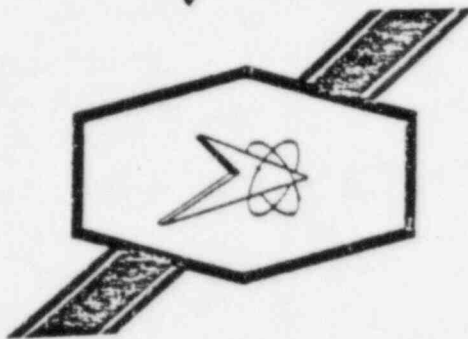


Imperial



TECHNICAL REPORT

NUMBER

95-76

TITLE

DBA: NUTEC 10/11S/11/1201 OVER MAGIC KOTE FORMED CONCRETE

FOR

HOUSTON LIGHTING & POWER

CUSTOMER

Submitted by: Jerry Arnold *JCA*

Approved: W. J. Lomasney *WJL*

Date: 11/11/76

SOUTHERN IMPERIAL COATINGS CORPORATION, INC.
P. O. Box 29077, • New Orleans, Louisiana 70189
Phone: (504) 254-1433

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8511060407 851016
PDR FOIA
GARDEB5-59

PDR

TITLE: DBA: NUTEC 10/11S/11/1201 OVER MAGIC KOTE FORMED CONCRETE

OBJECT: To determine the feasibility of applying Imperial's NUTEC 10/11S/11/1201 system over concrete poured in plywood forms coated with Symon's Magic Kote.

INTRODUCTION: This test was performed at the request of Imperial representatives at the Houston Lighting and Power, South Texas jobsite where Symon's Magic Kote may be used as a plywood form release agent.

SUMMARY: Designed Basis Accident (DBA) testing at the HL&P pressure and temperature curve was performed on concrete coupons formed in Magic Kote treated plywood and coated with the NUTEC 10/11S/11/1201 system. No flaking, blistering, cracking, delamination, or other effects were observed.

PROCEDURE: A 2"x4"x2" concrete specimen, lab panel No. 390, was prepared in a plywood form previously treated with Magic Kote. The concrete mix used was as specified by Bechtel CP956:

30.0 lb	Type II low alkaline Lone Star Cement ASTM C150
72.8 lb	Jahncke cement sand ASTM C33
57.6 lb	Jahncke Crescrete 3/8" dry gravel ASTM C33
13.7 lb	Deionized water
2.4 g	Master Builder's MB-VR Air Entrainment Admixture
44.4 g	Master Builder's Pozzoloth 122-N Water Reducing Admixture

The coupon was then sealed and coated with the NUTEC 10/11S/11/1201 system. For application and curing data see the following panel preparation sheet. The specimen was allowed to fully cure and then tested under DBA conditions at the HL&P curve by Coastal Science Associates.

RESULTS: See attached Coastal Science Associates Report.

REFERENCE: Lab Book #4, Vol. 1, pg. 101

DBA

TEST PANEL PREPARATION DATA

1. PRODUCT TO BE TESTED NUTEC 10/11S/11/1201
2. TYPE SUBSTRATE: Concrete (Bechtel Mix) SIZE 2" x 4" x 2"
3. SURFACE PREPARATION (describe): None (Concrete poured in plywood forms treated with Symon's Magic Kote)
4. PRODUCT DATA: SAMPLE NO. (s) 390
5. DATE AND TIME CURING COMPOUND OR PRIMER APPLIED 5/19/76

<u>COAT</u>	<u>PRODUCT</u>	<u>PRODUCT CODES</u>	<u>BATCH #</u>	<u>APPLICATION METHOD</u>	<u>CONDITIONS R/M(OP) & R.H.</u>	<u>THICKNESS (ins)</u>	<u>TIME & DATE APPLIED</u>
	NUTEC	10	5606/5607	Spray	---	.004-.005	5/19/76
	NUTEC	11S	5409/5413/ 5700	Squeegee	82/72	.030-.050	5/24/76
	NUTEC	11	5409/5413	Squeegee	82/72	.015-.030	5/24/76
	NUTEC	1201	5786/5655	Spray	86/70	.005-.007	5/23/76

