-calibration techniques. This calibration complies with the calibration system standards referenced on this document.

Note:

This report may not be reproduced, except in full, unless permission for the publication of an approved abstract is obtained in writing from the calibration organization issuing this report.

TECH. NO.

CERTIFIED BY: Johnnie L Winters
JOHNNIE WINTERS — AUG-14-96

SERVICE MANAGER — CALIBRATION DATE

REMARKS:

CALIBRATION DATA		BY
S/N	4405196	
DATE	AUG-14-96	247
DUE	AUG-14-97	

SHIP VIA UPS RED

FLUKE CORPORATION
CALIBRATION CENTER
2104 HUTTON DRIVE, SUITE 112
CARROLLTON, TX 75006
REPORT OF CALIBRATION

CALIBRATION REPORT NUMBER: 196338 TEST DATE: 14-Aug-96

UNIT UNDER TEST	: Fluke 8062A
SERIAL NUMBER	: 4405196
ASSET NUMBER	:
CUSTOMER NAME	: OMEGA POINT LABORATORIES, INC.
CUSTOMER ADDRESS	: 16015 SHADY FALLS RD.
CUSTOMER CITY, STATE	: ELMENDORF TEXAS
CUSTOMER P.O.#	: 10294Q
PROCEDURE NAME	: Fluke 8062A: (1 Year) CAL VER
PROCEDURE REVISION	: 1.1

DATA TYPE	: AS FOUND
TEST RESULT	: PASS
FAILED TESTS	: 0
CALIBRATED BY	: 247/TH
TEMPERATURE	: 23°C
RELATIVE HUMIDITY	: 48%

The Fluke Corporation certifies that the above listed instrument meets or exceeds all published specifications (unless otherwise noted). It has been calibrated using measurement standards that are traceable to the National Institute of Standards and Technology (NIST), or to NIST accepted intrinsic standards of measurement. Alternatively, traceability may be achieved from accepted values of natural physical constants, or have been derived by the ratio type of self-calibration techniques.

This calibration complies with MIL-STD-45662A and ANSI/NCSL Z540-1-1994.

This report applies only to the item identified above and shall not be reproduced, except in full, without specific written approval of the Fluke Corporation.

NOTE: Any Test Uncertainty Ratio (TUR) that is less than four to one will appear under the "TUR" heading on the data record. If the TUR meets or exceeds four to one, the field is left blank.

FLUKE CORPORATION
CALIBRATION REPORT NUMBER: 196338
UNIT UNDER TEST: Fluke 8062A

TEST DATE: 14-Aug-96
SERIAL NUMBER: 4405196

STANDARDS USED:

Instrument Model	Asset Number	Cal Date	Due Date
Fluke 5700A	J141	08-Aug-96	08-Nov-96

REMARKS: ALL READINGS WELL WITHIN TOLERANCE. NO ADJUSTMENT NEEDED.

Metrology Technician

Johnnie LeWinters
Authorized Signature

FLUKE CORPORATION
CALIBRATION REPORT NUMBER: 196338
JNIT UNDER TEST: Fluke 8062A

TEST DATE: 14-Aug-96
SERIAL NUMBER: 4405196

PARAMETER	TRUE VALUE	TEST RESULT	ACCEPTANCE LIMITS LOW	HIGH	TUR
)C VOLTAGE TEST					
:00mV Range					
190.00mV		190.00	189.89	190.11	
-190.00mV		-190.00	-190.11	-189.89	
V Range					
1.9000V		1.9000	1.8989	1.9011	
0V Range					
19.000V		19.000	18.985	19.015	
:00V Range					
190.00V		190.00	189.85	190.15	
.000V Range					
1000.0V		1000.0	999.1	1000.9	
C VOLTAGE TEST					
:00mV Range					
100.00mV @ 200Hz		100.07	99.40	100.60	
100.00mV @ 20kHz		100.05	98.60	101.40	
V Range					
0.1000V @ 200Hz		0.0999	0.0985	0.1015	
0.1000V @ 30kHz		0.0980	0.0950	0.1050	
1.0000V @ 20Hz		0.9987	0.9890	1.0110	
1.0000V @ 200Hz		1.0005	0.9940	1.0060	
1.0000V @ 1kHz		1.0000	0.9930	1.0070	
1.0000V @ 10kHz		0.9999	0.9930	1.0070	
1.0000V @ 30kHz		0.9991	0.9860	1.0140	
0V Range					

FLUKE CORPORATION
CALIBRATION REPORT NUMBER: 196338
UNIT UNDER TEST: Fluke 8062A

TEST DATE: 14-Aug-96

SERIAL NUMBER: 4405196

PARAMETER	TRUE VALUE	TEST RESULT	ACCEPTANCE LIMITS LOW	HIGH	TUR
10.000V @ 200Hz		10.006	9.940	10.060	
10.000V @ 10kHz		10.008	9.480	10.520	
10.000V @ 30kHz		10.002	9.460	10.540	
200V Range					
100.00V @ 200Hz		100.08	99.40	100.60	
100.00V @ 10kHz		100.09	94.80	105.20	
100.00V @ 30kHz		100.07	94.60	105.40	
750V Range					
750.0V @ 100Hz		749.8	734.0	766.0	
750.0V @ 1kHz		751.4	734.0	766.0	
ESISTANCE TEST					
200Ω Range					
0.00Ω		0.01	-0.04	0.04	
100.00Ω	99.995	99.98	99.86	100.14	
kΩ Range					
1.0000kΩ	0.99994	0.9998	0.9987	1.0011	
20kΩ Range					
10.000kΩ	9.9990	9.997	9.987	10.011	
200kΩ Range					
100.00kΩ	99.994	99.97	99.87	100.11	
MΩ Range					
1.0000MΩ	0.99987	0.9998	0.9977	1.0021	
10.00MΩ	10.000	10.00	9.95	10.05	
100MΩ	100.0	100	95	105	
CONTINUITY TEST					
UUT functions properly					

FLUKE CORPORATION
CALIBRATION REPORT NUMBER: 196338
UNIT UNDER TEST: Fluke 8062A

TEST DATE: 14-Aug-96

SERIAL NUMBER: 4405196

PARAMETER	TRUE VALUE	TEST RESULT	ACCEPTANCE LIMITS LOW	HIGH	TUR
Result of Operator Evaluation		PASS			
IODE TEST					
UT functions properly					
Result of Operator Evaluation		PASS			
C CURRENT TEST					
00µA Range					
190.00uA		189.98	189.41	190.59	
190.00uA		-189.99	-190.59	-189.41	
2mA Range					
1.9000mA		1.9000	1.8941	1.9059	
0mA Range					
19.000mA		19.001	18.941	19.059	
00mA Range					
190.00mA		189.87	188.65	191.35	
000mA Range					
1900.0mA		1898.8	1886.5	1913.5	
1900.0mA		-1898.7	-1913.5	-1886.5	
AC CURRENT TEST					
200µA Range					
190.00uA @ 1kHz		190.15	188.48	191.52	
mA Range					
1.9000mA @ 1kHz		1.9015	1.8848	1.9152	

FLUKE CORPORATION
CALIBRATION REPORT NUMBER: 196338
UNIT UNDER TEST: Fluke 8062A

TEST DATE: 14-Aug-96

SERIAL NUMBER: 4405196

PARAMETER	TRUE VALUE	TEST RESULT	ACCEPTANCE LIMITS LOW	HIGH	TUR
20mA Range					
19.000mA @ 1kHz		19.016	18.848	19.152	
00mA Range					
190.00mA @ 1kHz		190.03	188.00	192.00	
000mA Range					
1900.0mA @ 1kHz		1900.3	1880.0	1920.0	

FLUKE.

FLUKE CORPORATION

OMEGA POINT LABORATORIES, INC.
16015 SHADY FALLS RD
ELMENDORF TX 78112
ACCOUNTS PAYABLE.

OMEGA POINT LABORATORIES, INC.
16015 SHADY FALLS RD
ELMENDORF TX 78112

FROM
FLUKE SERVICE CENTER
2104 HUTTON DRIVE, SUITE 112
CARROLLTON, TX 75006-6807

SHIP TO
OMEGA POINT LABORATORIES, INC.
16015 SHADY FALLS RD
ELMENDORF TX 78112
CLETA PATTON

CUST. PO 102940

SERVICE NUMBER
196341

REFERENCE ORDER

MANUFACTURER	MODEL	SERIAL NUMBER	ACCESSORIES / PARTS
EMC	AEMCSD602	815211	PROBES

DESCRIPTION	CALIBRATION PROCEDURE
URRENT PROBE	DALLAS DALS'169

	DATE	CALIBRATION STATUS	CAL. CONDITIONS
CEIVED	08/14/96	IN TOLERANCE	23
TURNED	08/14/96	IN TOL MIL-STD-45662A & ANSI/NCSL Z540-1	4[illegible]

SERVICE INFORMATION

ERIFIED OPERATION OF ALL FUNCTIONS
ALIBRATED UNIT - TRACEABLE TO N.I.S.T.
PECIAL DATA PROVIDED AS REQUESTED

ANTITY	BOARD	CIRCUIT	PART NO.	DESCRIPTION
1				NON-MATERIAL CHARGES FOR SERVI NMC FOR EXPEDITE FEE

CALIBRATION DATA		BY
S/N	815211	
DATE	AUG-14-96	247
DUE	AUG-14-97	

REMARKS:

FORM NO SR02 REV 3/96

SHIP VIA: UPS RED

FLUKE®

CERTIFICATE OF CALIBRATION

56

QUALITY MANAGEMENT SYSTEM
FLUKE.
ISO 9001
CERTIFIED TO MEET ISO 9001

CALIBRATED BY
FLUKE SERVICE CENTER
2104 HUTTON DRIVE, SUITE 112
CARROLLTON, TX 75006-6807

SUBMITTED BY
OMEGA POINT LABORATORIES, INC.
16015 SHADY FALLS RD
ELMENDORF TX 78112
CLETA PATTON

CUST. PO 102940

TRACEABILITY CERTIFICATE NO. 196341

REFERENCE NO.

MANUFACTURER	MODEL	SERIAL NUMBER	ACCESSORIES / PARTS
EMC	AEMCSD602	815211	PROBES

DESCRIPTION	CALIBRATION PROCEDURE
CURRENT PROBE	DALLAS DAL5116

CALIBRATION STATUS		CAL. CONDITIONS
RECEIVED	IN TOLERANCE	23
RETURNED	IN TOL MIL-STD-45662A & ANSI/NCSL Z540-1	49

Fluke Corporation certifies that the instrument listed meets or exceeds all specifications as stated in the referenced procedure. It has been calibrated using measurement standards traceable to the National Institute of Standards and Technology (NIST), or to NIST accepted intrinsic standards of measurement, or derived by the ratio type of self-calibration techniques. This calibration complies with the calibration system standards referenced on this document.

Note:

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TECH NO
CERTIFIED BY Johnnie L. Winters
JOHNNIE WINTERS — AUG-14-96
SERVICE MANAGER — CALIBRATION DATE

REMARKS:

CALIBRATION DATA		BY
S/N	815211	
DATE	AUG-14-96	247
DUE	AUG-14-97	

SHIP VIA UPS NEO

Fluke Corporation
Dallas Technical Center
Report of Calibration

P.O. Number: 10294Q

Service/Cert. Number: 196341

Unit Under Test	: SD602
Procedure Name	: DALS1169
Serial Number	: 815211
Asset Number	:
Customer	: OMEGA POINT LABORATORIES, INC.
Result	: Passed
Failed Tests	: 0
Technician	: 247/TH
Date	: 14-AUG-96

Remarks : ALL READINGS WELL WITHIN TOLERANCE.

Standards Used

Asset Number	Instrument Model	Cal Date	Due Date
J033	5101A	08/12/96	11/12/96
J034	5220A	01/11/96	10/11/96
J231	8842A	12/19/95	12/19/96
J389	5500A/COIL	03/29/96	03/29/97

Johnnie LeWinters

Dallas Technical Center Manager

P.O. Number: 10294Q

Service/Cert. Number: 196341

PARAMETER	MEASURED VALUE AS FOUND	MEASURED VALUE AS LEFT	ACCEPTABLE LIMITS LOW	ACCEPTABLE LIMITS HIGH
CALIBRATOR SETTING			READINGS ON 8842A IN mA	
10 V @ 60Hz	**498.98**	**498.98**	**497.4**	**502.6**
10 V @ 400HZ	**499.49**	**499.49**	**497.4**	**502.6**
14 V @ 60Hz	**698.63**	**698.63**	**696.4**	**703.6**
14 V @ 300HZ	**699.25**	**699.25**	**696.4**	**703.6**

Q/A RECEIVING REPORT

CLIENT/PROJECT NAME Omega Point Labs
CLIENT/PROJECT NUMBER 1000-99223
RECEIVED FROM B-Line
PROJECT LOCATION Omega Point Labs

REPORT NUMBER 1574 - 1000
DATE RECEIVED 12-11-95
DATE INSPECTED 12-11-95
INSPECTED BY: C Patton

ITEM DESCRIPTION	P.O. NO.	QUANTITY			I.D. NO.	CONFO MATL Y/N	CERT. RECD Y/N	CONTAINER INTEGRITY	EXCEPTIONS	ACCEPTANCE			REMARKS
		Order	Rec'd	B.O.						Accept	Hold	Reject	
Cable tray	9969Q	4	4	0	248-P-09-24-144	Y	Y	good	None	X			Amperity Research testing Project no. 99233

FORM
1/29/93

OMEGA POINT LABORATORIES
16015 SHADY FALLS RD.
ELMENDORF, TEXAS 78112
PH. (210) 635-8100

PURCHASE ORDER

No. 9969-Q

Date	Ordered By	Terms	F.O.B.	Ship Via
11/28/95	Patton	Net 30 days	Origination	UPS

B-Line Systems, Inc.
P.O. Box 500113
St. Louis, MO 63150-0113

Ship To Omega Point Laboratories
16015 Shady Falls Rd.
Elmendorf TX 78112

Item	Description	Price	Unit	Qty	Ext Price
1	Cabel Tray 248-P-09-24-144	93.800	Each	4	375.20

"See Special Instructions Regarding Purchasing Specifications for Quality Assurance Requirements."
QA Approval CPatton
Date 11-28-95

Special Instructions:
Please include Certificate of Compliance to Catalog Specs.

