SUPERIOR PRODUCTS
INTERNATIONAL II, INC.

RUST GRIP®

TESTING

AND

CERTIFICATION

10835 W. 78th Street • Shawnee, Kansas 66214 • Phone: 913-962-4848; Fax: 913-962-6767
Website: www.spicoatings.com Email: sales@spicoatings.com

The right coating for ultimate protection.

RUST GRIP®

Product Test Listings (08/11/10)

ASTM TESTING:	
B 117	10,000 Hour Salt Spray (Fog) - Salt Spray Fog Testing - RUST GRIP® over Steel
D-257-99	D-C Resistance of Insulating Materials - Surface Resistivity = 5.237E+15 - Volume Resistivity = 5.263E+15
D 522	Mandrel Bend - Penetration through 18 layers of Lead Base Paint - Rated 5A = Excellent
D 610 D 714 D 1654 DG 20-88	Percentage of surface rusted = rating 9 No blistering = rating 10 No loss of adhesion = rating 10 Chemical resistance = excellent
D 3359	Adhesion and Penetration - Penetration through 18 layers of Lead Base Paint - Rated 5A = Excellent
D 4060	Tabor Abrasion Resistance - 1000 Cycles with a CS 17 Wheel, 1000 gram Load - 18 milligram loss per 1000 Cycles, rated Excellent
D 4541	Standard Method for Pull-0ff Strength - Pull-Off Strength = 1467
D 6904	Resistance to Wind-Driven Rain for Exterior Coatings Applied to Masonry
D 7088	Resistance to Hydrostatic Pressure for Coatings Used in Below Grade Applications Applied to Masonry
E-108-00	Spread of Flame Tests on Pitched Roofs - Class "A" Non-combustible
E 903-96	Spectral Reflectance - Average of 3 Tests = 44.6% Solar Reflectance 55.5% Solar Absorption
E 1795	Encapsulation of Leaded Paint in Buildings - Direct Impact Resistance (ASTM D 2794) - Adhesion (ASTM D 3359, D 4541) - Dry Abrasion Resistance (ASTM D 4060) - Water Vapor Transmission (ASTM D 1653) - Flexibility – Mandrel Bend (ASTM D 522) - Distilled Water Resistance – Immersion 24 hours - .010" Tinplated Steel (ASTM D 1308, D 3359) - ¼" Steel or Aluminum (ASTM D 1308, D 4541) - Chemical Resistance – 24 Hours- 12 Reagents - Spot Test on Glass (ASTM D 1308) - Surface Burning Characteristics (E 84) - Volatile Organic Content (VOC) - (ASTM D 2369, D 4017, D 3960, D 1475) - Weathering (1000 hours) - Aging (interior and exterior) - Scrub Resistance (ASTM D 2486) - Black Plastic – No Break thru after 12 cycles) - Mildew Resistance (ASTM D 3273, 3274) - Paint / Repair Ability (ASTM D 3359) - Tensile Properties (6780psi after 3 weeks) - Visco-Elastic Properties (ASTM D 2370)

ASTM TESTING CONTINUED	
F 963	Compliance with maximum soluble limits of - Antimony, arsenic, barium, cadmium, chromium - Lead, mercury, and selenium
G 20	Chemical Exposure - 5% Ammonia - 5% Urea - 1500 Hour Salt Fog
G 85	Prohesion (Louisiana DOT) - 1500 Hour Salt Fog - Rated 9 (out of a possible 10 rating)

Testing for ABS (American Bureau of Shipping), IMO (International Maritime Organization) and U.S. Coast Guard Approval.	
IMO A 653 (16)	Flame Spread [A 653 (16)]
MSC 41	Smoke Toxicity - ASTM B117, D163, D522, D3359, & E1795

China Center for Technical Testing:	
National Measurement M0729	
GB/T 1771-91	- Resistance to Salt Fog (2000 hours)
GB/T 1866-88	- Manuel Aging (2000 hours)
GB/T 10834-88	- Resistance to Salt Water (1000 hours)
GB/T 5219-85	- Adhesion (pulling apart method)

Window Recycling Test for Encapsulation of Lead Based Paint:.
Testing was done for encapsulating existing lead based paint on windows for HUD
- Window coated with RUST GRIP®.
- Coated surface showed no wear, friction burn, or lead-based paint exposure
- Window was cycled a total of 29,700 times before test concluded.

Maximum Temperature Exposure Test:
Thermal analysis testing was performed on RUST GRIP® to determine maximum temperature exposure during application and operation
-Maximum temperature is 600 degrees F (315 degrees C)

Complete Test Results Are Available Upon Request

Superior Products International II, Inc. • 10835 W. 78th Street • Shawnee, KS 66214
Website: www.spicoatings.com • Email: sales@spicoatings.com

Certifications and Registrations (08/10)

1. AMERICAN BUREAU OF SHIPPING

- Passed SOLAS 1974 (as amended) requirements for paints/finish materials Requiring compliance with Parts 2 (Smoke & Toxicity) and 5 (Surface Flammability) of the IMO FTP Code, Res. MSC.61 (67)
- U.S. Type Approval Certificate No. SL520997-X
- E.C. Type Approval Certificate No. 04-HS 458158-EC
- U.S. Coast Guard Product Approval No.: 164.112/0729/458158

2. USDA (UNITED STATES DEPARTMENT OF AGRICULTURE)

- USDA Approved
- Letter of Authorization from USDA Product Safety Branch
- Letter of Written Certification as Accepted by USDA from Manufacturer

3. FACTORY MUTUAL APPROVAL

- Tested and Approved for Metal Roofing

4. FLORIDA DEPARTMENT OF TRANSPORTATION

- Approved for Use on Qualified Products List

5. LOUISIANA DEPARTMENT OF TRANSPORTATION

- Approved for Use on Qualified Products List
- Passed Salt Fog Test for 1500 hours

6. MISSISSIPPI DEPARTMENT OF TRANSPORTATION

- Approved for Use on Qualified Products List

7. TENNESSEE DEPARTMENT OF TRANSPORTATION

- Acceptable for encapsulation of galvanized guardrail

8. UNIVERSITY OF KENTUCKY

- Acceptable for encapsulation of steel bridges for Kentucky Department of Highways

9. GEORGIA DEPARTMENT OF TRANSPORTATION

- Field tested applying RUST GRIP® directly over the steel structure and concrete support columns to fill and seal the voids and gaps in the surface tying the structure together.
- The bridge when new was 10 ton load capacity. After years in service, it dropped to 3 ton from deterioration. Surface and structural repairs were made and RUST GRIP® applied to total surface over all the metal and concrete surfaces. Four months later a new evaluation was made of the structural strength of the bridge which was found to be 21 ton load capacity.