TOTAL FILM THICKNESS .050-.090

6. CURING CONDITIONS: AMBIENT TEMP 70-80 °F REL. HUMIDITY 45-65
MINIMUM CURE 60 DAYS
7. TEST PROCEDURE: DBA (HL&P Curve)
8. TESTING PERFORMED BY: Coastal Science Assoc. DATE SUBMITTED 7/25/76

Coastal Science Associates

TEST REPORT NO. A015072776

Southern Imperial Coatings

Test Report No. 95-76

COASTAL SCIENCE ASSOCIATES

(504) 283-7751 6900 CANAL BOULEVARD • NEW ORLEANS, LOUISIANA 70124

Date: July 27, 1976

Product Identification: Steel Panel x Concrete Block

DBA Test Results:

Houston Lighting and Power; South Texas Project
Am. No. 3, 9/16/74 DBA Pressure Response Figure 6.2-17,
DBA Temperature Response Figure 6.2-18

Sample No.

Comments

390

No flaking, blistering, or cracking on any side. There is a light brown discoloration $\frac{1}{4}$ " from the bottom of the block. Delamination was not evident but the coating was not removed for a complete check.

Additional Comments:

Approved L.A. 7/27/76

Report No. A015072776

COASTAL SCIENCE ASSOCIATES

(504) 283-7251

6900 CANAL BOULEVARD

NEW ORLEANS, LOUISIANA 70124

Date: July 27, 1976

Sample No. 390

DBA Solution Composition:

Sodium borate-thiosulfate buffered at pH 9.5.

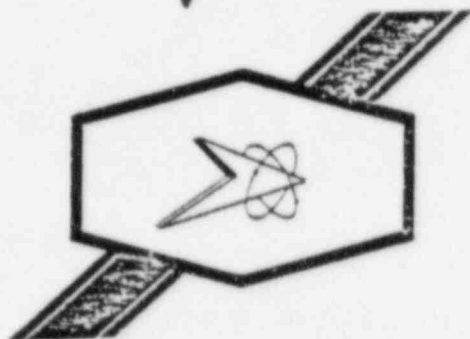
DBA Test Conditions

	<u>Time (min)</u>	<u>Temp. (°F)</u>	<u>Pressure (psig)</u>	<u>Comments</u>
23/76	0	162	7	
	5	230	22	
	10	255	32	
	15	264	39	
	20	279	42	
	25	277	48	
	30	280	50	
	35	277	39	
	40	270	35	
	45	259	30	
	50	266	40	
	55	270	42	
	60	271	41	
	65	262	32	
	70	248	26	
	75	223	25	
	80	230	22	
	85	230	21	
	90	212	18	
7/24/76	137	208	15	
7/25/76	169	207	14	
7/26/76	33	203	13	
	64	196	12	Remove from heater.

Approved LWY

Report No. A015072776

Imperial



TECHNICAL REPORT

NUMBER

LSB-77-G

TITLE

"COMPATIBILITY OF BURKES FORM RELEASE TO
IMPERIAL'S CONCRETE COATING SYSTEMS"

FOR

COMANCHE PEAK

CUSTOMER

TEXAS UTILITIES

Submitted by: Jerry Arnold

Approved:

Date: 8/5/77

SOUTHERN IMPERIAL COATINGS CORPORATION, INC.
P. O. Box 29077, * New Orleans, Louisiana 70189
Phone: (504) 254-1433

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DBA AND RADIATION TOLERANCE

TEST PANEL PREPARATION DATA

1. PRODUCT TO BE TESTED: NUTEC 11S/NUTEC 11/ REACTIC 1201
2. TYPE SUBSTRATE: Concrete - Bechtel CP 956 SIZE: 3" x 4" x 2"
3. SURFACE PREPARATION (Describe): Burke's Form Release was generously applied to all surfaces with a clean cloth.
4. PRODUCT DATA: SAMPLE NO.(s): 1054
5. DATE AND TIME CURING COMPOUND OR PRIMER APPLIED: Burkes applied 7/5/77 10:00 a.m.