Sub Total	$375
Disc.	$0
Tax	$0
Total Purchase	$375.20

080625/11-89

SHIPPING ORDER

B-LINE® SYSTEMS, INC.
509 West Monroe Street
Highland, Illinois 62249-0326
Phone: 618-654-2184

SHIPPING ORDER NO.

DATE

SOLD TO:

Dietrich
12-6-95

SHIP TO:

1 CTN = 1#

CUST. ORDER NO.	DATE RECEIVED	LAST SHIPPED	SHIPPING DATE	VIA	COL	PPD	CHG	ALL
				AIR				

DIV.	SALESMAN	SHIP FROM	F.O.B.	DATE SHIPPED	B/L	WEIGHT
				12-7-95	427329	289

144 = 278

ORDERED	DUE	SHIPPED	BACK ORDER	UNIT	*	PART NUMBER	DESCRIPTION	SALES PRICE
		4	—				4	
		4	—					
		4						

102 A

Steel Cable Tray

C4

Straight Sections

Ladder, Ventilated Trough and Solid Trough

Siderail Height: 4" (3" loading depth)

Widths (Inside): 6", 9", 12", 18", 24", 30", 36" and 42"

Lengths: 144" (12 ft.) and 288" (24 ft.)

Ladder Type Rung Spacing: 6", 9", 12", and 18"

Ventilated Trough Type: Corrugated bottom with 2 7/8" cable bearing surface 6" o.c. and 2 1/4" x 4" ventilation openings.

Solid Bottom Trays: Corrugated bottom with 2 7/8" cable bearing surface 6" o.c.

Splice Plates: 1 pair including 3/8" hardware furnished with each straight section.

Safety Factors: 1.5 (NEMA standard)

Material: Siderails, rungs, splice plates, and corrugated bottoms material is shown on the bottom of page 87.

Fittings and Accessories: A full line is available for these trays; see the appropriate items on pages 96 - 113 in this section.

Straight Section Numbering System

Prefix

346 G VT - 12 - 144

- **Length**
- **Width**
- **Bottom Type**
- **Material**
- **B-Line Series**

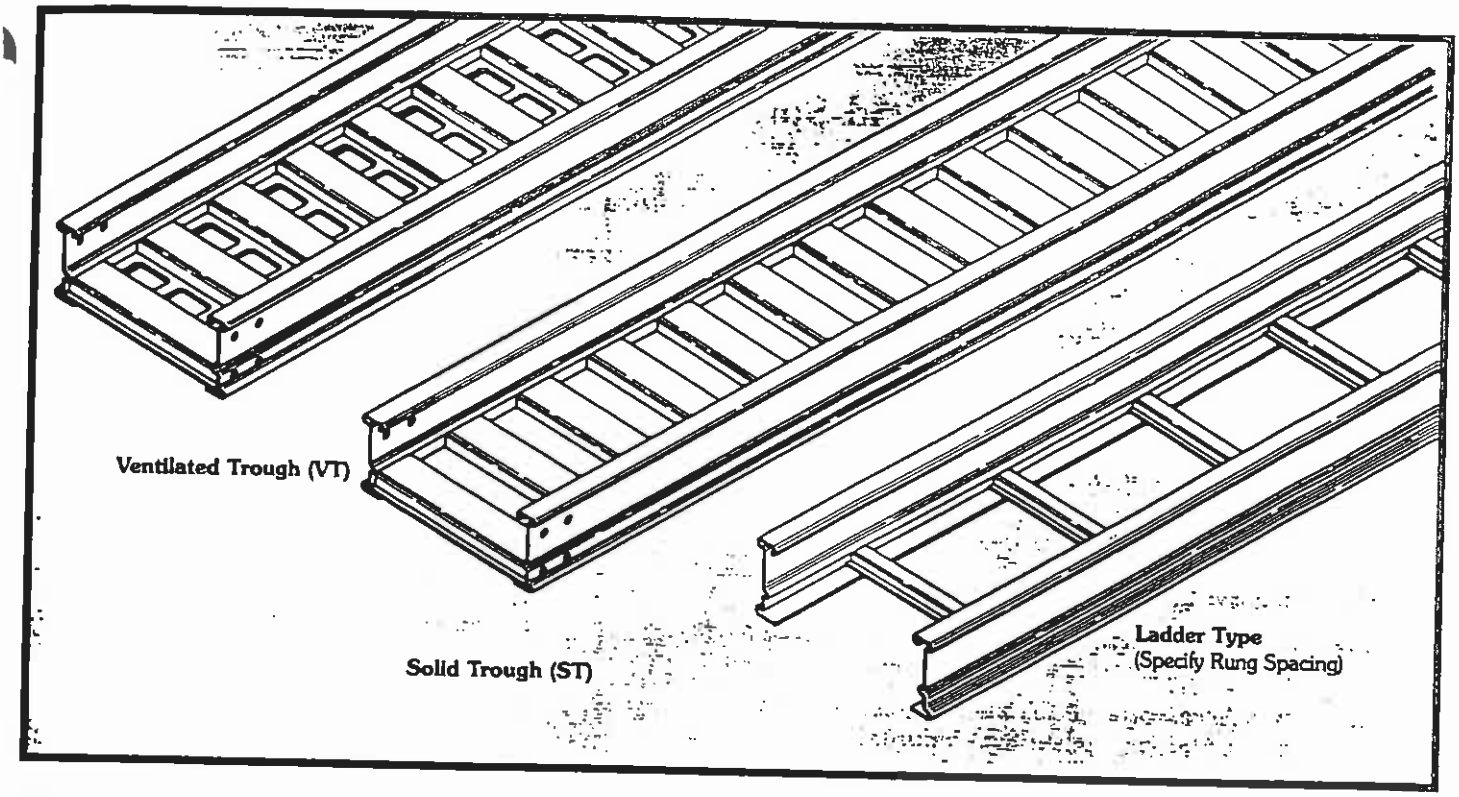
Length: 144, 288
Width: 06, 09, 12, 18, 24, 30, 36, 42
Bottom Type: 06, 09, 12, 18 = Rung Spacing
VT = Ventilated Trough
ST = Solid Trough
Material: P = Pre-Galvanized Steel
G = Hot Dip Galvanized After Fabrication
Series: 248, 346, 444

B-Line Series	Safety Factor	Span (Ft.)»	6	8	10	12	14	16
248	1.5	Load Lbs./Ft.	403	227	145	101	74	57
		Deflection In.	0.25	0.45	0.71	1.02	1.38	1.81
	K Factor		.001	.002	.005	.010	.019	.032

B-Line Series	Safety Factor	Span (Ft.)»	8	10	12	14	16	18	20
346	1.5	Load Lbs./Ft.	320	205	142	105	80	63	51
		Deflection In.	0.42	0.65	0.94	1.28	1.67	2.11	2.61
	K Factor		.001	.003	.007	.012	.021	.033	.051

B-Line Series	Safety Factor	Span (Ft.)»	12	14	16	18	20	22	24
444	1.5	Load Lbs./Ft.	218	160	123	97	78	65	54
		Deflection In.	1.17	1.60	2.08	2.64	3.26	3.94	4.69
	K Factor		.005	.010	.017	.027	.041	.061	.086

Cable trays will support without collapse a 200 lb. concentrated load over and above published loads (See Concentrated Loads on pages 12 & 13). To convert 1.5 Safety Factor to 2.0, multiply published loads by 0.75.

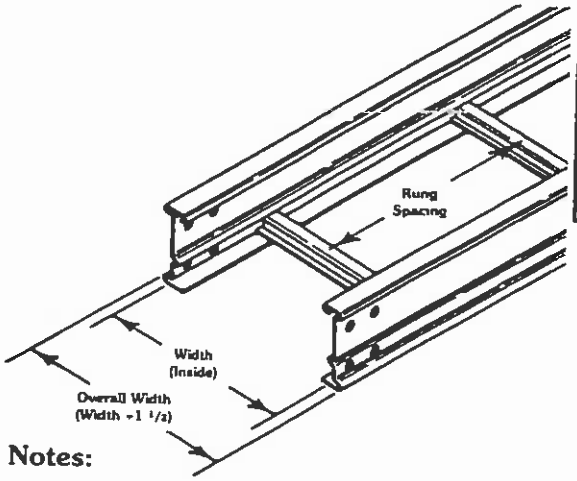


B-Line Series	Dimensions	Design Factors for Two Rails	NEMA & UL Classifications
248	1.00; 4.188; 3.14*	Ix = 1.34 in⁴ Sx = 0.72 in³	Exceeds NEMA Class Designations. 16A, 12A, 12B, 12C, 8A, 8B, 8C Classified UL Cross-Sectional Area - 0.40 in² per NEC318-7

B-Line Series	Dimensions	Design Factors for Two Rails	NEMA & UL Classifications
346	1.50; 4.188; 3.13*	Ix = 2.04 in⁴ Sx = 1.16 in³	Exceeds NEMA Class Designations: 20A, 16A, 16B, 12A, 12B, 12C, 8A, 8B & 8C Classified UL Cross-Sectional Area - 0.70 in² per NEC318-7

B-Line Series	Dimensions	Design Factors for Two Rails	NEMA & UL Classifications
44	1.50; 4.188; 3.11*	Ix = 2.56 in⁴ Sx = 1.46 in³	Exceeds NEMA Class Designations: 20A, 20B, 16A, 16B, 16C, 12A, 12B, 12C, 8A, 8B & 8C Classified UL Cross-Sectional Area - 1.00 in² per NEC318-7

Design Factors: Ix = Moment of Inertia, Sx = Section Modulus, * = Usable Loading Depth



Steel Tray

Notes:

Data tabulated here applies to cable trays supported as simple spans with the deflection measured at the midpoint. Values are based on 36" wide cable trays with rungs spaced on 12" centers.

When trays are used in continuous spans, the deflection of the tray is reduced by as much as 50%.

To obtain deflection at any span length for lighter loads than listed, multiply the load by the K factor.

Material and Finish Specifications

	Pre-Galvanized Steel	Hot Dip Galvanized
Side Rails (14 Ga.)	ASTM A446 Gr A	ASTM A570 Gr. 33
Side Rails (16, 18 Ga.)	ASTM A526	ASTM A611 Gr. C
Rungs:	ASTM A526	ASTM A611 Gr C
Bottoms:	ASTM A526	ASTM A366
Splice Plates	ASTM A607 Gr. 50**	ASTM A607 Gr. 50
Finish:	ASTM A525	ASTM A123

**Splice Plates for Pre-Galvanized tray are Zinc Plated per ASTM B633-SC3.

CERTIFICATE OF CONFORMANCE

66

P. O. No.: 7989-4739 REV. NA
C.O. 9969Q
SPECIFICATION: CATALOG CT3 REV. NA

PRIME VENDOR: B-LINE SYSTEMS, INC.

SUPPLIER: SAME

ADDRESS: 509 WEST MONROE ST., HIGHLAND, ILLINOIS 62249

DESCRIPTION OF EQUIPMENT: ALL ITEMS SUPPLIED CONFORM TO THE PARTS LISTED IN B-LINE SYSTEMS CATALOG # CT3. ITEMS SHIPPED ARE SHOWN ON SHIPPING ORDER # 7989-4739

IDENTIFICATION: ON ATTACHED SHIPPING ORDER

APPROVED EXCEPTIONS: None

M.T.R.'S ATTACHED: NA

SUPPLIERS CERTIFICATION

This is to certify that the products identified herein have been manufactured/supplied under B-Line Systems approved quality assurance program and are in comformance with the procurement quality requirements including applicable codes, standards, and specifications as identified in the above referenced documents. Any supporting documentation will be forwarded or retained in accordance with purchase order requirements.

Signature: Lawrence L Prides

Date: 12-1-95

Title: QUALITY ASSURANCE INSPECTOR

Organization: B-LINE SYSTEMS, INC.

B-LINE ® SYSTEMS, INC.
509 West Monroe Street
Highland, IL 62249, U.S.A
Phone: 618/654-2184

B-Line Systems INC. ®

Bill of Lading has been issued and is not the original. ...
ing the property named herein, and is intended solely for filing or record.

...ne receipt by the carrier of the property described in the Original Bill of Lading, ... on contents of packages unknown), marked consigned, and destined as indicated below, which said ... corporation in possession of the property under the contract) agrees to carry to its usual place of de... to said destination, it is mutually agreed, as to each carrier of all or any of said property over all or ... any of said property, that every service to be performed hereunder shall be subject to all the terms ... thereof, Western and Illinois Freight Classifications in effect on the date hereof, if this is a rail or a ... carrier shipment, including those on the back hereof, set forth in the classification or tariff which ... d bill of lading, including those on the back hereof and his assigns. ... red to by the shipper and accepted for himself and his assigns.

4

B/L NO. 0042 ...

SHIPPER'S NO. 7989-4739

NAME OF CARRIER

MS, INC.

(Mail or street address of consignee — For purposes of notification only.)

PO# 7989

DATE	
12/07/95	
ORIGIN STL	DEST. SAT
BL# 0042 7329	

3147

Car or Vehicle Initials No.