10. NATIONAL ROOFING CONTRACTORS ASSOCIATION

- Superior Products International II, Inc. is an active member of the NRCA.

11. GSA APPROVAL FOR FEDERAL US GOVERNMENT

74 Kent Street
Brooklyn, New York 11222-1517

Phone (718) 383-5080
Fax (718) 383-7445
E-mail: dllabs@aol.com

Accredited by National Voluntary Laboratory Accreditation Program - Lab Code 100252
Accepted by Canadian General Standards Board - No. 76005 - ISO/IEC 25 Approved

June 16, 2010

Superior Products International II, Inc.
10835 W. 78th Street
Shawnee. KS 66214

Att: Mr. Craig R. Smith
Technical Director

Re: DL–15881C – Interim Report 10
Via FAX (913) 962-6767

OBJECTIVE

To test a coating for compliance to the salt spray requirements as outlined in the Florida Department of Transportation specification.

PRODUCT TESTED

Coated panels were submitted by Superior Products II, Inc. and identified as:

Rust Grip NS 1, 6-mils through ***Rust Grip NS 3, 6-mils***

TEST PROCEDURE

The coated panels were exposed in a Salt Fog Chamber maintained in accordance with ASTM B 117, for 15,000 hours. The panels were evaluated periodically for overall blistering in accordance with ASTM D 714 and rust staining in accordance with ASTM D 610.

TEST RESULTS

The test results can be found in the Appendix.

ASTM D 714, Degree of Blistering

Blister Size		Frequency of Occurrence	
10	- None	F	- Few
8	- Pinpoint size	M	- Medium
6	- 1/16-inch diameter approx.	MD	- Medium Dense
4	- 1/8-inch diameter approx.	D	- Dense
2	- ¼-inch diameter approx.		

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Internationally Recognized Independent Testing and Consulting Laboratory
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INTERIM TEST RESULTS (cont.)

ASTM D 610, Degree of Rusting

Rust Grade	Description
10	No rusting
9	Minute rusting, less than 0.03% of surface area
8	Few isolated areas, less than 0.1% of surface area
6	Extensive rust areas, less than 1% of surface area
4	Rusting to the extent of 10% of surface area
2	Approximately 33% of surface rusted
0	Approximately 100% of surface rusted

DL Labs, Inc.

Mario Lazaro, Jr.
Assistant Technical Director

APPENDIX

TEST RESULTS

ASTM B 117

The three coated panels of ***Rust Grip NS, 6-mils*** exhibit the following:

	Blistering	Rust Staining
250 Hours Exposure	10	10
500 Hours Exposure	10	10
750 Hours Exposure	10	10
1,000 Hours Exposure	10	10
1,250 Hours Exposure	10	10
1,500 Hours Exposure	10	10
1,750 Hours Exposure	10	10
2,000 Hours Exposure	10	10
2,250 Hours Exposure	10	10
2,500 Hours Exposure	10	10
2,750 Hours Exposure	10	10
3,000 Hours Exposure	10	10
3,250 Hours Exposure	10	10
3,500 Hours Exposure	10	10
3.750 Hours Exposure	10	10
4,000 Hours Exposure	10	10
4,250 Hours Exposure	10	10
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6,250 Hours Exposure	10	10
6,500 Hours Exposure	10	10
6.750 Hours Exposure	10	10
7,000 Hours Exposure	10	10
7,250 Hours Exposure	10	10
7,500 Hours Exposure	10	10
7,750 Hours Exposure	10	10
8,000 Hours Exposure	10	10
9,000 Hours Exposure	10	10
9,250 Hours Exposure	10	10
9,500 Hours Exposure	10	10
9,750 Hours Exposure	10	10
10,000 Hours Exposure	10	10
11,000 Hours Exposure	**In progress**	

PLASTICS TECHNOLOGY LABORATORIES, INC.

Testing	:	D-C Resistance Of Insulating Materials
Test Method	:	ASTM D257-99
Project Number	:	P20062641
Customer	:	Superior Products International II, Inc
Attention	:	Craig Smith
Analyst	:	P. Swint
Date	:	October 30, 2006

ACCREDITED
Cert. No. 0619.01

Sample Dimensions	:	3" Diameter Disk	
Electrode Type	:	Guarded Parallel Plate	
Electrode Dimensions	:	Measuring	: 1.9993 in. O.D. 0.25835 in. Thick
			: 3.2340 in. O.D. 2.2545 in. I.D. 0.251 in. Thick
		Guard	: 2.9790 in. O.D. 0.4904 in. Thick
Measurement Method	:	Three Terminal	
Measurement Circuit	:	Parallel	
Applied Voltage	:	300 Volts	
Electrode Area	:	22.92 cm^2	
Electrification Time	:	60 Seconds	
Sample Preparation	:	Tested as received. Coating was scraped off to measure the nominal thickness.	
Sample Conditioning	:	40+ Hours at 23°C ± 2°C / 50% ± 5% RH	
Test Conditions	:	23°C ± 2°C / 50% ± 5% RH	

Sample Name	Nominal Thickness (in)		Surface Resistance (Ω)		Surface Resistivity (Ω/square)
32240	0.0016	>	1.000E+14	>	5.237E+15
	0.0016	>	1.000E+14	>	5.237E+15
	0.0016	>	1.000E+14	>	5.237E+15
Average		>	1.000E+14	>	**5.237E+15**

Note: > Means sample exceeded the measuring capabilities of the Megohmmeter.

Nominal thickness is based on three measurements then averaged.

50 Pearl Street, Pittsfield, MA 01201
Phone (413) 499-0983, Fax 499-2339
http://www.ptli.com

Testing	:	D-C Resistance Of Insulating Materials
Test Method	:	ASTM D257-99
Project Number	:	P20062641 Revision (1) Re-measured thickness of surface coating
Customer	:	Superior Products International II, Inc (10-31-06)
Attention	:	Craig Smith
Analyst	:	P. Swint
Date	:	October 30, 2006

ACCREDITED
Cert. No. 0619.01

Sample Dimensions	:	3" Diameter Disk
Electrode Type	:	Guarded Parallel Plate
Electrode Dimensions	:	Measuring : 1.9993 in. O.D. 0.25835 in. Thick
		Guard : 3.2340 in. O.D. 2.2545 in. I.D. 0.251 in. Thick
		Top : 2.9790 in. O.D. 0.4904 in. Thick
Measurement Method	:	Three Terminal
Measurement Circuit	:	Parallel
Applied Voltage	:	300 Volts
Electrode Area	:	22.92 cm^2
Electrification Time	:	60 Seconds
Sample Preparation	:	Tested as received. Coating was scraped off to measure the nominal thickness.
Sample Conditioning	:	40+ Hours at 23°C ± 2°C / 50% ± 5% RH
Test Conditions	:	23°C ± 2°C / 50% ± 5% RH

Sample Name	Nominal Thickness (in)	Volume Resistance (Ω)	Volume Resistivity (Ω•cm)
32240	0.0046	2.343E+12	4.596E+15
	0.0046	7.948E+11	1.559E+15
	0.0046	4.911E+12	9.634E+15
Average		2.683E+12	**5.263E+15**

Nominal thickness is based on three measurements then averaged .