COAT	PRODUCT	PRODUCT CODES	BATCH #	APPLICATION METHOD	CONDITIONS R/M(°F) & R.H.	THICKNESS (Ins.)	TIME & DATE APPLIED
1	NUTEC	11S	2172/2275/2173	Squeegee	78°F/53% R.H.	.010-.020"	7/5/77 4:00 p.m.
2	NUTEC	11	2172/2275	Squeegee	82°F/61% R.H.	.003-.005"	7/6/77 4:00 p.m.
3	REACTIC	1201	6171/7434	Spray	86°F/70% R.H.	.005-.007	7/8/77 11:00 a.m.

6. CURING CONDITIONS: AMBIENT TEMP. 70-80 °F REL. HUMIDITY 40-60 %
MINIMUM CURE 5 DAYS
7. TEST PROCEDURE: DBA per HL & P (Revision 0, 10/22/75)
8. TESTING PERFORMED BY: Coastal Sciences DATE SUBMITTED 7/13/77

APPROVED: _____
TEST REPORT NO. 178-77-3
DATE: 8/5/77
PREPARED BY: Arnold E. Arnold

August 5, 1977

COMPATIBILITY OF BURKE'S FORM RELEASE

IMPERIAL'S CONCRETE COATING SYSTEMS

Purpose: The purpose of this test was to determine if Burke's form release would effect the performance of Imperial's concrete coating systems, if the release agent were transferred to the concrete.

Procedure: In order to expedite the generation of data, and to test under extreme conditions; the Burke's form release was applied directly to the concrete prior to application of the NUTEC #11S. The form release was applied generously to all surfaces with a clean cloth at a spread rate of approximately 400 ft²/gal. The concrete coating system was applied as outlined in the attached panel preparation data. All specimens were cured at room temperature and relative humidity, then, submitted to Coastal Sciences for DBA testing per Houston Lighting and Power Revision 0, 10/22/75. All specimens were inspected for defects immediately upon removal from the autoclave, especially delamination of the NUTEC #11S from the concrete which would indicate an incompatibility.

Results: All surfaces were free of any defects.

Conclusions: Burke's form release does not pose any threat to the performance of Imperial's concrete coating systems.

COASTAL SCIENCE ASSOCIATES

(504) 283-7251

6900 CANAL BOULEVARD • NEW ORLEANS, LOUISIANA 70124

Date: July 18, 1977

Product Identification: Steel Panels 1 Concrete Blocks

DBA Test Conditions: Houston Lighting and Power Curve, Rev. 0,
Oct. 22, 1975, abbreviated to 28 hrs.

<u>Sample #</u>	<u>Comments</u>
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3054	sides 1,2,3,4, free from blisters, cracks, flakes, and no loss of adhesion detected.
------	---