SCRIPTION CIAL PTIONS	*WEIGHT (SUBJECT TO CORRECTION)	CLASS OR RATE	CLASS	RATE	TOTAL CHARGES
Channels, NOI Iron or Steel Item No. 104850					
Braces, Brackets NOI, Iron or Steel 3/16" Thick or Thicker Item No. 104600	11#	50			
Cable Racks; Trays Troughs or Cable Way Aluminum Straight Section and Curved Fittings. Item No. 61220 - Sub 2					
Cable Racks, Trays Troughs or Cable Way Steel 16 Gauge or Thicker Straight Sections and Curved Fittings Item No. 61220 - Sub 1	278#	60			
Clips, Fasteners or Mounts, Steel, 94230					
3. = 289#					

Subject to Section 7 of conditions of applicable bill of lading, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:

The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

B-LINE SYSTEMS, INC.

(Signature of Consignor)

If charges are to be prepaid, write or stamp here, "To be Prepaid."

PREPAID

Received $ to apply in prepayment of the charges on the property described hereon.

Agent or Cashier.

Per

(The signature here acknowledges only the amount prepaid.)

Charges Advanced:

$

C.O.D. CHARGES TO BE PAID BY

Shipper ☐ Consignee ☐

and Remit to

Street City State

*State whether it is carrier's or shipper's weight.

The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding ... dollars per ... or declared value of the property.

Pikes, Jim

The Fibre Boxes used for this shipment conform to the specifications set forth in the box maker's certificate thereon, and all other requirements of Consolidated Freight Classification.

Per

Agent, Per

Per

Form 103

2

DATE: 12/11/95

Q/A RECEIVING REPORT

CLIENT/PROJECT NAME Omega Point Labs
CLIENT/PROJECT NUMBER OPL Equipment
RECEIVED FROM Brand-Rex Co.
PROJECT LOCATION Omega Point Labs

REPORT NUMBER 1591 - OPL
DATE RECEIVED 4-24-96
DATE INSPECTED 4-25-96
INSPECTED BY: C Patton

ITEM DESCRIPTION	P.O. NO.	QUANTITY			I.D. NO.	COND MATL Y/N	CERT. RECD Y/N	CONTAINER INTEGRITY	EXCEPTIONS	ACCEPTANCE			REMARKS
		Order	Rec'd	B.O.						Accept	Hold	Reject	
3/Cond 06 AWG	10046Q	4500'	4878'	0	T-7602 (3/06) BLK	Y	Y	GOOD	None	X			Ampacity testing Project no. 99233

FORM
1/29/93

OMEGA POINT LABORATORIES
16015 SHADY FALLS RD.
ELMENDORF, TEXAS 78112
PH. (210) 635-8100

PURCHASE ORDER

PO Number: **10046Q**

Date 2/8/96
Page: 1

Order From: Brand-Rex Company
1600 West Main Street
Willimantic CT
06226-1128

Deliver to: Omega Point Laboratories, Inc.
16015 Shady Falls Road
Elmendorf, Texas 78112-9784

Vendor # 9187

Your Item Number / Item Description	Our Reference	Qty Ordered	Units	Unit Cost	Extension
001 3/Cond 06 Awg	MS-10046Q-OPL	4,500.00	Feet	$2.092	$9,414.00

Description- 600 Volt 90°C -7 Strand
46 mils FRXLPE Insulation per ICEA Method 1 K1
Overall Hypalon Jacket , O.D .750 nom.
1000' min lengths, longest possible (no ground)

"See Special Instructions Regarding Purchasing Specifications for Quality Assurance Requirements."
QA Approval C Humphrey
Date 2/8/96

SPECIAL INSTRUCTIONS:
Seller to furnish items per attached purchasing specification MS-10046Q-OPL and Brand-Rex quotation dated 01/21/96

Please Quote Purchase Order Number on all correspondence.

Subtotal:	$9,414.00
Freight:	$0.00
Tax amount:	$0.00
Total Value:	$9,414.00

080625/11-89

OMEGA POINT LABORATORIES
PURCHASING SPECIFICATIONS

SPECIFICATION NUMBER: MS-10046Q-OPL

VENDOR: Brand Rex

VENDOR PRODUCT NUMBER: _____

PRODUCT DESCRIPTION: 3c/6 awg, 600 volt FRXLPE Hypalon jacket electrical cable .750 nom. O.D.

Material as defined above shall be provided in accordance with the Critical Characteristics as listed below:

TEST	DESCRIPTION	SPECIFICATION RANGES MINIMUM	MAXIMUM
IEEE-383 1974	Std. for type test of class 1E electrical cable	meets or exceeds requirements	

10 CFR 50 App. B Quality Assurance Program

Accept 10 CFR Part 21

QUALITY ASSURANCE REQUIREMENTS

1.0 QUALITY PROGRAM

Seller shall furnish this item in accordance with Quality Program approved by Omega Point Laboratories. Material specified herein is to be produced and tested in accordance with vendor quality standards, methods, guidelines and manufacturing instructions as defined in that Quality Program.

QA Program to be audited 3/4/96 by OPL QA personnel. 2/8/96 CH

2.0 QUALITY VERIFICATION

Receiving Inspection - Buyer shall inspect items upon receipt to verify compliance with purchase order requirements. Rejected items shall be returned at seller's expense.

Document Review - Final acceptance shall be based on satisfactory review of required certifications and/or supporting documents.

3.0 CERTIFICATIONS

3.1 Certification that supplied materials comply with this material specification and listing Critical Characteristics shall be provided. This certificates shall reference Omega Point Labs purchase order number and specification number for all material furnished under this specification. This Certification shall be signed by the appropriate vendor representative.

3.2 The material furnished under this specification shall be a product that complies with the following:

3.2.1 Has been tested and passed all tests specified herein.

3.2.2 Manufacturing methods for this material have not changed. Vendor will advise Omega Point in writing of any changes in the manufacturing prior to material manufacture.

3.2.3 Raw materials used in the manufacture of this material meet Vendor specifications.

4.0 AUDITS/RIGHTS OF ACCESS

Omega Point Labs reserves the right to audit your facility to verify compliance with the purchase order and specification requirements with a minimum ten (10) day notice.

5.0 IDENTIFICATION

Seller shall identify each item with a unique traceability number by physical marking or tagging. These identification numbers shall be traceable to certifications and packing lists.

6.0 PACKING/SHIPPING

All materials shall be packaged in air tight, moisture free containers and shall be free of foreign substances such as dirt, oil, grease or other deleterious materials.

All materials shall be suitably crated, boxed or otherwise prepared for shipment to prevent damage during handling and shipping.

QUALITY ASSURANCE APPROVAL

C Humphrey

Title QA Mgr.

Date 2/8/96

C H

AVL Verification

Class: A

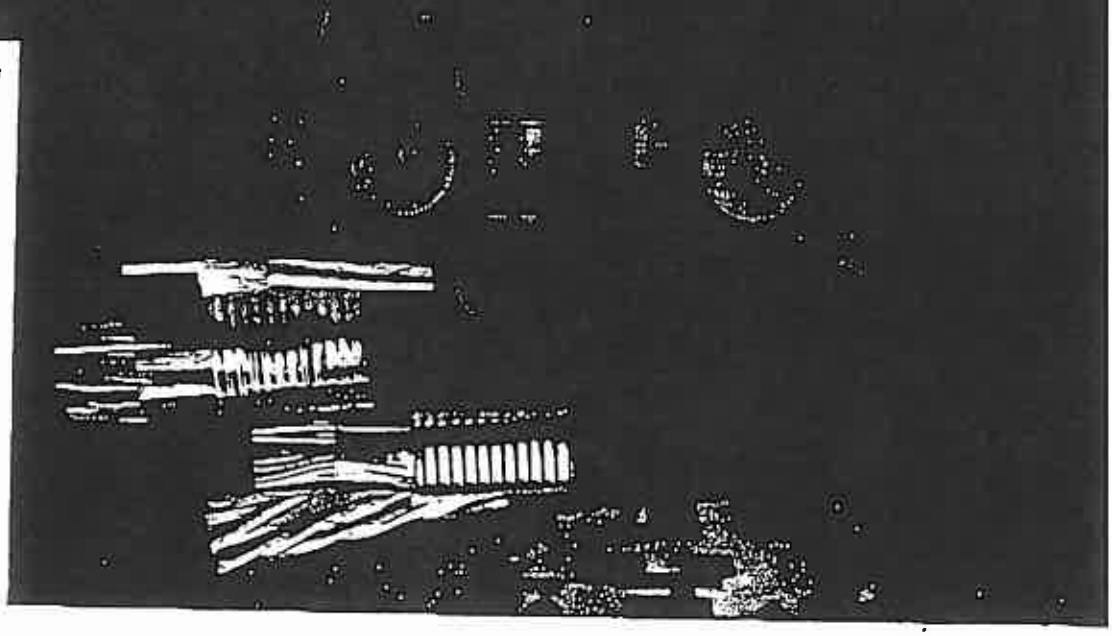
BRAND-REX COMPANY

An Affiliate of Cablec Corporation

Leadership Through Cable Technology

Brand-Rex Nuclear Products Stock Program.

Committed to meeting your toughest specifications.



Over 30 nuclear utility customers are currently using the Brand-Rex nuclear stock program.

For over a decade, Brand-Rex has answered the needs of the nuclear utility industry with ULTROL® Insulated Cables. Developed and manufactured by Brand-Rex, they not only meet but also exceed the specifications set forth by the utility industry, IEEE and NRC.

Brand-Rex is committed to the Nuclear Power Industry with a mission to continue the premier product stocking program and dedicate our efforts to the future of nuclear cable products. A commitment which has been reaffirmed by Brand-Rex's recent affiliation with Cablec Corporation. A relationship which has provided Brand-Rex with valuable added resources.

ULTROL Quality Control.

Brand-Rex developed ULTROL cable products using a flame retardant, irradiated XLPE and an overall heavy-duty, flame resistant Hypalon® jacket. All ULTROL cable products have undergone extensive, long-term qualification testing. Brand-Rex makes sure that all of its nuclear cable products meet and exceed ICEA, IEEE and ANI standards.

This commitment to quality control and quality assurance has made Brand-Rex the leading supplier to the nuclear utilities and large military market.

Products Stocked.

Brand-Rex stocks a variety of power, control, instrumentation, communication, switchboard, coaxial and triaxial cables for the utilities industry. All are constructed using the ULTROL design to provide 40 years of service.

POWER & CONTROL CABLE: ULTROL 600V cable provides excellent resistance to radiation, moisture and flame. The cable also maintains integrity for the required time after a LOCA event.

INSTRUMENTATION CABLE: ULTROL instrumentation cable is rated at 600V and is available in twisted, shielded pairs. Each pair is taped to provide pair to pair isolation.

COMMUNICATION CABLE: Brand-Rex manufactures multipair, overall copper shielded, communication (telephone) cable using the ULTROL design.

SWITCHBOARD/PANEL WIRE: Brand-Rex stocks ULTROL Insulated 600 Volt, nuclear class switchboard wire. It is IE rated, fully traceable and flame retardant and has the identical insulation system to that of the ULTROL control cable.

COAXIAL AND TRIAXIAL CABLES: Brand-Rex stocks a variety of fully qualified cables for transmission purposes in electronic systems. Unlike standard coaxial and triaxial cables, they are radiation and flame retardant and will not propagate fire. They have also passed a LOCA qualification program and are recommended for generating plant applications.

For more information concerning availability and cable lengths, contact:

Utility Products
Brand-Rex Company
1600 West Main Street
Willimantic, CT 06226-1128
PHONE: (203) 456-8000
FAX: (203) 456-1305

600 Volt Power & Control Cable Stock

Flame retardant, nuclear qualified

CONDUCTOR: Class C stranding, bare copper
JACKET: Heavy duty Hypalon Per ICEA S-19-81
JACKET PRINT: Brand-Rex XLP/CU Power & Control Cable #/C # AWG 600V SUN RES DB XHHW, Type TC (UL). Month/year unique Serial No. sequential footage mark
INSULATION: Flame retardant XLPE per ICEA S-66-524
COLOR CODE: Method 1 per ICEA S-66-524 appendix K

(See T-7600 series catalogs UC8001 & PC-8101 for more information)

AWG	14	12	10
CONDUCTOR	2 FLAT, 2, 3, 4, 5, 7, 9, 12, 14, 19, 37	2, 3, 4, 5, 7, 9, 12	2, 3, 4, 5, 7, 12

AWG	8	6	4	2	2/0	500 MCM
CONDUCTOR	2, 4	2	3	3	3	3

Coaxial & Triaxial Cable Stock

Flame retardant, nuclear qualified

JACKET PRINT: Brand-Rex (Part #) Coaxial RG-Type month/year unique Serial No. sequential footage mark

(See catalog UC-8201 for more information)

PART NO.	CS50060	CS50116	CS50185	CS50285	CS75146	CD75185	CS75285	CD75285	CS95146	CD95146	CS62146	TS50285	TS75285	TCD95285
RG EQUIVALENT	174/U	58C/U	50 OHM	213/U	59B/U	6 A/U	11A/U	216/U	62B/U	71B/U	62 OHM	213/U	11A/U	22B/U

ULTROL Switchboard or Panel Wire

Flame retardant, nuclear qualified

CONDUCTOR: Class K tinned copper
INSULATION: Flame retardant crosslinked polyethylene
COLOR: Gray
PRINT LEGEND: "Brand-Rex XLP/CU SIS Type - AWG Class K 600V 90°C" year mfg.