Volume Resistivity = The effective area of the measuring electrode / Thickness of material
Times the measured volume resistance in ohms.

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Accredited by National Voluntary Laboratory Accreditation Program - Lab Code 100252
ISO / IEC 17025 and relevant requirements of ISO 9002

December 28, 2007

Superior Products International II, Inc.
10835 West 78TH Street
Shawnee, KS 66214

ATT: **Mr. Craig Smith**

DL-15485
VIA Fax (913) 962-6767

OBJECTIVE

To evaluate the flexibility of submitted aluminum coated panels.

PRODUCT TESTED

Coated aluminum panels were submitted by Superior Products. The coating was identified as Rust Grip and the coating was applied at 3- 4 mils dry film thickness.

TEST PROCEDURE

The flexibility of the coating was evaluated following procedures outlined in ASTM D 522, "Standard Test Methods for Mandrel Bend Test of Attached Organic Coatings". Testing was conducted using both Method A – Conical Mandrel Test – and Method B – Cylindrical Mandrel Test, using a ½" rod.

TEST RESULTS

Method A – Conical Mandrel – 7.25% elongation
Method B – Cylindrical Bend - No cracking over ½" rod

DL Labs, Inc.

Thomas J. Sliva
Vice President/
Technical Director

cc: M. Lazaro, Jr.

Evaluation Report of Rust Grip Test Samples
Hwy. 190
Mississippi River Bridge
Located in Baton Rouge, LA

Prepared For:

Superior Products International
Mr. Howard Kindig
8740 Bayside
Baton Rouge, LA 70806

Prepared By:

CorrTech Inc.
25 South Street
Hopkinton MA 01748
CorrTech, Inc. Job No. 5223

September 2007

STATEMENT OF LIMITATION

The conclusions presented in this document are based on the services described and not on tasks or procedures beyond the scope of the described procedures or the time and budgetary constraints imposed by the contract limitations.

CorrTech, Inc. has performed this assessment in a professional manner using that degree of skill and care exercised for similar projects under similar conditions by reputable and competent consultants, and in accordance with the procedures established within CorrTech's quality assurance, quality control protocol.

CorrTech, Inc. shall not be responsible for conditions or consequences arising from relevant facts that were concealed, withheld or not fully disclosed at the time the evaluation was performed.

Report Prepared by Ramon Pelaez, Project Manager
NACE CCI 5975
September 2007

Report Reviewed by Scott Paul, PE
NACE Corrosion Specialist No. 4163
September 2007

Report Reviewed by Henry Flanagan, PE
Certified Coatings Inspector 10344
September 2007

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Introduction

Superior Products International retained the services of CorrTech Inc. for professional corrosion engineering services to evaluate the performance of the Rust Grip Coating System. The coating system had been applied to the structural steel support members on the west approach of Louisiana Hwy. 190 over the Mississippi River Bridge located in Port Allen, Louisiana. The evaluation was performed in accordance with the following standards:

ASTM D 610-01 Standard Method for Evaluating Degree of Rusting on Painted Steel Surfaces.

ASTM D 714-02 Standard Test Method for Evaluating Degree of Blistering of Paints.

ASTM D 1654-05 Standard Test Method for Evaluation of Painted or Coated Specimens Subject to Corrosive Environments

ASTM D G 20-88 (Reapproved 2002) Standard Test Method for Chemical Resistance of Pipeline Coatings.

Background

The bridge is located in a coastal area and in the vicinity (within 500 ft) of Exxon Refinery, Formosa Plastics, Kaiser Aluminum, and Chemicals and several other industries. This environment is considered corrosive.

The Louisiana Department of Transportation designated the test locations to be coated; the areas were previously coated with a 16mil DFT three coat lead based system.

The existing lead based coating system was 25 years old and in poor condition. The Rust Grip coating was applied at a total of 4 mills DFT. No surface preparation was performed for the application. The Rust Grip coating was applied on November l0, 2003.

Field Inspection Results

Field inspection was performed by Mr. Henry. P. Flanagan P.E NACE Certified Coatings Inspector # 10344. The inspection was performed on November 24, 2006.

Ffield inspection consisted of visual inspection of the areas coated and scribing (ASTM D 1654-05) designated areas for inspection at a later date. The scribed areas were inspected on September 23, 2007 by Mr. Ramon E. Pelaez NACE Certified Inspector # 5975.

ASTM D 610-01 Standard Method for Evaluating Degree of Rusting on Painted Steel Surfaces. This test method covers the evaluation of the degree of rusting on painted steel surfaces.

ASTM 610-01 results:

		Visual Examples		
Rust Grade	Percent of Surface Rusted	Spot (s)	General (G)	Pinpoint (P)
9	Greater than 0.01 percent and up to 0.03 percent	9-S	9-G	9-P

ASTM D 714-02 Standard Test Method for Evaluating Degree of Blistering of Paints. This test method employs photographic reference standards to evaluate the degree of blistering that may develop when paint systems are subjected to conditions which will cause blistering,

The degree of blistering is categorized by size and frequency:

Size- Reference standards have been selected for four steps as to size on a numerical scale from 10 to 0, in which No. 10 represent no blistering

Frequency- Reference standards have been selected for four steps in frequency at each step in size, designated as follows:

Dense (D) Medium dense, (MD) Medium, (M) and Few. (F)

ASTM D 714-02 results:

Scale	Visual Inspection
10	No blistering

ASTM D 1654-05 Standard Test Method for Evaluation of Painted or Coated Specimens Subject to Corrosive Environments. This test method covers the treatment of previously painted or coated specimens for accelerated and atmospheric exposure tests and their subsequent evaluation in respect to corrosion, loss of adhesion at the scribe mar, or other film failure.

ASTM D 1654-05 results:

Rating of Failure at Scribe (Procedure A)		
Representative Mean Creepage From Scribe		
Millimeters	Inches (Approximate)	Rating Number
Zero	0	10

Laboratory Test Results

ASTM D G 20-88 (Reapproved 2002) Standard Test Method for Chemical Resistance of Pipeline Coatings.