Approved

Chas. H. Frank

Report #043071677

ENVIRONMENTAL QUALIFICATION TEST PROFILE

Pressure Versus Time

REVISION 0, 10/22/75

DBA TRANSIENT

ADDITIONAL
DETAILED

154.6 psig

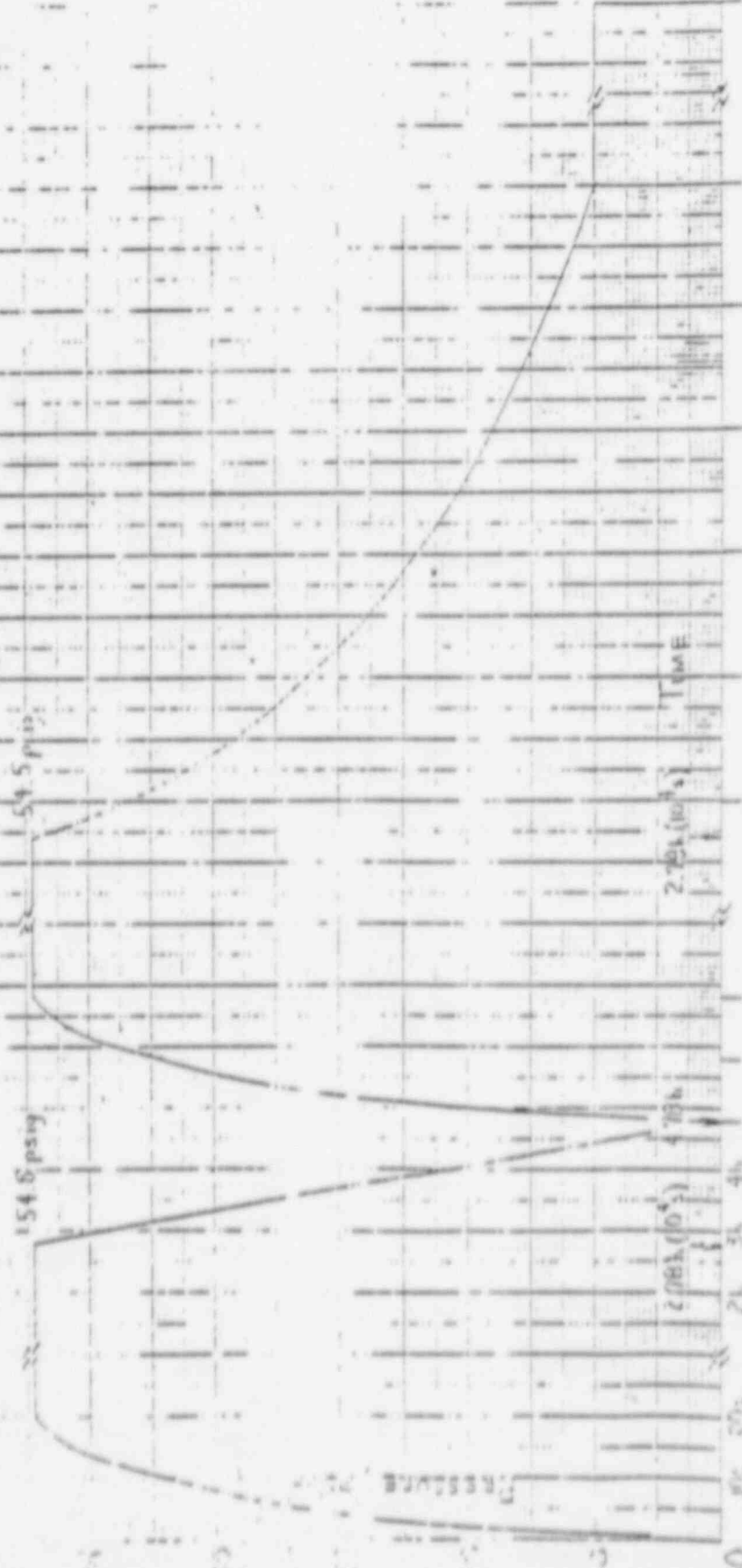
54.5 psig

2.75 (10⁻³)

2 (DBA (10⁻³))

4 (DBA (10⁻³))

TIME



— 100 —

Houston Power & Light (South Texas)

ENVIRONMENTAL QUALIFICATION TEST PROFILE

Temperature Versus Time

Revision: 0, 10/22/75

Auch THERIA.

New Testament

1984

2912

DRX Transient

2.78% (NO₂-) $\bar{z} = \bar{z}(t, \omega)$

—

1

202

1

2

1

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1

—

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1

1

1

1

1

1

1

+

4

+

1

✓

1

"VAULT PACKAGE" #2