(See data sheet T-61057 series for more information)

AWG	16, 14, 12, 10

600V Instrumentation Cable Stock

Flame retardant, nuclear qualified

CONDUCTOR: Class C tinned copper
JACKET: Heavy duty Hypalon
JACKET PRINT: Brand-Rex ULTROL instrumentation cable 600V # shielded pair #16 AWG month/year unique Serial No. Sequential footage mark
INSULATION: XLPE
SHIELD: Each pair aluminum mylar with 16 AWG tinned copper drain wire
COLOR CODE: Black & white pairs with numbers

T-7506 Series

(See data sheet T-7506 series for more information)

AWG	16
PAIR	1 PR, 2 PR, 3 PR, 4 PR, 12 PR, 1 TRIAD

Communication Cable

Flame retardant, nuclear qualified

CONDUCTOR: Solid bare copper
JACKET: Heavy duty Hypalon
JACKET PRINT: Brand-Rex #PR #AWG communication cable month/year unique Serial No. Sequential footage mark
INSULATION: XLPE
SHIELD: 5 MIL longitudinally applied tinned corrugated copper
COLOR CODE: Per REA PE-22

T-7243, T-7244 Series

(See catalog UC-8102 for more information)

AWG	19	22
PAIR	3 PR, 6 PR, 12 PR, 25 PR, 50 PR	2 PR, 6 PR, 12 PR, 25 PR, 50 PR, 100 PR

© 1989, Brand-Rex Company

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600 Volt ULTROL Power and Control Cable
Technical Data

	No. of Cond.	Brand-Rex Part No.	Jacket Thick. (in.)	Cable Diam. (in.)	Cable Weight (lbs./M')	Copper Weight (lbs./M')	Heat of Combust. (BTU/ft.)	Cable Area (sq. in.)	Bend Radius (in.)	Max. Pull Tension By Conductors (lbs.)	Max. Pull Tension By Jacket (lbs.)
12 AWG (19/.0185)	2	UC-7600 (2/12)	.045	.410	95	41.1	558	.132	1.6	104	53
	3	UC-7600 (3/12)	.045	.430	124	61.7	656	.145	1.7	156	57
	4	UC-7600 (4/12)	.045	.470	153	82.3	774	.173	1.9	208	63
	5	UC-7600 (5/12)	.045	.515	187	102.8	897	.208	2.1	260	69
	6	UC-7600 (6/12)	.060	.595	240	123.4	1248	.278	2.4	312	105
	7	UC-7600 (7/12)	.060	.595	264	143.9	1319	.278	2.4	364	105
	8	UC-7600 (8/12)	.060	.645	298	164.5	1465	.327	2.6	416	115
	9	UC-7600 (9/12)	.060	.690	334	185.1	1610	.374	2.8	468	124
	10	UC-7600 (10/12)	.060	.750	367	205.6	1772	.442	3.0	520	136
	11	UC-7600 (11/12)	.060	.750	394	226.2	1843	.442	3.0	572	136
	12	UC-7600 (12/12)	.060	.775	425	246.8	1951	.472	3.1	624	140
	13	UC-7600 (13/12)	.060	.815	461	267.3	2084	.522	3.3	676	148
	14	UC-7600 (14/12)	.060	.815	485	287.9	2156	.522	3.3	728	148
	15	UC-7600 (15/12)	.080	.900	564	308.5	2769	.636	3.6	780	218
	16	UC-7600 (16/12)	.080	.900	588	329.0	2840	.636	3.6	832	218
	18	UC-7600 (18/12)	.080	.950	653	370.1	3080	.709	3.8	936	230
	19	UC-7600 (19/12)	.080	.950	677	390.7	3151	.709	3.8	989	230
	20	UC-7600 (20/12)	.080	.995	719	411.3	3222	.778	4.0	1041	243
	22	UC-7600 (22/12)	.080	1.040	784	452.4	3565	.849	5.2	1145	256
	24	UC-7600 (24/12)	.080	1.100	842	493.5	3830	.950	5.5	1249	272
	26	UC-7600 (26/12)	.080	1.100	896	534.6	3973	.950	5.5	1353	272
	27	UC-7600 (27/12)	.080	1.130	927	555.2	4093	1.003	5.7	1405	278
	28	UC-7600 (28/12)	.080	1.170	966	575.8	4274	1.075	5.9	1457	289
	30	UC-7600 (30/12)	.080	1.170	1017	616.9	4391	1.075	5.9	1561	289
	32	UC-7600 (32/12)	.080	1.210	1084	658.0	4627	1.150	6.1	1665	301
	34	UC-7600 (34/12)	.080	1.260	1152	699.2	4866	1.247	6.3	1769	313
	36	UC-7600 (36/12)	.080	1.260	1200	740.3	5009	1.247	6.3	1873	313
	37	UC-7600 (37/12)	.080	1.260	1224	760.8	5081	1.247	6.3	1925	313
10 AWG (19/.0234)	2	UC-7600 (2/10)	.045	.455	128	65.3	642	.163	1.8	167	61
	3	UC-7600 (3/10)	.045	.485	171	97.9	758	.185	1.9	250	65
	4	UC-7600 (4/10)	.060	.565	235	130.6	1110	.251	2.3	333	99
	5	UC-7600 (5/10)	.060	.615	282	163.2	1275	.297	2.5	416	109
	6	UC-7600 (6/10)	.060	.670	333	195.8	1443	.353	2.7	499	120
	7	UC-7600 (7/10)	.060	.670	369	228.5	1528	.353	2.7	583	120
	8	UC-7600 (8/10)	.060	.725	417	261.1	1699	.413	2.9	666	131
	9	UC-7600 (9/10)	.060	.780	469	293.8	1870	.476	3.1	749	142
	10	UC-7600 (10/10)	.080	.890	557	326.4	2527	.622	3.6	832	215
	11	UC-7600 (11/10)	.080	.890	597	359.0	2612	.622	3.6	916	215
	12	UC-7600 (12/10)	.080	.920	643	391.7	2753	.665	3.7	999	223
9 AWG (19/.0262)	2	UC-7600 (2/09)	.045	.485	145	77.5	711	.185	1.9	209	65
	3	UC-7600 (3/09)	.045	.515	195	116.3	848	.208	2.1	313	69
	4	UC-7600 (4/09)	.060	.595	268	155.0	1237	.278	2.4	417	106
	5	UC-7600 (5/09)	.060	.650	323	193.8	1426	.332	2.6	522	117
	6	UC-7600 (6/09)	.060	.710	361	232.6	1619	.396	2.8	626	128
	7	UC-7600 (7/09)	.060	.710	423	271.3	1723	.396	2.8	730	128
8 AWG (19/.0295)	2	UC-7600 (2/08)	.060	.605	213	102.0	1061	.287	2.4	265	107
	3	UC-7600 (3/08)	.060	.640	283	153.0	1230	.322	2.6	397	114
	4	UC-7600 (4/08)	.060	.700	358	204.0	1440	.385	2.8	529	126
	5	UC-7600 (5/08)	.060	.770	433	255.0	1660	.466	3.1	661	140
	6	UC-7600 (6/08)	.080	.885	553	306.0	2346	.615	3.5	794	213
	7	UC-7600 (7/08)	.080	.885	612	357.0	2461	.615	3.5	926	213
6 AWG (19/.0372)	2	UC-7600 (2/06)	.060	.695	303	165.4	1365	.379	2.8	421	125
	3	UC-7600 (3/06)	.060	.735	409	248.1	1625	.424	2.9	631	133
	4	UC-7600 (4/06)	.060	.810	521	330.8	1931	.515	3.2	841	148
4 AWG (19/.0649)	2	UC-7600 (2/04)	.060	.795	429	263.3	1610	.496	3.2	669	145
	3	UC-7600 (3/04)	.080	.885	628	395.0	2393	.615	3.5	1003	214
	4	UC-7600 (4/04)	.080	.970	799	526.6	2812	.739	3.9	1337	237

Note: All dimensions are nominal; all other values are approximate

BICCCables

BICC Brand-Rex Company
1600 West Main Street
Willimantic, Connecticut 06226-1128
Tel (860) 456-8000 Fax (860) 450-7007

INVOICE

SHIP TO:
OMEGA POINT LABORATORIES INC.
16015 SHADY FALLS ROAD
ELMENDORF, TX 78112

INVOICE NO.	CUSTOMER ORDER / RELEASE NO.
32888	100400

INVOICE DATE	BICC ORDER NO.	PAGE NUMBER
04/17/96	09371	1 OF 1

INVOICE TO:
OMEGA POINT LABORATORIES INC.
16015 SHADY FALLS ROAD
ELMENDORF, TX 78112

REMIT TO:
BICC BRAND-REX COMPANY
P.O. BOX 92517
CHICAGO, IL 60675-2517

CARRIER	PRO NO.	BILL OF LADING NO.	SHIPPING POINT	DATE SHIPPED
CONS		[illegible]	[illegible]	[illegible]

INVOICE TERMS	INSPECTION	GROSS WEIGHT	TOTAL SHIPPED	SHIPPING NO.
NET 30 DAYS	CUFC/CTD/[illegible]	[illegible]		[illegible]

FREIGHT TERMS	DELIVERY TERMS	SALES REPRESENTATIVE	CUSTOMER NO.	UPC VENDOR NO
PPD & BILL	BW	[illegible]	[illegible]	

ITEM	PRODUCT NUMBER / DESCRIPTION	QUANTITY ORDERED	UM	QUANTITY SHIPPED	UNIT PRICE	UM	AMOUNT
01	20 276030 00 T-7502 (3/06) BLACK	[illegible]	FT	[illegible]	[illegible]	MFT	[illegible]
A0	JUSTMENTS						
UPP	ER-COP 248.01 LBS	UNIT/MEAS M/FT	BASE 1.2800 TI	CURRENT 1.00	PER LB		96.77
		TOTAL ADJUSTMENT		THIS ITEM		=	96.77
	COMPLETE						

GOVERNMENT CONTRACT NO.			
	No material may be returned without proper authorization and approval. No cash discount allowed on charges for freight, reels, spools, or import duty. Bills not paid when due are subject to interest from date of maturity.	MERCHANDISE TOTAL	[illegible]
SPECIAL INSTRUCTIONS:	For billing inquiries, call Billing Dept. · 860-456-8000	TAXES	
		FREIGHT CHARGES	257.33
		INVOICE TOTAL	[illegible]

BICC Cables

BICC Brand-Rex Company
1600 West Main Street
Willimantic, Connecticut 06226-1128
Tel (860) 456-8000 Fax (860) 423-8128

4/12

PACKING SLIP

MEZZ 405

C4,

SOLD TO:	ORDER DATE	CUSTOMER ORDER / RELEASE NO.
OMEGA POINT LABORATORIES INC. 16015 SHADY FALLS ROAD ELMENDORF, TX 78112	02/09/96	10046Q

BICC ORDER NO.	BICC ORDER DATE	PAGE NUMBER
09371	02/15/96	1 OF 1

CORRESPONDENCE TO:	SHIP TO:
BICC BRAND-REX COMPANY 1600 WEST MAIN STREET WILLIMANTIC, CT 06226-1128	OMEGA POINT LABORATORIES INC. 16015 SHADY FALLS ROAD ELMENDORF, TX 78112 42

CARRIER	DELIVERY TERMS	FREIGHT TERMS	SHIPPING POINT
	BW	PPY & BILL	WILLIMANTIC, CT

INSPECTION	SALES REPRESENTATIVE	MARKET	CUSTOMER NO.	DATE SHIPPED	UPC VENDOR NO
IFC/CTD/*SRC	F1	0	12208-00		

ITEM	PRODUCT NUMBER / DESCRIPTION	QUANTITY ORDERED	UM	SCHEDULED DATE	PKGS.	REC'D	QUANTITY SHIPPED
01	20 27803_ 00 BICC BRAND-REX PN T-7602 (3/06) 1000' MIN NOM OD .750 BLACK	4,500	FT	4/12	4	8	7 8
				O.S.			
				637563	1	2	6 3 8
				637562	1	2	2 4 0

REFER QUESTIONS TO EXTENSION: 425 ESCALATION:

SPECIAL INSTRUCTIONS:	TOTAL PKGS.	TOTAL WEIGHT:
2, L76 RCHASING SPEC MS-10046Q-OPL 1236 EE 383 1000 TD TO CUST PO 1-40" 1-36"	2 Reels	2236#
	BILL OF LADING NO.	SHIPPING NO.

TE RECEIVED:	RECEIVED BY:	TOTAL RECEIVED:	PACKER:
			TOM

BRAND-REX COMPANY
WILLIMANTIC CT.
CERTIFIED TEST DATA # 09371-01-01

12208
O: OMEGA POINT LABORATORIES INC.
16015 SHADY FALLS ROAD
ELMENDORF, TX 78112

DATE: APR 15, 1996
ORDER NO: 10046Q
B/R ORDER NO: 09371-01
ITEM NO: 001
SPECIFICATION: MS-10046Q-OPL
B/R PART NO: T-7602 (3/06)

MFG DATE: APR 09, 1996

CHARACTERISTICS	REQUIREMENTS		RESULTS	
ONDUCTOR				
TYPE	#6 AWG, BARE COPPER		CONFORMS	
NO. OF STRANDS	7		7	
STRAND O.D.	.0612"	NOM.	.0612"	
CONDUCTOR O.D.	.180"	NOM.	.180"	
NSULATION				
TYPE	XLPE		CONFORMS	
DIAMETER	.272"	NOM.	.272"	
WALL THICKNESS	.045"	AVG.	.045"	
	.0405"	MIN.	.044"	
TENSILE STRENGTH	1800 PSI	MIN.	2051	PSI
ELONGATION	150 %	MIN.	400	%
AGED 168 HRS. @121 DEG. C				
TENSILE RETENTION	85 %	MIN.	112	%
ELONGATION RETENTION	60 %	MIN.	104	%
HEAT DISTORTION @121 DEG. C	30 %	MAX.	6.2	%
SOLVENT EXTRACTION	30 %	MAX.	12	%
VERTICAL FLAME TEST	1 MINUTE	MAX.	PASS	
COLOR CODE	ICEA METHOD 1		CONFORMS	
ACCELERATED WATER ABSORPTION				
DIELECTRIC CONSTANT @24 HRS.	6.0	MAX.	3.4	
1 - 14 DAY INCREASE	4.0 %	MAX.	1.8	%
7 - 14 DAY INCREASE	2.0 %	MAX.	1.0	%
STABILITY FACTOR @14 DAYS	1.0	MAX.	0.6	
ABLING				
NO. OF COMPONENTS	3		3	
CABLE LAY	8 1/4" LHL		8 1/4"	LHL
FILLERS	3-CPF130		CONFORMS	
TAPE	.002" MYLAR TAPE		CONFORMS	
TAPE LAP	25 %	MIN.	26	%
ACKET				
TYPE	HYPALON		CONFORMS	