This test method is intended for evaluating the resistance of pipe coating materials when exposed to various concentrations of reagents suspected of soil contaminants. This test evaluates the relative merits of pipe-coating materials in specific environments. The choice of reagents, concentrations, duration of immersion, temperature of test and properties to be reported are necessarily arbitrary and should be chosen to reflect conditions known to exist along the pipe line right of way.

ASTM D G 20-88 (Reapproved 2002) results:

It is considered that Rust Grip is suitable coating for the coating of bare or previously coated bridge structures for corrosion protection. See Appendix III for supporting documentation.

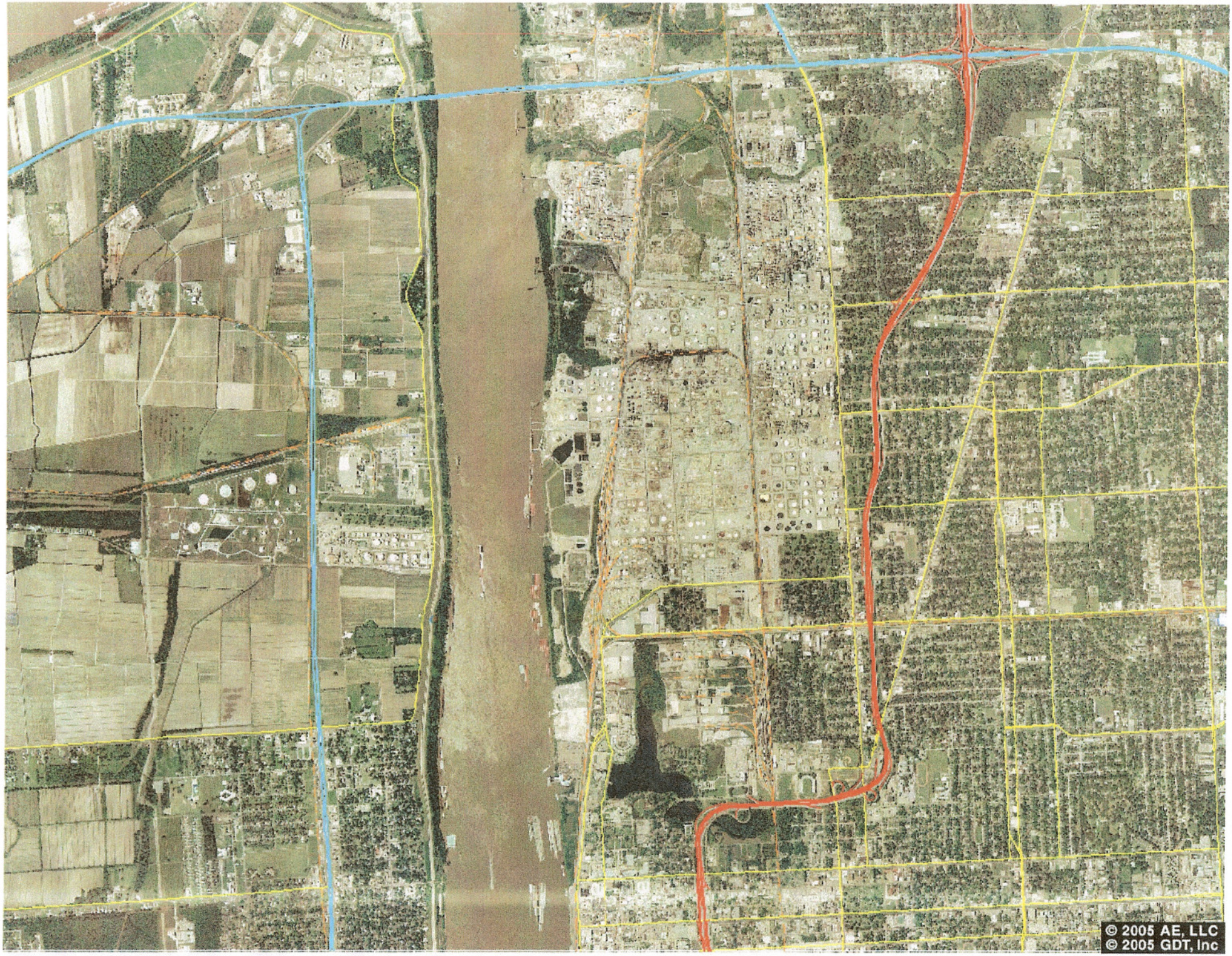
Conclusions

Based on the field inspection and laboratory testing, Rust Grip is deemed a suitable coating for the protection of steel superstructures coated with lead based coating system in fair to poor condition as long as the substrate is prepared properly and the coating system is mixed and applied in strict accordance with manufacturers recommendations.

APPENDIX I

Bridge Geographical Location


0 1 2 3 4 5 Miles
A
B
91°10′
1
2
3
30°30′
30°20′
BAKER
Irene
Alsen
North Maryland
Scotlandville
Zion City
BATON ROUGE
Brown Heights
Puckett
Central
Tanglewood
Comite
Greendale
Howell
Dearford
McHugh
Scotland
Allendale
Belmont
Westover
Lobdell
Anchorage
Kahns
Lejeune
Sunrise
PORT ALLEN
Chamberlin
Devalls
Solitude Point
Thomas Point
Profit Island
PROFIT ISLAND GAS FIELD
EAST BATON ROUGE
WEST BATON ROUGE
MISSISSIPPI RIVER
Boudreaux Spur
Stevensdale
Sharp
Castlewood
Goodwood
Broadmoor
Millerville
Aubin
Inniswold
Nesser
Siegen
Foreman
Kleinpeter
Essen
Collegetown
College Hill
Hillside
Arlington
University
LOUISIANA STATE UNIV.
L.S.U. EXPERIMENTAL FARM
Beaulieu
Antonio
Brusly Landing
Lukeville
BRUSLY
Cinclare
Choctaw
Duncan Point
Gardere
Longwood
Burtville
Staring
ADDIS
St. Delphine
Chenango
Eliza
Manchac Point
MANCHAC POINT OIL FIELD
MORRISONVILLE OIL FIELD
BAYOU CHOCTAW OIL AND GAS FIELDS
PORT ALLEN OIL FIELD
WEST BATON ROUGE
IBERVILLE
EAST BATON ROUGE
IBERVILLE
ASCENSION
Morrisonville
PLAQUEMINE
Myrtle Grove
Plaquemine Point
Pecan Spur
Seymourville
McWilliams
Allemania
Iberville (Bayou Paul Sta.)
Bayou Paul
Sunshine P.O.
Willow Glen
HUNT CORRECTIONAL CENTER
MISSISSIPPI RIVER