AUDITED BY 1

RAND-REX COMPANY
ILLIMANTIC CT.
CERTIFIED TEST DATA # 09371-01-01
PAGE 2

B/R ORDER NO: 09371-01

ORDER NO: 10046Q

CHARACTERISTICS	REQUIREMENTS		RESULTS	
JACKET CONT.				
COLOR	BLACK		CONFORMS	
DIAMETER	.750"	NOM.	.735"	
WALL THICKNESS	.060"	AVG.	.070"	
	.048"	MIN.	.068"	
TENSILE STRENGTH	1800 PSI	MIN.	2353	PSI
ELONGATION	300 %	MIN.	475	%
TENSILE STRESS @200 %	500 PSI	MIN.	706	PSI
TENSION SET	30 %	MAX.	12.5	%
AGED 168 HRS. @100 DEG. C				
TENSILE RETENTION	85 %	MIN.	112	%
ELONGATION RETENTION	65 %	MIN.	100	%
OIL IMMERSION 18 HRS @121 DEG. C				
TENSILE RETENTION	60 %	MIN.	98	%
ELONGATION RETENTION	60 %	MIN.	80	%
IDENTIFICATION	BRAND-REX XLP/CU POWER & CONTROL 3/C #6 600V SUN RES DB XHHW TYPE TC (UL) MO/YR UNIQUE SERIAL NO. SEQUENTIAL FOOTAGE MARK		CONFORMS	
LECTRICALS				
DIELECTRIC STRENGTH				
CONDUCTOR TO CONDUCTOR	5500 V AC - 5 MINUTES		PASS	
CONDUCTOR CONTINUITY	NO OPENS		PASS	
INSULATION RESISTANCE @15.6 DEG. C	1792 MEGOHMS/1000'	MIN.	5449	MEGOHMS
CONDUCTOR RESISTANCE @25 DEG. C	.428 OHMS/1000 FT.	MAX.	.421	OHMS

HIPMENT DATA

OTAL QUANTITY	4,878	FEET
OTAL REELS	2	REELS
EEL # SEE ATTACHED		

HIS IS TO CERTIFY THAT THE AFOREMENTIONED MATERIAL WAS MANUFACTURED TO, ESTED TO, AND ACCEPTED IN ACCORDANCE WITH P.O. 10046Q AND THE SPECIFICA-ION MS-10046Q-OPL. IT IS FURTHER CERTIFIED THAT THE AFOREMENTIONED ATERIAL MEETS THE REQUIREMENTS OF IEEE STD 323-1974 AND 383-1974 AS ESCRIBED IN TEST REPORTS F-C5120-1 (8/19/80) AND F-C5120-3 (11/18/81).

BRAND-REX COMPANY

NATHAN S. KITCHEN
QUALITY ASSURANCE MANAGER

RAND-REX COMPANY
ILLIMANTIC CT.
ERTIFIED TEST DATA # 09371-01-01
AGE 3

B/R ORDER NO: 09371-01

ORDER NO: 10046Q

REEL NO.	FOOTAGE:	ACROMARKS TOP	BOTTOM	SERIAL NO.
637562	0002240	000002280	000000040	04-96-09-003
637563	0002638	000004928	000002290	04-96-09-004

ampacity cover

81

** TX CONFIRMATION REPORT ** AS OF FEB 12 '96 10:23 PAGE.01

OMEGA POINT LABS

	DATE	TIME	TO/FROM	MODE	MIN/SEC	PGS	CMD#	STATUS
07	02/12	10:21	203 450 7014	G3—S	02'12"	002	048	OK

** TX CONFIRMATION REPORT ** AS OF FEB 12 '96 10:15 PAGE.01

OMEGA POINT LABS

	DATE	TIME	TO/FROM	MODE	MIN/SEC	PGS	CMD#	STATUS
05	02/12	10:13	203 450 7014	G3—S	02'36"	003	045	OK

8wks

OMEGA POINT LABORATORIES, INC.
16015 SHADY FALLS ROAD
ELMENDORF, TEXAS 78112

Fax No: (210) 635-8101

Called 4/8/96 will ship 4/15 or 4/16 per marion

FAX TRANSMITTAL SHEET

TELECOPY TO: Marion Covell

COMPANY: Brand-Rex

TELECOPY FROM: Connie Humphrey

DATE: ~~2/8/96~~ 2/12/96 CH

FAX NUMBER: 860-450-7014

Called 4/22/96 9:10 am Per Marion shipped 4/17 consolidated

INSTRUCTIONS:
attached:
Purchase Order 10046Q
Purchasing Spec no. MS-10046Q-OPL
~~Credit References~~ sent 2/8/96 CH

Originals Sent Via:

_____U.S. Mail

_____Overnight Delivery Service

_X_FAX only; Originals Not Sent

If this transmission was incomplete, please notify the sender by telephone at (210) 635-8100.

Pages Transmitted, Including This Sheet: ~~5~~ 4 CH

OMEGA POINT LABORATORIES

** TX CONFIRMATION REPORT ** AS OF FEB 12 '96 10:15 PAGE.01

OMEGA POINT LABS

	DATE	TIME	TO/FROM	MODE	MIN/SEC	PGS	CMD#	STATUS
05	02/12	10:13	203 450 7014	G3--S	02'36"	003	045	OK

OMEGA POINT LABORATORIES, INC.
16015 SHADY FALLS ROAD
ELMENDORF, TEXAS 78112

Fax No: (210) 635-8101

FAX TRANSMITTAL SHEET

TELECOPY TO: Marion Covell

COMPANY: Brand-Rex

TELECOPY FROM: Connie Humphrey

DATE: ~~2/8/96~~ 2/12/96 CH

FAX NUMBER: 860-450-7014

INSTRUCTIONS:
attached:
Purchase Order 10046Q
Purchasing Spec no. MS-10046Q-OPL
~~Credit References~~ sent 2/8/96 CH

Originals Sent Via:

_____U.S. Mail

_____Overnight Delivery Service

__X__FAX only; Originals Not Sent

If this transmission was incomplete, please notify the sender by telephone at (210) 635-8100.

Pages Transmitted, Including This Sheet: 5-4 CH

OMEGA POINT LABORATORIES

Omega Point Laboratories, Inc.
16015 Shady Falls Road
Elmendorf, Texas 78112-9784
Phone: 210/635-8100
Fax: 210/635-8101
1-800-966-5253

Bank References:

Security National Bank
4949 Rittiman Road
San Antonio, TX 78218
210/734-7361
Contact: Ladd W. Roberts

Texas Commerce Bank
P.O. Box 10250
San Antonio, TX 78210
210/531-2024
Contact: Sandy Schwartz

Credit References:

Culebra Hardware
5943 Culebra Road
San Antonio, TX 78238
210/680-2465
Account#042

PMC Corporation
57 Harvey Road
Londonderry, NH 03053
603/432-9473
Customer #OMEG001

Computize
5545 NW Loop 410, Suite 103
San Antonio, TX 78238
210/520-8000
Customer #C100303

Alamo Crane Service, Inc.
15115 San Pedro
San Antonio, TX 78232
210/344-7370

Tax ID #: 74-2356353 **(Note:** we are not tax exempt nor are we a reseller)

Business Information:

Year Established and Incorporated: February 1985, State of Texas
Type of Business- Partnership/Corporation
Rated at D&B #13-183-0093
Former name- Southwest Certification Services, Inc. ('87)

Partner Information:

Deggary N. Priest
6146 Springtime
San Antonio, TX 78249

President

William E. Fitch
310 Laramie
San Antonio, TX 78209

Executive Vice President

Constance A. Humphrey
6625 Kitchener
San Antonio, TX 78240

Vice President

BRAND-REX COMPANY

Leadership Through Cable Technology

1600 West Main Street • Willimantic, CT 06226-1128 (203) 456-8000

OMEGA POINT LABORATORIES, INC
16015 Shady Falls Road
Elmendorf, TX 78112

QUOTATION NO. W _____

PAGE 1 OF 1
DATE Jan 21, 1996
YOUR REFERENCE

YOUR RFQ OF 1/19/96

WE ARE PLEASED TO QUOTE AS FOLLOWS SUBJECT TO TERMS AND CONDITIONS ON THE REVERSE SIDE:

YOUR PART NO.	BRAND-REX PART NO.	QUANTITY	PRICE

The BICC Brand-Rex Company offers the following Nuclear Grade Power & Control Cable, which certifies to IEEE 383, 323, Franklin Research Reports F-C5120 -1,-3, ICEA S-66-524, ICEA S-19-81, 10CFR Part 21, 10CFR 50 Appendix B.

Description			
600 Volt 90°C 7 strand 46 mils FRXLPE Insulation per ICEA Method 1 K1 Overall Hypalon Jacket 1000' min lengths, longest possible	3/Cond 06 Awg	4500 feet	$ 2092.00/mft

O.D. .740 Nom

Copper Base: 1.28 Comex Adjustable

Approved 2/8/96

Herbert W. Stanley II

.750

ORDERS RESULTING FROM ACCEPTANCE OF THIS QUOTATION ARE SUBJECT TO APPROVAL AND ACCEPTANCE BY OUR CREDIT DEPT.

DELIVERY: 8-10 weeks aro
MINIMUM CHARGES: $250.00 PER ORDER
SHIPPING TOLERANCES: ± 10%
TERMS: NET 30
F.O.B.: Willimantic, CT Prepay & Bill

COPIES

DURATION: This offer shall remain open for acceptance for a period of not more than thirty (30) days from the date appearing on this quotation.

BY Marion R. Covell
Marion R. Covell/Acct. Mgr./Utilities

BICCGroup
NORTH AMERICA

S-002.1
6/92

Q/A RECEIVING REPORT

OMEGA POINT LABORATORIES

CLIENT/PROJECT NAME Peak Seals
CLIENT/PROJECT NUMBER 14540-99416+99417
RECEIVED FROM 3M
PROJECT LOCATION Omega Point Labs

REPORT NUMBER 1579 . 14540
DATE RECEIVED 1-17-96
DATE INSPECTED 1-17-96
INSPECTED BY: C Patton

ITEM DESCRIPTION	P.O. NO.	QUANTITY Order	QUANTITY Rec'd	QUANTITY B.O.	I.D. NO.	COND MATL Y/N	CERT. RECD Y/N	CONTAINER INTEGRITY	EXCEPTIONS	ACCEPTANCE Accept	ACCEPTANCE Hold	ACCEPTANCE Reject	REMARKS
3m Interam E54A Mat	NA	~~0~~	12	~~0~~	3650318242 0060123011	Y	Y	Good	None	X			Receiving Verification Only
" "	NA	~~0~~	6	~~0~~	3650318249 0060123011	Y	Y	Good	None	X			
" "	NA	~~0~~	22	~~0~~	3650318245 0060123011	Y	Y	Good	None	X			
" "	NA	~~0~~	14	~~0~~	3650318244 0060123011	Y	Y	Good	None	X			
INTERAM FIREDAM 150 CAULK	NA	~~0~~	52	~~0~~	WS333R811W 98-0400-0723-3	Y	Y	Good	None	X			
INTERAM T-49 TAPE	NA	~~0~~	12	~~0~~	4300-13-11 98-0400-0172-3	Y	X	Good	None	X			
" "	NA	~~0~~	11	~~0~~	4234-10-9 98-0400-0172-3	Y	Y	Good	None	X			
3m INTERAM E54 MAT-49"X16'	NA	~~0~~	2	~~0~~	3640726206 0043913011	X	X	Good	None	X			
" "	NA	~~0~~	3	~~0~~	3640726159 0043913011	X	Y	Good	None	X			

FORM
1/29/93

3M General Offices

3M Center
St. Paul, MN 55144-1000
612 733 1110

* * * * * * * * *

* CERTIFICATE OF CONFORMANCE *

* * * * * * * * *

DESCRIPTION: **Nuclear Interam ™ E50 Series Mat:**
E-50A or E-50C Mat
E-53A or E-53C Mat C= Stainless Steel Foil
E-54A or E-54C Mat A= Aluminum Foil

This product was tested according to ASTM standards:
ASTM E119 Fire Tests of Building Construction and Materials.
ASTM E84 Surface Burning Characteristics Of Building Materials.

This material is classified by Underwriters Laboratories Inc. in the following categories: U.L. 263, U.L. 1709, U.L. 910, and U.L. 723.

This material is classified by Underwriters Laboratories as an Electrical Circuit Protective Material for use in electrical circuit protective systems 7, 8, and 9 for one (1) and three (3) hour fire ratings. System numbers are listed in the U.L. Building Materials Directory under E-50 series mats.

Fire Resistance Ratings for Columns in the U.L. Fire Resistance Directory. Structural Steel Designs X203, X204, and XR201.

The surface burning characteristics are:
Flame spread 0.7
Smoke development 0.0

This product is tested according to 3M Standard Number GP-18, GP-33, GP-35, or GP-36 and meets product requirements.

This product contains no asbestos or PCB's.

Pallet Serial No. S046

Customer P.O. No. RICHARD LICHT

Invoice No. REQ029343

Lot No. 3640726206 and 3640726159
~~0043413011 and 0043413011~~

3M Part No. 98-0400-0557-5

Quantity 5 rolls

SM Hackney
Quality Manager or designee

01-09-96
Date

RCL/C-O-C/(2-1-93)

3M General Offices

3M Center
St. Paul, MN 55144-1000
612 733 1110

* * * * * * * * *

* CERTIFICATE OF CONFORMANCE *

* * * * * * * * *

DESCRIPTION: **Nuclear Interam ™ E50 Series Mat:**
E-50A or E-50C Mat
E-53A or E-53C Mat C= Stainless Steel Foil
E-54A or E-54C Mat A= Aluminum Foil

This product was tested according to ASTM standards:
ASTM E119 Fire Tests of Building Construction and Materials.
ASTM E84 Surface Burning Characteristics Of Building Materials.

This material is classified by Underwriters Laboratories Inc. in the following categories: U.L. 263, U.L. 1709, U.L. 910, and U.L. 723.

This material is classified by Underwriters Laboratories as an Electrical Circuit Protective Material for use in electrical circuit protective systems 7, 8, and 9 for one (1) and three (3) hour fire ratings. System numbers are listed in the U.L. Building Materials Directory under E-50 series mats.

Fire Resistance Ratings for Columns in the U.L. Fire Resistance Directory. Structural Steel Designs X203, X204, and XR201.

The surface burning characteristics are:
Flame spread 0.7
Smoke development 0.0

This product is tested according to 3M Standard Number GP-18, GP-33, GP-35, or GP-36 and meets product requirements.

This product contains no asbestos or PCB's.

Pallet Serial No. S053

Customer P.O. No. RICHARD LICHT

Invoice No. HN94785

	3650318249	3650318242	3650318245	3650318244
Lot No.	0060123011	0060123011	0060123011	0060123011

3M Part No. 98-0400-0698-7

Quantity 54 rolls

SM Hackney
Quality Manager or designee

01-15-96
Date

RCL/C-O-C/(2-1-93)

3M General Offices

3M Center
St. Paul, MN 55144-1000
612 733 1110

3M

* * * * * * * * *

* CERTIFICATE OF CONFORMANCE *

* * * * * * * * *

DESCRIPTION: **Interam™ T-49 Tape**

This material is classified by Underwriters Laboratories as an Electrical Circuit Protective Material for use in electrical circuit protective systems #2, 3, 4, 6, 7, and 8 for a one (1) hour rating, and systems #6, 7, and 8 for a three (3) hour fire rating. This material is classified by Underwriters Laboratories as part of the structural steel protective system #X204 in the Fire Resistance Directory.

This product was tested according to:
ASTM E119 Fire Tests Of Building Construction and Materials.

This product is tested according to 3M Standard Number GP-17 and meets product requirements.

Pallet Serial No. S202

Customer P.O. No. RICHARD LICHT

Invoice No. HN94785

Lot No. 4300-13-11 and 4234-10-9

3M Part No. 98-0400-0172-3

Quantity 23 rolls

SM Hackney
Quality Manager or designee

01-15-96
Date

RCL/Std-COC/2-1-93

3M General Offices

3M Center
St. Paul, MN 55144-1000
612 733 1110

3M

* * * * * * * * *

* CERTIFICATE OF CONFORMANCE *

* * * * * * * * *

DESCRIPTION: **Interam™ FireDam™ 150 Caulk for Nuclear**

This material is classified by Underwriters Laboratories as a Fill, Void or Cavity Material for use in Through-Penetration Firestop Systems for a 1-3 hour fire rating. Refer to UL Fire Resistance Directory for systems classified.

Electrical Circuit Protective Materials with a one (1) and three (3) hour fire rating. System Nos. in the UL Building Materials Directory are #7, 8, and 9.

This product was tested according to:
ASTM E119 Fire tests of building construction and materials.
ASTM E814 Fire tests of through-penetration fire stops.
ASTM E84 Surface burning characteristics of building materials.

The surface burning characteristics are:

Flame spread	0.0
Smoke development	2.2

This product is tested according 3M Standard Number GP-38 and meets product requirements.

Pallet Serial No. S076

Customer P.O. No. RICHARD LICHT

Invoice No. HN94785

Lot No. W5333R511W

3M Part No. 98-0400-0723-3

Quantity 52 cartridges

Gill Hackney
Quality Manager or designee

01-15-96
Date

RCL/C-O-C/(2-1-93)

M

Cube	Pieces	Weight

Refer To This Number In Any Communication

Invoice Number: HN94785

Page: 1

Shipped Date:

Customer Order Nbr (Charge To): [illegible]

Order Date: [illegible]

Mark Shipping Label (Cust. Ref.):

REQ029343 ◀ This is a Back Order of our Invoice Number

◀ Requested Shipping Date

SHIP TO:
UNITED POINT LABS INC
[illegible] FALLS
CLARENDON TX 79226

CHARGE TO:
1
2596
HN80140101

UST
RIVE
1-16-16

Thank you for your order.
This Packing List is provided to help you check this shipment against your order.
An Invoice for the quantities shipped will be mailed to the **Charge To** address above, from our St. Paul office within a few days.
Any items ordered, but not shipped, will be shipped and billed on a separate Invoice.

You Ordered	We Shipped	We Backordered	Bill Unit	Trade Numbers(DC/UPC) or 3M ID
57	54	0	[illegible]	[illegible]
48 4	BKN52	0	[illegible]	[illegible]
22 1	23 BKN	0	[illegible]	[illegible]
	TIN			1-9036-5 Gary Rowher
See Attached Sheet		X		D45 000 72 A76
[illegible]	[illegible]	[illegible]		

Description of Item Ordered	Pieces	FCC HMC	Weight
[illegible]	[illegible]	[illegible]	[illegible]
[illegible] 4.5" X 20' CRUCLEARO	[illegible] BOX	9	
[illegible] GAUGE 10.5 FL.OZ.	4	[illegible]	72
[illegible] CRUCLEARO	[illegible] BOX	1	
[illegible] ABOVE 40F [illegible]			
[illegible] TAPE 4" X 100	[illegible] BOX	[illegible] 5	101 AV OH
[illegible] 1			
[illegible] 4PCS 000000LOC LH			
TOTAL [illegible]	[illegible]	[illegible]	

AIRPORT OF DEPARTURE

3M REFERENCE NO.
00-1412-8483

3M REFERENCE NO.
00-1412-8483

SHIPPERS NAME AND ADDRESS

3M

3M COMPANY
BUILDING 216-1S-02
ST. PAUL, MN 55144

SHIPPERS ACCOUNT NUMBER

NOT NEGOTIABLE

AIR WAYBILL
(AIR CONSIGNMENT NOTE)

FOR ACCIDENT AND SPILL EMERGENCIES CALL CHEMTREC FOR ASSISTANCE 1-800-424-9300

Copies 1, 2 and 3 of this Air Waybill are originals and have the same validity.

It is agreed that the goods described herein are accepted in apparent good order and condition (except as noted) for carriage SUBJECT TO THE CONDITIONS OF CONTRACT ON THE REVERSE HEREOF OR THE APPLICABLE CONTRACT, IF ANY, BETWEEN 3M AND CARRIER. ANY PREPRINTED TERMS AND CONDITIONS IN THIS BILL OF LADING SUPERCEDED BY ANY CONFLICTING TERMS AND CONDITIONS IN SAID CONTRACT. THE SHIPPER'S ATTENTION IS DRAWN TO THE NOTICE CONCERNING CARRIER'S LIMITATION OF LIABILITY. Shipper may increase such limitation of liability by declaring a higher value for carriage and paying a supplemental charge if required.

TO EXPEDITE MOVEMENT, SHIPMENT MAY BE DIVERTED TO MOTOR OR OTHER CARRIER AS PER TARIFF RULE UNLESS SHIPPER GIVES OTHER INSTRUCTIONS HEREON.

CONSIGNEE'S NAME AND ADDRESS

OMEGA POINT LABS INC
16015 SHADY FALLS
ELEMDORF, TX

CONSIGNEE'S ACCOUNT NUMBER

ZIP 78112

COUNTRY CODE

ISSUING CARRIERS AGENT NAME AND CITY
BURLINGTON NORTHERN

SCAC **BNAF**

ALSO NOTIFY NAME AND ADDRESS *(OPTIONAL ACCOUNTING INFORMATION)*

MODE	CONT	MAIN	SUB	PROJECT
A	1	9036	530	

PREFIX 1C

DEST/FACILITY CODE

AGENTS IATA CODE

ACCOUNT NO.

ACCOUNTING INFORMATION

AIRPORT OF DEPARTURE (ADDR OF FIRST CARRIER) AND REQUESTED ROUTING

ROUTING AND DESTINATION

TO	BY FIRST CARRIER	TO	BY	TO	BY

CURRENCY	CHGS CODE	WT/VAL PPD	WT/VAL COLL	OTHER PPD	OTHER COLL	DECLARED VALUE FOR CARRIAGE	DECLARED VALUE FOR CUSTOMS

AIRPORT OF DESTINATION

FOR CARRIER USE ONLY
FLIGHT/DATE | FLIGHT/DATE

AMOUNT OF INSURANCE

INSURANCE - If shipper requests insurance in accordance with conditions on the reverse hereof, indicate amount to be insured in figures in box marked amount of insurance

TC

HANDLING INFORMATION/SPECIAL INSTRUCTIONS

- CT ☐ COUNTER TO COUNTER AIR SERVICE
- DF ☐ 3 OR MORE DAYS DEFERRED SERVICE
- AM ☐ NEXT BUSINESS DAY A.M SERVICE
- NP ☒ NEXT BUSINESS DAY NORMAL SERVICE
- NP ☐ NEXT BUSINESS DAY P.M. SERVICE
- NS ☐ NEXT DAY SATURDAY DELIVERY

REFERENCE # HN94785
MUST ARRIVE BY 1/16/96
PICK UP AT BLDG 207
3 · SAT

- OT ☐ OTHER (EXPLAIN)
- PF ☐ FRWRD ON NEXT AVAIL PASS FLIGHT NRML SERV
- PS ☐ FRWRD ON NEXT AVAIL PASS FLIGHT SAT DEL
- SD ☐ SAME DAY SERVICE
- 2D ☐ 2ND BUSINESS DAY NORMAL SERVICE

SEND PREPAID FREIGHT BILL TO:
MINNESOTA MINING & MANUFACTURING CO.
P.O. BOX 33400 ST.PAUL, MINNESOTA 55133-0001

NO OF PIECES RCP	GROSS WEIGHT	Kg/lb	RATE CLASS / COMMODITY ITEM NO.	CHARGEABLE WEIGHT	RATE / CHARGE	TOTAL	NATURE AND QUANTITY OF GOODS (INCL DIMENSIONS OR VOLUME)	DIV	FCC CODE
6 PALLETS (72 CTS)	4997#						INSULATING MATERIAL		04

PREPAID / WEIGHT CHARGE / COLLECT	A	PICKUP CHARGES B.	ORIGIN ADVANCE CHARGES K.	DESCRIPTION OF ORIGIN ADVANCE
VALUATION CHARGE	D.	DELIVERY CHARGES C.	DEST ADVANCE CHARGES L	DESCRIPTION OF DEST ADVANCE
TAX	I	SHIPPER'S R.F.C. (AMOUNT TO BE ENTERED BY SHIPPER) J.	OTHER CHARGES AND DESCRIPTION F	
TOTAL OTHER CHARGES DUE AGENT				
TOTAL OTHER CHARGES DUE CARRIER				

Shipper certifies that the particulars on the face hereof are correct and that insofar as any part of the consignment contains restricted articles, such part is properly described by name and is in proper condition for carriage by air according to applicable national government regulations, and for international shipments the current International Air Transport Association's Restricted Articles Regulations.

G. COD → CURRENCY

SIGNATURE OF SHIPPER OR HIS AGENT

TOTAL PREPAID | TOTAL COLLECT

EXECUTED ON

1/15/96 (Date) (Time) at (Place) R. G. 1-15 1670 SIGNATURE OF ISSUING CARRIER OR ITS AGENT

CURRENCY CONVERSION RATES | TOTAL COLLECT IN DESTINATION CURRENCY

FOR CARRIERS USE ONLY AT DESTINATION (ALL COLLECT CHARGES IN DESTINATION CURRENCY) | CHARGES AT DESTINATION | TOTAL COLLECT CHARGES

SIGNATURE OF CONSIGNEE

2

Q/A RECEIVING REPORT

CLIENT/PROJECT NAME Peak Seals
CLIENT/PROJECT NUMBER 14540-99074, 75+76
RECEIVED FROM 3M
PROJECT LOCATION Omega Point Labs

REPORT NUMBER 1553-14540
DATE RECEIVED 10-10-95
DATE INSPECTED 10-10-95
INSPECTED BY: C Patton

ITEM DESCRIPTION	P.O. NO.	QUANTITY Order	QUANTITY Rec'd	QUANTITY B.O.	I.D. NO.	COND MATL Y/N	CERT. RECD Y/N	CONTAINER INTEGRITY	EXCEPTIONS	ACCEPTANCE Accept	ACCEPTANCE Hold	ACCEPTANCE Reject	REMARKS
Fire Dam 150 Caulk	NA	0	12	0	W5249R493W	Y	Y	Good	None	X			Receiving Verification Only
T-49 Tape	NA	0	1 Roll	0	4300-13-11	Y	Y	Good	None	X			
E-54A Mat	NA	0	10 Roll	0	3650318252 0052773011	Y	Y	Good	None	X			

FORM
1/29/93

3M General Offices

3M Center
St. Paul, MN 55144-1000
612 733 1110

3M

* * * * * * * * *

* CERTIFICATE OF CONFORMANCE *

* * * * * * * * *

DESCRIPTION: **Interam™ FireDam™ 150 Caulk for Nuclear**

This material is classified by Underwriters Laboratories as a Fill, Void or Cavity Material for use in Through-Penetration Firestop Systems for a 1-3 hour fire rating. Refer to UL Fire Resistance Directory for systems classified.

Electrical Circuit Protective Materials with a one (1) and three (3) hour fire rating. System Nos. in the UL Building Materials Directory are #7, 8, and 9.

This product was tested according to:
ASTM E119 Fire tests of building construction and materials.
ASTM E814 Fire tests of through-penetration fire stops.
ASTM E84 Surface burning characteristics of building materials.