© 2005 AE, LLC
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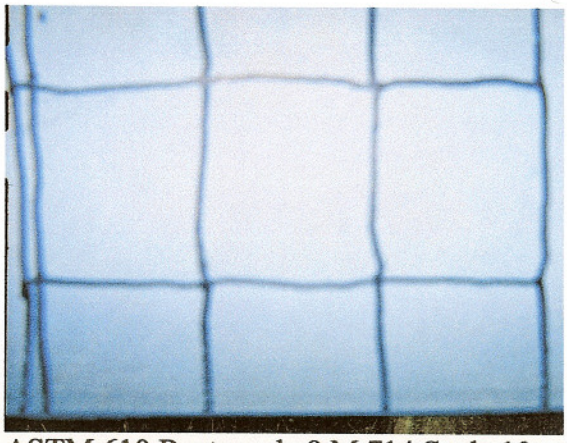
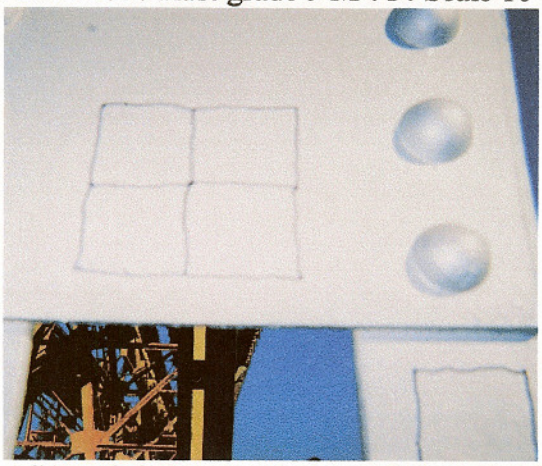
APPENDIX II

Photo Log

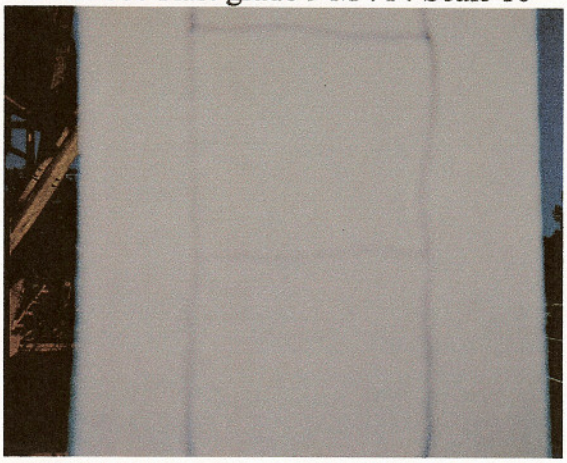
ASTM 610 Rust grade 9 M 714 Scale 10



ASTM 610 Rust grade 9 M 714 Scale 10



ASTM 610 Rust grade 10 M 714 Scale 10



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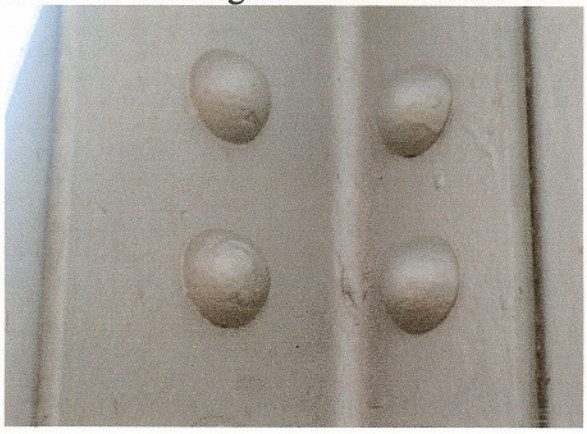
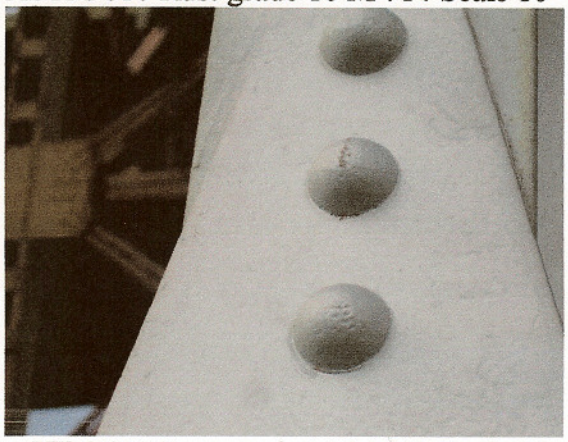


ASTM 610 Rust grade 10 M 714 Scale 10



ASTM 610 Rust grade 10 M 714 Scale 10

ASTM 1654 No creepage from scribe

ASTM 1654 No creepage from scribe

APPENDIX III

ASTM G-20 Laboratory Report

PROJECTED 180 DAY ANALYSIS
BASED ON 90 DAY EXPOSURE TO
AMMONIA, UREA, & DIESEL FUEL
PER ASTM G20 TESTING
FOR SUPERIOR PRODUCTS
ON RUST GRIP
VTEC #100-2613
TESTED: MAY 17, 2007 - AUGUST 15, 2007

VTEC Laboratories Inc.

August 29, 2007

Client: Superior Products
10835 W. 78th Street
Shawnee, KS 66214

Scope:
This report contains the reference to the test method, preparation of sample, observation of material, test and post-test observation data test results.

Test Method:
The samples were immersed in three different chemicals: 5% Ammonia, 5% Urea, and Diesel Fuel. The samples were visual observed at 30, 60, and 90 days. The test method used was ASTM G20.

Disclaimer:
This is a factual report of the results obtained from the laboratory test of sample products. The results may be applied only to the products tested and should not be construed as applicable to other similar products of the manufacturer. The report is not a recommendation or disapprobation by VTEC Laboratories, Inc. of the material tested. While this report may be used for obtaining product acceptance, it may not be used in advertising.

Notice: VTEC Laboratories Inc. will not be liable for any loss or damage resulting from the use of the data in this report, in excess of the invoice. This report pertains to the sample tested only. Such report shall not be interpreted to be a warranty, either expressed or implied as to the suitability or fitness of said sample for such uses or applications, as the party contracting for the report may apply such sample.