The surface burning characteristics are:

Flame spread	0.0
Smoke development	2.2

This product is tested according 3M Standard Number GP-38 and meets product requirements.

Pallet Serial No. S069

Customer P.O. No. LICHT

Invoice No. ZR07531

Lot No. W5249R493W

3M Part No. 98-0400-0723-3

Quantity 12 cartridges

Quality Manager or designee

10-04-95
Date

RCL/C-O-C/(2-1-93)

3M General Offices

3M Center
St. Paul, MN 55144-1000
612 733 1110

3M

* * * * * * * * *

* CERTIFICATE OF CONFORMANCE *

* * * * * * * * *

DESCRIPTION: **Interam™ T-49 Tape**

This material is classified by Underwriters Laboratories as an Electrical Circuit Protective Material for use in electrical circuit protective systems #2, 3, 4, 6, 7, and 8 for a one (1) hour rating, and systems #6, 7, and 8 for a three (3) hour fire rating. This material is classified by Underwriters Laboratories as part of the structural steel protective system #X204 in the Fire Resistance Directory.

This product was tested according to:
ASTM E119 Fire Tests Of Building Construction and Materials.

This product is tested according to 3M Standard Number GP-17 and meets product requirements.

Pallet Serial No. S195

Customer P.O. No. LICHT

Invoice No. ZR07531

Lot No. 4300-13-11

3M Part No. 98-0400-0172-3

Quantity 1 roll

Quality Manager or designee

10-05-95
Date

RCL/Std-COC/2-1-93

3M General Offices

3M Center
St. Paul, MN 55144-1000
612 733 1110

* * * * * * * * *

* CERTIFICATE OF CONFORMANCE *

* * * * * * * * *

DESCRIPTION: **Nuclear Interam ™ E50 Series Mat:**
E-50A or E-50C Mat
E-53A or E-53C Mat C= Stainless Steel Foil
✓E-54A or E-54C Mat A= Aluminum Foil

This product was tested according to ASTM standards:
ASTM E119 Fire Tests of Building Construction and Materials.
ASTM E84 Surface Burning Characteristics Of Building Materials.

This material is classified by Underwriters Laboratories Inc. in the following categories: U.L. 263, U.L. 1709, U.L. 910, and U.L. 723.

This material is classified by Underwriters Laboratories as an Electrical Circuit Protective Material for use in electrical circuit protective systems 7, 8, and 9 for one (1) and three (3) hour fire ratings. System numbers are listed in the U.L. Building Materials Directory under E-50 series mats.

Fire Resistance Ratings for Columns in the U.L. Fire Resistance Directory. Structural Steel Designs X203, X204, and XR201.

The surface burning characteristics are:
Flame spread 0.7
Smoke development 0.0

This product is tested according to 3M Standard Number GP-18, GP-33, GP-35, or GP-36 and meets product requirements.

This product contains no asbestos or PCB's.

Pallet Serial No. S051

Customer P.O. No. LICHT

Invoice No. ZR07531

Lot No. 3650318252
0052773011

3M Part No. 98-0400-0698-7

Quantity 10 rolls

Quality Manager or designee

10-05-95
Date

RCL/C-O-C/(2-1-93)

CF MOTORFREIGHT CFWY

CONSIGNEE COPY

INVOICE NUMBER REFER TO THIS NUMBER.

95

EQUIP. NUMBER	DATE	ORIGIN	CF REVENUE	ADVANCE	BEYOND	DESTINATION	
15-7974	10/05/95	STP				SNA	537-668040

CONSIGNEE
DELIVER BY 10/09/95
OMEGA POINT LABS

16015 SHADY FALLS
ELMENDORF, TX 78112

CFY
JAH

INVOICE NUMBER
1009MO
537-668040

SHIPPER'S NUMBER
SN# 1C301324
PO# NONE

ROUTE (CARRIERS, PRO DATE & NO., JUNCTIONS)

18

SHIPPER
3M CO

2510 CONWAY
ST PAUL, MN 55144

BILL TO

# PCS.	HM	DESCRIPTION OF ARTICLES AND MARKS	WEIGHT (LBS)	RATE	TOTAL CHARGES
1		PLT OF 12 CTNS FAK	911		
1		TOTAL	911		PPD
		PALLET WEIGHT 30 LBS INCLUDED IN TOTAL			
		100% SATISFACTION IS OUR GOAL! CALL US FIRST AT (210) 226-9343			

12

DUNS # 04-411-0690

LEAVE THIS COPY WITH CONSIGNEE

CONSOLIDATED FREIGHTWAYS CORP. OF DEL. DBA
CF MOTORFREIGHT
P.O. Box 4488
Portland, Oregon 97208

CONSIGNEE COPY 8

Q/A RECEIVING REPORT

OMEGA POINT LABORATORIES

CLIENT/PROJECT NAME TSI/TVA
CLIENT/PROJECT NUMBER 11960-97332/38
RECEIVED FROM PMC
PROJECT LOCATION Omega Point Labs

REPORT NUMBER 1436 - 11960
DATE RECEIVED 9/2/94
DATE INSPECTED 9/2/94
INSPECTED BY: [illegible]

ITEM DESCRIPTION	P.O. NO.	QUANTITY			I.D. NO.	COND MATL Y/N	CERT. RECD Y/N	CONTAINER INTEGRITY	EXCEPTIONS	ACCEPTANCE			REMARKS
		Order	Rec'd	B.O.						Accept	Hold	Reject	
Tc Wire	1138Q	4K	4K	0	TT-TE/TE-24	Y	Y	Good	None	X			Spool # 106311-4,265'

FORM
1/29/93

PURCHASE ORDER

Omega Point Laboratories, Inc.
16015 Shady Falls Road, Elmendorf, TX 78112-9784
(210) 635-8100 FAX: (210) 635-8101

Vendor:

Janice Welch
PMC Corporation
57 Harvey Road

Londonderry NH 03053

PO Number: 1138-Q

Invoice, correspondence, all shipping papers, and packages must reference P.O. number.

Bill To:	Ship To:
Accounts Payable	Cleda Patton
Omega Point Laboratories, Inc.	Omega Point Laboratories, Inc.
16015 Shady Falls Road	16015 Shady Falls Road
Elmendorf, TX 78112-9784	Elmendorf, TX 78112-9784

Order Date	Ship Via	P.O. Spec. No.	Date Required	Terms
8/4/94	UPS Ground	MS-1138Q-11960	8/22/94	

Item No.	Description	Quantity Ordered	Unit Price	Extended Amount
1.	TT-TE/TE-24 Type "T" Thermocouple Wire	4000	$0.27	$1,080.00
2.	Wire Calibration at: 40°C, 60°C , 80°C, 90°C, 100°C	1	$85.00	$85.00

"See Special Instructions Regarding Purchasing Specifications for Quality Assurance Requirements."
QA Approval Patton
Date 8-4-94

Special Instructions

Include Certificates of Conformance to ASTM E230-93 Special Limits of Error and Calibration data traceable to NIST.

Ordered By: Cleda Patton

Project #: 11960-97332 /38

Rec. 9/2/94
4;265'

Total	$1,165.00
Shipping	
Tax	
Invoice Total	$1,165.00

PMC CORPORATION
57 HARVEY ROAD, LONDONDERRY, N.H. 03053 • (603) 432-WIRE

SPECIALIZING IN WIRE, CABLES & TEMPERATURE

SOLD TO

OMEGA POINT LABS, INC.
16015 SHADY FALLS ROAD
ELMENDORF, TX 78112

OMEGA POINT LABS, INC.
16015 SHADY FALLS ROAD
ELMENDORF, TX 78112

DATE RECEIVED	CUSTOMER				
8/05/94	OME0001	60	60	60	188874

1138-0	8/19/94	8/19/94	
UPS	LONDONDERRY NH	NET 15	

1. MFR 5. METERS
2. CET 6. FEET
3. POUNDS 7. LOT
4. EACH NET 8. OTHER

ITEM	QUANTITY ORDERED	PART NUMBER	DESCRIPTION	QUANTITY SHIPPED
1	4000.00	TT-TE/TE-24		4265
2	1.00	CALIBRATION AT 40, 60, 80, 90 AND 100! C I/D MARK: SPEC #MS-11380-11960 CAL DATA REQUIRED		

Thank you!

UNIT PRICES ARE BASED ON COPPER AT $ /lb. SILVER AT $ /TROY OZ. HOWEVER UNIT PRICES INVOICED WILL BE BASED ON MATERIAL COST ON DATE OF SHIPMENT.

SPECIAL INSTRUCTIONS:

DATE SHIPPED	BILL OF LADING NO	NO OF PACKAGES	WEIGHT	PARTIAL	COMPLETE	PACKED BY
8/19/94						

PMC

CERTIFICATE OF CONFORMANCE

TO OMEGA POINT LABS. INC.
16015 SHADY FALLS ROAD
ELMENDORF, TX 78112

DATE 8/26/94
CUSTOMER PO# 1138-O
JOB # 18874-1

PMC P/N	QUANTITY	CUSTOMER P/N	SPEC
TT-TE/TE-24	4265'		MS-11380-11960

THIS SPOOL NO. 106311 IS MANUFACTURED FROM REEL NOS. 18516 AND 18107

ADDITIONAL INFORMATION (IF REQUIRED):

SPOOL NO.	IN ERROR @ 40°C	IN ERROR @ 60°C	IN ERROR @ 80°C	IN ERROR @ 90°C	IN ERROR @ 100°C
106311 - INSIDE	.16	.33	.05	.33	.11
106311 - OUTSIDE	.11	.33	.05	.33	.11

ALL SPOOLS ARE TAKEN FROM A LARGE EXTRUSION SPOOL IN ROTATION. THIS CALIBRATION SHOWS THE INSIDE AND OUTSIDE OF THE ABOVE SPOOL IN °C.

CALIBRATION RESULTS ARE TRACEABLE TO NIST AND MEET SPECIAL LIMITS OF ERROR AS DEFINED IN ASTM-E-230 AND COMPLY TO MILL STD 45662.

This is to certify the materials furnished on this shipment are in conformance with the requirements, specifications, and drawings of the above referenced customer purchase order. Inspection and test records are on file and available for customer review.

Quality Assurance Inspector

Quality Assurance Manager

57 HARVEY ROAD
LONDONDERRY, NH
03053
(603) 432-WIRE
FAX (603) 432-0435

This TN was Calibrated with Pare Cooper #18516 and they Meet Special limits

HAI-TN
THERMOCOUPLE GRADE

SIZE 0201 GROSS 31.47
B & S 24 TARE 1.65
HEAT# 2175 NET 29.82
COIL#
P.O 13332
RES. Ω/FL
SPEC.# 18107
P/N TTN-24
DATE 03/18/94

TEST TEMP	EMF IN MV (mv)
200	3.271
500	9.973
700	14.890
1000°	29.583

HARRISON ALLOYS INC.
HARRISON, N.J.

MAJOR WIRE COMPANY INC.

7 COBURN STREET
CHICOPEE, MASSACHUSETTS 01013
TELEPHONE 413-534-1813

CERTIFICATE OF CONFORMANCE

CUSTOMER P. M. C. Corp

CUSTOMER P.O. # 14305

MAJOR WIRE # 18516

DATE OF SHIPMENT 8/25/94

WE CERTIFY THAT THE ITEMS LISTED ON OUR PACKING LIST FOR THE ABOVE ORDER HAVE BEEN MANUFACTURED IN ACCORDANCE WITH ALL THE APPLICABLE INSTRUCTIONS AND SPECIFICATIONS.

William Elles
AUTHORIZED SIGNATURE

9/22/94
DATE

_____ PACKING LIST

_____ SEE BELOW

_____ ATTACHED

COMMENTS #16 7/24 Bare 10 ASTM B3-B174
410lbs

OMEGA POINT LABORATORIES
COMMERCIAL GRADE DEDICATION

PURCHASING SPEC. NO: MS-1138Q-11960

PRODUCT: Thermocouple Wire

MANUFACTURER: PMC Corporation
57 Harvey Road
Londonderry, NH 03053

SUPPLIER: (same)
ADDRESS:
CITY:
STATE/ZIP:
PHONE: (603) 432-9473

TECHNICAL EVALUATION

DESCRIPTION: FEP (Fluorinated Ethylene Propylene) Insulated Thermocouple Wire

DOES IT PERFORM SAFETY FUNCTION? YES: Material testing and equipment calibration

DOES ITEM MEET CRITERIA OF CGI DEFINITION? Yes

Item meets all three criteria of CGI listed below:

a) not subject to design or specification requirements that are unique to nuclear facilities; and

b) used in applications other than nuclear facilities; and

c) is ordered from manufacturer or supplier on the basis of specifications set forth in the manufacturers published product description.

TECHNICAL EVALUATION PERFORMED BY:

Project Manager
Date 8/4/94

VERIFIED BY:

C Humphrey

Q/A Manager
Date 8/4/94

PRODUCT: TFE Insulated Thermocouple Wire

SPEC NO: MS- 1138Q-11965

IDENTIFICATION OF CRITICAL CHARACTERISTICS:

TEST	DESCRIPTION	SPECIFICATION RANGES MINIMUM	MAXIMUM
ASTM E230-93	Std. Temperature-EMF Tables for Standardized Thermocouples	Temp. range -65°C to +130°C Special Limits of Error ±.5°C	

IDENTIFICATION OF CRITICAL CHARACTERISTICS PERFORMED BY:

PROJECT MANAGER
DATE 8/4/94

VERIFIED BY:

C Humphrey
Q/A MANAGER
DATE 8/4/94

TECHNICAL EVALUATION

PRODUCT: TFE Insulated Thermocouple Wire

SPEC NO: MS-11380-11960

ACCEPTANCE METHOD:

METHOD

Source Verification

Performance Record

Purchase order to vendor includes the Omega Point Material Specification listing critical characteristics of CGI material.

All shipments to include appropriate Certification documents listing all critical characteristics.

Material receiving shall include verification of Compliance Report with prescribed critical characteristics. Copies of Compliance Report and verification to be attached to the receiving report.

ACCEPTANCE METHOD DETERMINATION BY:

C Humphrey

DATE: 8/4/94

OMEGA POINT LABORATORIES
PURCHASING SPECIFICATIONS

SPECIFICATION NUMBER: MS-1138Q-11960

VENDOR: PMC Corporation

VENDOR PRODUCT NUMBER: TT-TE/TE-24

PRODUCT DESCRIPTION: TFE Insulated Thermocouple Wire

Material as defined above shall be provided in accordance with the Critical Characteristics as listed below:

TEST	DESCRIPTION	SPECIFICATION RANGES MINIMUM	MAXIMUM
ASTM E230-93	Std. Temperature-EMF Tables for Standardized thermocouples	Temp. range -65°C to +130°C Special limits of Error ±.5°C	

QUALITY ASSURANCE REQUIREMENTS

1.0 QUALITY PROGRAM

Seller shall furnish this item in accordance with Quality Program approved by Omega Point Laboratories. Material specified herein is to be produced and tested in accordance with vendor quality standards, methods, guidelines and manufacturing instructions as defined in that Quality Program.

2.0 QUALITY VERIFICATION

Receiving Inspection - Buyer shall inspect items upon receipt to verify compliance with purchase order requirements. Rejected items shall be returned at seller's expense.

Document Review - Final acceptance shall be based on satisfactory review of required certifications and/or supporting documents.

3.0 CERTIFICATIONS

3.1 Certification that supplied materials comply with this material specification and listing Critical Characteristics shall be provided. This certificates shall reference Omega Point Labs purchase order number and specification number for all material furnished under this specification. This Certification shall be signed by the appropriate vendor representative.

3.2 The material furnished under this specification shall be a product that complies with the following:

3.2.1 Has been tested and passed all tests specified herein.

3.2.2 Manufacturing methods for this material have not changed. Vendor will advise Omega Point in writing of any changes in the manufacturing prior to material manufacture.

3.2.3 Raw materials used in the manufacture of this material meet Vendor specifications.

4.0 AUDITS/RIGHTS OF ACCESS

Omega Point Labs reserves the right to audit your facility to verify compliance with the purchase order and specification requirements with a minimum ten (10) day notice.

5.0 IDENTIFICATION

Seller shall identify each item with a unique traceability number by physical marking or tagging. These identification numbers shall be traceable to certifications and packing lists.

6.0 PACKING/SHIPPING

All materials shall be packaged in air tight, moisture free containers and shall be free of foreign substances such as dirt, oil, grease or other deleterious materials.

All materials shall be suitably crated, boxed or otherwise prepared for shipment to prevent damage during handling and shipping.

QUALITY ASSURANCE APPROVAL

C Humphrey

Title Quality Assurance Mgr.

Date 8/4/94

CH

AVL Verification

Class: B

FEP Insulated Thermocouple and Extension Wire

PRODUCT CODE: TE/TE

Our customers have grown to expect only the highest quality products from PMC. We are continually committed to meet the specific needs of industry and our customers. This construction includes the single conductors insulated with Teflon* FEP, laid parallel and jacketed also with Teflon FEP. Teflon FEP (Fluorinated Ethylene Propylene) was commercially introduced in 1960 by Dupont and is a true thermoplastic. It is applied as an insulation or jacket by conventional extruder processes. It retains useful strength and flexibility over broad ranges of environmental temperature or thermal aging; and a volume resistivity greater than 10^{18} OHM-cm and a surface resistivity above 10^{16} OHM/Sq., both are at the top of the measurable range. The dielectric constant is 2.1 from 10^2 to 10^7 Hz, above which it drops slightly with increasing frequency (less than 3% change at 10^{10} Hz). The dissipation factor shows no change with temperature and only slight change with frequency – between 60 Hz and 10,000 Hz, the factor ranges from 0.0002 to 0.0007, obtaining a maximum value at 1 Mhz.

The thermocouple grade products shown are used to form temperature sensors and the extension grade products become the interconnecting link in the temperature system.

Suggested operating temperature is -90°F to 400°F (-67°C to 204°C). The insulation on the individual conductors and the jacketing are both color coded to ANSI standards for quick identification of conductors and calibration.

You will find our qualified sales and engineering staff eager to assist in selecting a design to meet the requirements of your specific application.

*Registered Trademark of E.I. Dupont Inc.

Calibrated conductors selected for high system accuracy

400°F (204°C) FEP insulation for improved electrical properties and high temperature applications

400°F (204°C) FEP jacket for chemical inertness to solvents, acids and oils

GRADE OF WIRE	GAUGE SIZE	WIRE TYPE	PART NUMBERS					
			TYPE J	TYPE K	TYPE T	TYPE E	TYPE N	TYPE RSX
THERMOCOUPLE	20	SOLID	J-TE/TE -20	K-TE/TE-20	T-TE/TE-20	E-TE/TE-20	N-TE/TE-20	
THERMOCOUPLE	20 7/28	STRANDED	J-TE/TE-20F	K-TE/TE-20F	T-TE/TE-20F	E-TE/TE-20F	N-TE/TE-20F	
THERMOCOUPLE	24	SOLID	J-TE/TE-24	K-TE/TE-24	T-TE/TE-24	E-TE/TE-24	N-TE/TE-24	
THERMOCOUPLE	24 7/32	STRANDED	J-TE/TE-24F	K-TE/TE-24F	T-TE/TE-24F	E-TE/TE-24F	N-TE/TE-24F	
THERMOCOUPLE	30	SOLID	J-TE/TE-30	K-TE/TE-30	T-TE/TE-30	E-TE/TE-30	N-TE/TE-30	
EXTENSION	16	SOLID	JX-TE/TE-16	KX-TE/TE-16	TX-TE/TE-16	EX-TE/TE-16	NX-TE/TE-16	RSX-TE/TE-16
EXTENSION	20	SOLID	JX-TE/TE-20	KX-TE/TE-20	TX-TE/TE-20	EX-TE/TE-20	NX-TE/TE-20	RSX-TE/TE-20
EXTENSION	20 7/28	STRANDED	JX-TE/TE-20F	KX-TE/TE-20F	TX-TE/TE-20F	EX-TE/TE-20F	NX-TE/TE-20F	RSX-TE/TE-20F
EXTENSION	24	SOLID	JX-TE/TE-24	KX-TE/TE-24	TX-TE/TE-24	EX-TE/TE-24	NX-TE/TE-24	RSX-TE/TE-24
EXTENSION	24 7/32	STRANDED	JX-TE/TE-24F	KX-TE/TE-24F	TX-TE/TE-24F	EX-TE/TE-24F	NX-TE/TE-24F	RSX-TE/TE-24F

The above part numbers represent the more popular constructions. However, other designs are available upon request.

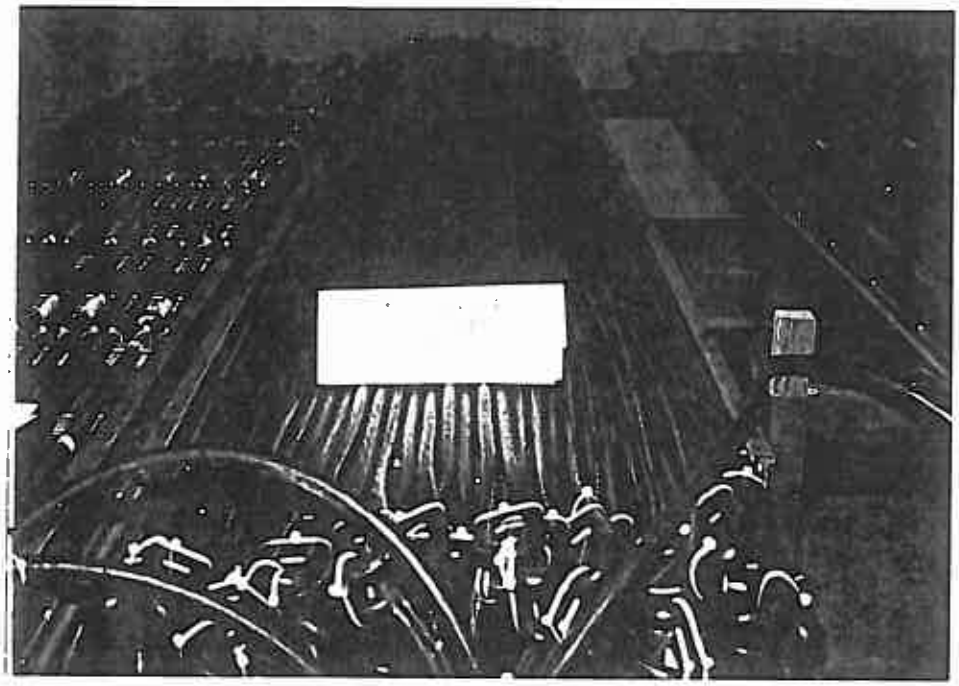
PMC CORPORATION
57 Harvey Road
Londonderry, NH
03053

Tel. (603) 432-9473
FAX (603) 432-0435

Appendix D

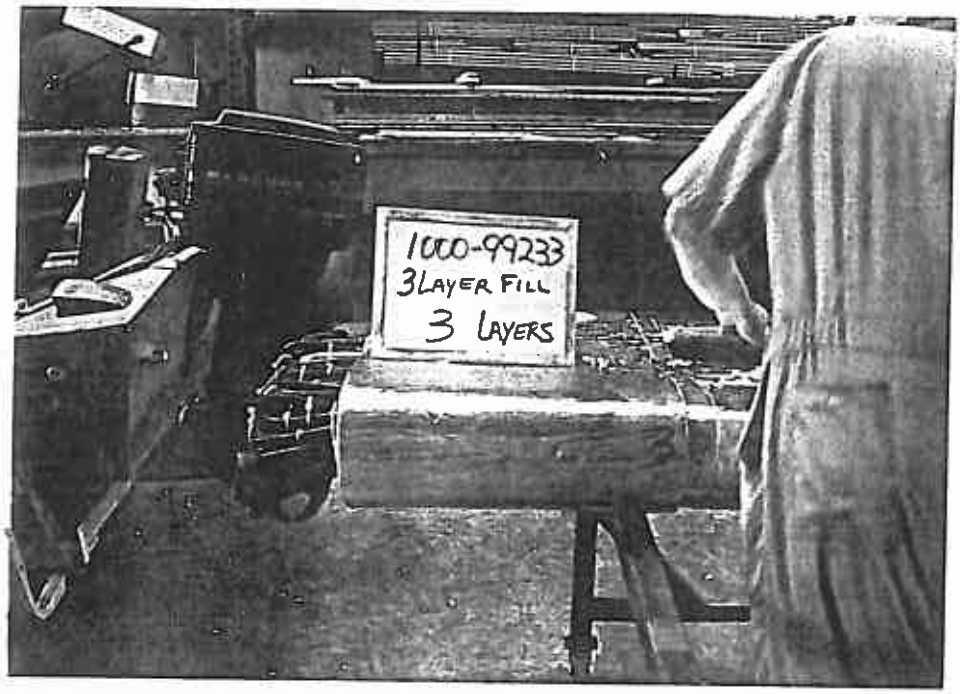
PHOTOGRAPHS

OMEGA POINT LABORATORIES

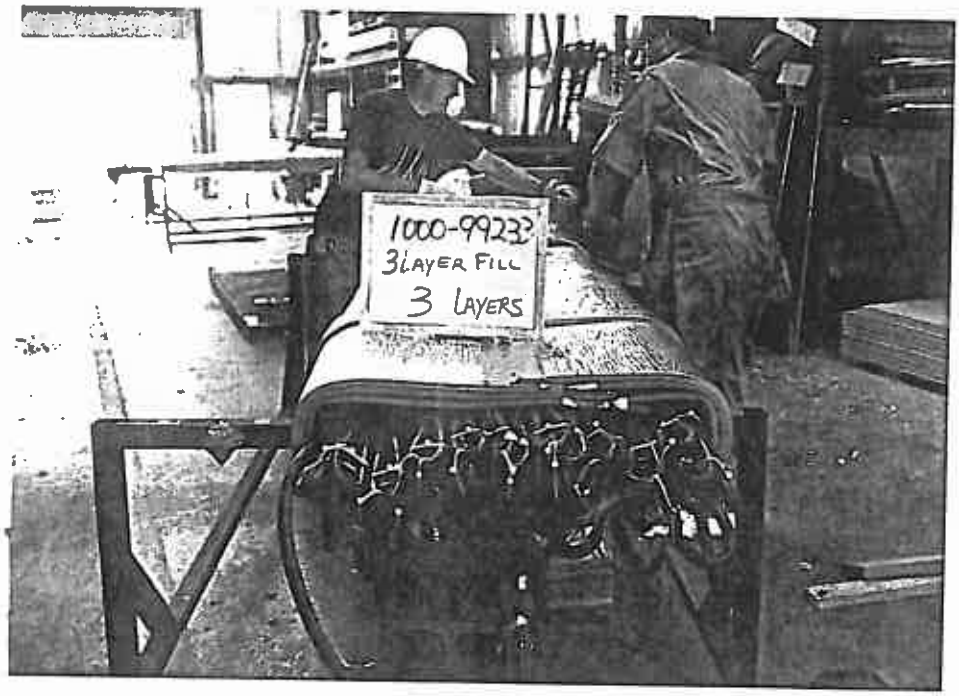


3 Layer Cable Tray system prepared for baseline testing.

Second layer of ERFBS installed onto 3 Layer Cable Tray.



Third (and final) layer of ERFBS installed onto 3 Layer Cable Tray.



Sectional view of completely installed ERFBS on 3 Layer Cable Tray.