Material Tested:

1) Manufacturer: Superior Products
2) Product Description: Rust Grip coating applied to 6" long, 2.4" diameter black iron pipe.
3) Color: Gray
4) Number of Specimens: 33 (18 with holidays, 15 without)
5) Material description: By Manufacturer and VTEC
6) Date of selection: April 2007
7) Temperature: 70~80ºF
8) Average Immersion Area: 45 in^2
9) Average Vapor Phase Area: 45 in^2

Test Results:

After 30 Days:

Sample #	Thk (mils)	Holiday	Chemical	Observations
1	8.4	Yes	5% Urea	Discoloration; rust around holiday; no softening, blistering, or loosening.
2	7.6	Yes	5% Urea	Discoloration; rust around holiday; no softening, blistering, or loosening.
19	12.2	No	5% Urea	Discoloration; no softening, blistering, or loosening.
20	9.9	No	5% Urea	Discoloration; no softening, blistering, or loosening.
7	5.5	Yes	5% Ammonia	Discoloration; blistering; no softening or loosening.
8	6.6	Yes	5% Ammonia	Discoloration; blistering; no softening or loosening.
24	8.1	No	5% Ammonia	Discoloration; blistering; no softening or loosening.
25	8.9	No	5% Ammonia	Discoloration; blistering; no softening or loosening.
13	8.0	Yes	Diesel	No change
14	7.6	Yes	Diesel	No change
29	10.1	No	Diesel	No change
30	6.6	No	Diesel	No change

After 60 Days:

Sample #	Thk (mils)	Holiday	Chemical	Observations
3	5.4	Yes	5% Urea	Discoloration; rust around holiday and some other spots on coating; no softening, blistering, or loosening.
4	7.2	Yes	5% Urea	Discoloration; rust around holiday; no softening, blistering, or loosening.
22	8.0	No	5% Urea	Discoloration; some rust spots, no Softening, blistering, or Loosening.
9	6.2	Yes	5% Ammonia	Discoloration; blistering; no softening or loosening.
10	6.7	Yes	5% Ammonia	Discoloration; blistering; no softening or loosening.
26	9.1	No	5% Ammonia	Discoloration; no softening, blistering, or loosening.
15	8.1	Yes	Diesel	No change
16	6.6	Yes	Diesel	No change
31	5.8	No	Diesel	No change

After 90 Days:

Sample #	Thk (mils)	Holiday	Chemical	Observations
5	8.0	Yes	5% Urea	Discoloration; rust around holidays; no softening, blistering, or loosening.
6	6.4	Yes	5% Urea	Discoloration; rust around holidays; no softening, blistering, or loosening.
22	8.0	No	5% Urea	Discoloration; some rust spots, no Softening, blistering, or Loosening.
23	7.5	No	5% Urea	Discoloration; no Softening, blistering, or Loosening.
11	6.4	Yes	5% Ammonia	Discoloration; blistering; no softening or loosening.
12	7.7	Yes	5% Ammonia	Discoloration; blistering; no softening or loosening.
27	7.5	No	5% Ammonia	Discoloration; no softening, blistering, or loosening.
28	10.1	No	5% Ammonia	Discoloration; no softening, blistering, or loosening.
17	7.4	Yes	Diesel	No change
18	7.1	Yes	Diesel	No change
32	6.3	No	Diesel	No change
33	7.7	No	Diesel	No change

Analysis:

After 90 days the sample change was not significant. It is projected that probably no additional changes will occur at the 180-day point since there were basically no additional changes between 30 and 90 days. The rubber stoppers on the diesel fuel samples swelled. See Photos

Neil Schultz
Executive Director

A. Rahim
Amirudin Rahim
Technical Director

Photos:

After 30 Days:

Sample #1 Exposed to 5% Urea

Sample #2 Exposed to 5% Urea

Sample #19 Exposed to 5% Urea

Sample #20 Exposed to 5% Urea

Sample #7 Exposed to 5% Ammonia

Sample #8 Exposed to 5% Ammonia

Sample #24 Exposed to 5% Ammonia

Sample #25 Exposed to 5% Ammonia

Sample #13 Exposed to Diesel

Sample #14 Exposed to Diesel

Sample #29 Exposed to Diesel

Sample #30 Exposed to Diesel

After 60 Days:

Sample #3 Exposed to 5% Urea

Sample #4 Exposed to 5% Urea

Sample #21 Exposed to 5% Urea

Sample #9 Exposed to 5% Ammonia

Sample #10 Exposed to 5% Ammonia

Sample #26 Exposed to 5% Ammonia

Sample #15 Exposed to Diesel

Sample #16 Exposed to Diesel

Sample #31 Exposed to Diesel

After 90 Days:

Sample #5 Exposed to 5% Urea

Sample #6 Exposed to 5% Urea

Sample #22 Exposed to 5% Urea

Sample #23 Exposed to 5% Urea

Sample #11 Exposed to 5% Ammonia

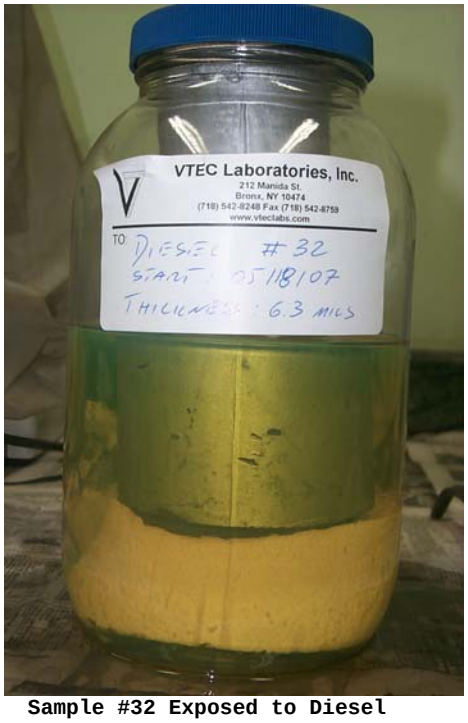
Sample #12 Exposed to 5% Ammonia

Sample #27 Exposed to 5% Ammonia

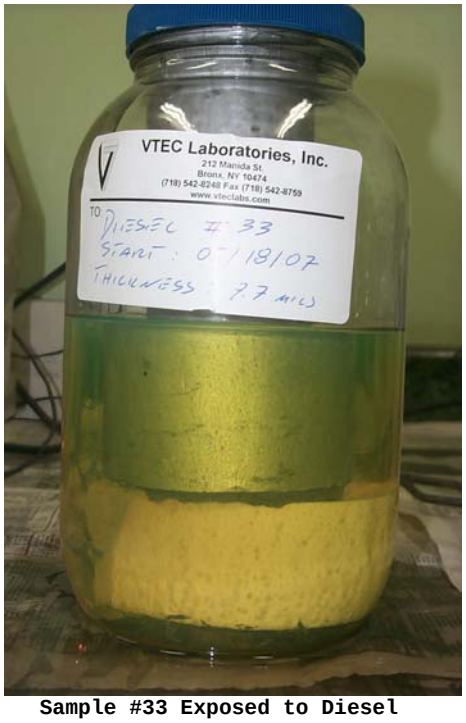
Sample #28 Exposed to 5% Ammonia

Sample #17 Exposed to Diesel

Sample #18 Exposed to Diesel



Sample #32 Exposed to Diesel



Sample #33 Exposed to Diesel

ASTM D3359 METHOD A
ADHESION TESTING
FOR SUPERIOR PRODUCTS
INTERNATIONAL II, INC.
ON RUST GRIP OVER 18 COATS PAINT
VTEC 100-2115-1
TESTED: MARCH 18, 2005

March 18, 2005

Client: Superior Products International II, Inc.
10835 W. 78th Street
Shawnee, KS 66214

Attention: J.E. Pritchett

Scope:

This report contains the reference to the test method, preparation and conditioning of sample, description of material, test and post test observation data, and test results.

Test Method:

This test was conducted in accordance with ASTM D3359, "Standard Test Method for Measuring Adhesion by Tape Test".

Preparation of Material:

The Rust Grip coating was applied over 18 coats of an oil based paint totally encapsulating it. The 18 coats of oil based paint was applied on a 1/4" thick cement board and was fully cured. The surface was roughed up with sandpaper before the coating was applied. The Rust Grip coating was applied in one coat at a thickness of 8-10 mils wet and allowed to cure for 14 days.

The adhesion test was performed on the Rust Grip coating using "Test Method A" of ASTM D3359.

Material Tested:

1) Product Description:	Rust Grip
2) Color:	Gray
3) Surface:	Smooth
4) Sample Selection:	Supplier
5) Material Description By:	Supplier and VTEC
6) Purpose of Test:	Adhesion

IV. Test Results

Test No.	Rating
1	5A
2	5A
3	5A
Average	5A

V. Disclaimer

This is a factual report of the results obtained from the laboratory test of sample products. The results may be applied only to the products tested and should not be construed as applicable to other similar products of the manufacturer. The report is not a recommendation or disapprobation by VTEC Laboratories, Inc. of the material tested. While this report may be used for obtaining product acceptance, it may not be used in advertising.

Neil Schultz
Executive Director

Amirudin Rahim
Technical Director

MICROPHOTO GRAPH
FOR SUPERIOR PRODUCTS
INTERNATIONAL II, INC.
ON RUST GRIP OVER 18 COATS PAINT
VTEC 100-2115-2
MARCH 30, 2005

March 30, 2005

Client: Superior Products International II, Inc.
10835 W. 78th Street
Shawnee, KS 66214

Attention: J.E. Pritchett

Scope:

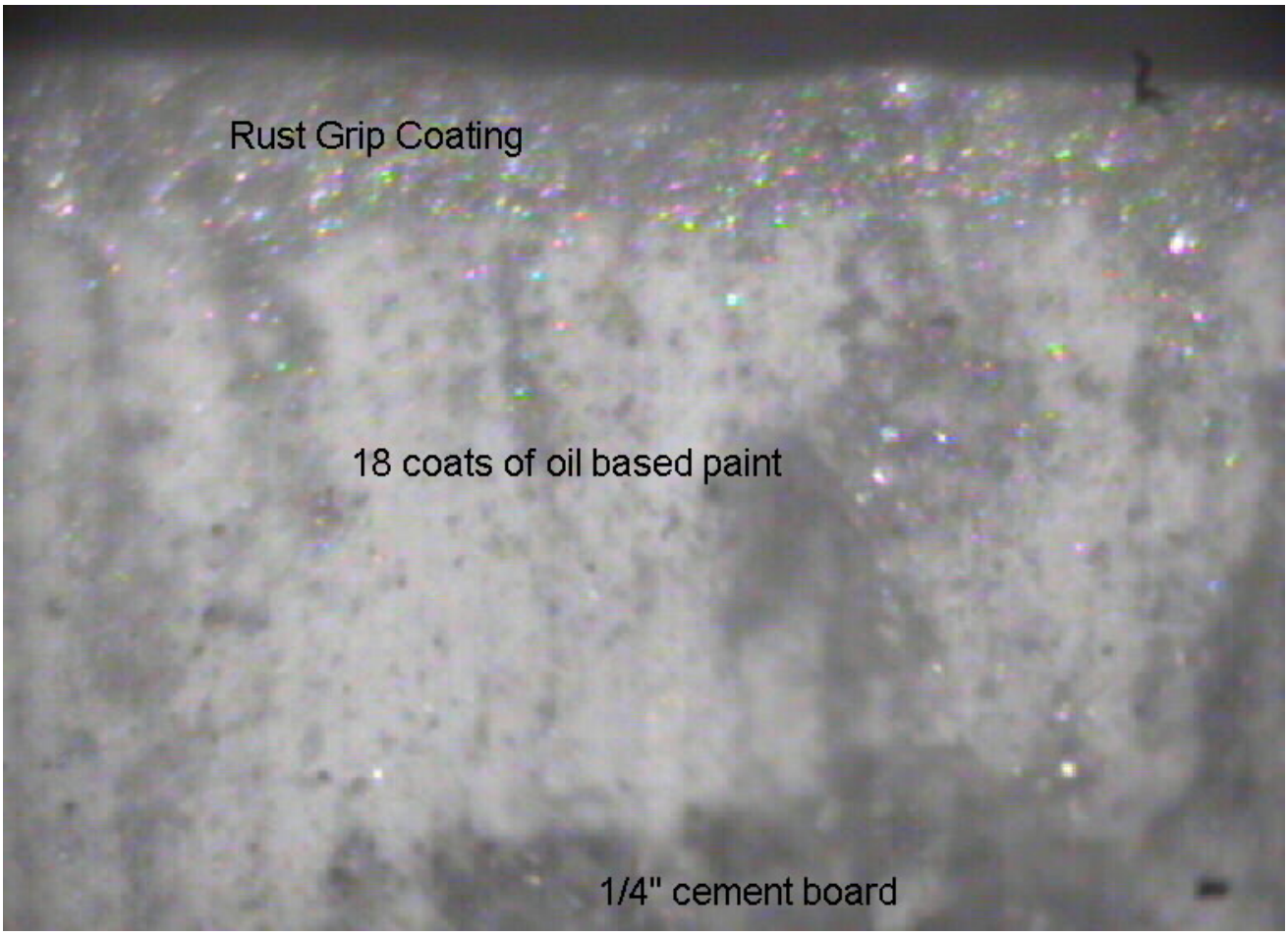
This report contains microphoto graph pictures taken of the cross section. Two photos were taken of the cement board with 18 coats of oil based paint. One photo is the board with the Rust Grip coating and the other is the board without the Rust Grip coating. Both photos were taken at 30x zoom.

Preparation of Material:

The Rust Grip coating was applied over 18 coats of an oil based paint totally encapsulating it. The 18 coats of oil based paint was applied on a 1/4" thick cement board and was fully cured. The surface was roughed up with sandpaper before the coating was applied. The Rust Grip coating was applied in one coats at a thickness of 8-10 mils wet and allowed to cure for 14 days.

¼" Cement Board with 18 coats of oil based paint

¼" Cement Board with 18 coats of oil based paint and 8-10 wet mils of Rust Grip



Neil Schultz
Executive Director

Amirudin Rahim
Technical Director

SUPERIOR PRODUCTS
INTERNATIONAL II, INC.

PRODUCT REPORT
MARCH 26, 1991

PRODUCT IDENTIFICATION: RUST GRIP

PROJECT DESCRIPTION:

Identify the effects of abrasion resistance when run under the Taber abraser wheel.

METHOD OF TEST:

ASTM D4060: Standard test method for the effect of abrasion resistance and milage loss.

PANEL PREPARATION:

The sample panel was coated and allowed to dry and cure for 72 hours before performing test.

TEST CONDITIONS:

Room temperatures were rated between 72-78 degrees F. during test cycle. Relative humidity was of no importance and not measured.

PROCEDURES:

Standard method ASTM D4060. 1000 cycles at 1000 gram load.

RESULTS:

1000 cycles with the CS 17 wheel using a 1000 gram load---18 milligram loss per 1000 cycles, rating is excellent.

ASTM D4541 TESTING
FOR SUPERIOR PRODUCTS
INTERNATIONAL II INC.
ON RUST GRIP
VTEC #100-2311
TESTED: DECEMBER 30, 2005

VTEC Laboratories Inc.

January 3, 2006

Client: Superior Pruducts International II Inc.
10835 W. 78th St.
Shawnee, KS 66214

Attention: Mr. J.E. Pritchett

Scope: This report contains the reference to the test method, material description, test results, and post test observations/conclusions.

Test Method: This test was conducted in accordance with ASTM D4541, "Standard Test Method for Pull-Cff Strength of Coatings Using Portable Adhesion Testers"

Material:

1) Manufacturer:	Superior Products International II Inc.
2) Product Description:	Rust Grip
3) Coating Thickness:	6 mils
4) Color:	Gray
5) Surface:	Smooth
6) Substrate:	Steel
7) Substrate Dimensions:	12" x 12" x 3/8"
8) Dolly Diameter:	20 mm
9) Test Apparatus:	DeFelsko PosiTest Pull-Off Adhesion Tester
10) Adhesive:	Huntsman 2011 Araldite
11) Temperature:	66ºF
12) Humidity:	46%

Test Results:

Dolly #	Failure Stress (psi)	Scoring Yes/No
1	1264	Yes
2	1536	Yes
3	1554	Yes
4	1353	Yes
5	1466	Yes
6	1593	Yes
7	1462	Yes
8	1578	Yes
9	1490	Yes
10	1372	Yes
Average	**1467**	

Neil Schultz
Executive Director

A. Rahim
Amirudin Rahim
Technical Director

74 Kent Street
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Fax (718) 383-7445
E-mail: dllabs@aol.com

Accredited by National Voluntary Laboratory Accreditation Program - Lab Code 100252
ISO / IEC 17025 and relevant requirementsof ISO 9002

November 29, 2005

Superior Products International, Inc.
10835 W. 78th Street
Shawnee, Kansas 66214

Att: **Mr. Tim Cappel**

Re: DL-14666F
Via FAX (913) 962-6767

OBJECTIVE

To evaluate a submitted coating for Resistance to Wind Driven Rain as outlined in ASTM D 6904, "Standard Practice for Resistance to Wind-Driven Rain for Exterior Coatings Applied to Masonry".

PRODUCT TESTED

Rust Grip
Color: Gray
Batch No. 092605

TEST PROCEDURE

Testing was conducted in accordance with procedures outlined in ASTM D 6904, except that no block filler was used. The coating was applied in two coats, each coat approximately 4 mils wet film thickness with a 30 minute dry between coats. The coating was allowed to cure for twenty-one days before testing was conducted.

TEST RESULTS

ASTM D 6904 does not have any requirements. The method is based on the superseded Federal Specification TT-C-555B and its requirements are shown below:

The resistance to wind driven rain for the coating tested was as follows:

Property	Requirement	Results
Weight Gain	0.32 lbs. max.	0.16 lbs.
Dampness	None	None

CONCLUSIONS

1) The submitted coating, namely; Rust Grip, exhibited a 0.16 lb weight gain and no visible dampness on the uncoated side, when tested in accordance with ASTM D 6904.

2) The submitted coating conforms to the requirements of the superseded Federal Specification TT-C-555B, as tested.

DL Labs, Inc.

Thomas J. Sliva
Vice President/
Technical Director

cc: M. Lazaro, Jr.

74 Kent Street
Brooklyn, New York 11222-1517

Phone (718) 383-5080
Fax (718) 383-7445
E-mail: dllabs@aol.com

Accredited by National Voluntary Laboratory Accreditation Program - Lab Code 100252
ISO / IEC 17025 and relevant requirementsof ISO 9002

November 29, 2005

Superior Products International, Inc.
10835 W. 78th Street
Shawnee, Kansas 66214

Att: **Mr. Tim Cappel**

Re: DL-14666C
Via FAX (913) 962-6767

OBJECTIVE

To evaluate the hydrostatic pressure resistance of a submitted water proof coating.

PRODUCT TESTED

The following coating was submitted by Superior Products for testing:

Rust Grip
Color: Gray
Batch No. 092605

PROCEDURE

Testing for resistance to hydrostatic pressure was conducted in accordance with procedures outlined in ASTM D 7088, "Standard Practice for Resistance to Hydrostatic Pressure for Coatings Used in Below Grade Applications Applied to Masonry" with the following exceptions:

1) The coating was applied to commercially available masonry test blocks The blocks were a nominal 8"X8" X8" in size, with 1 inch thick walls.

2) The coating was applied in two coats, each coat approximately 4 mils wet film thickness with a 30 minute dry between coats.

3) The coating was allowed to cure for twenty-one days before introduction of water into the coated blocks.

4) Testing was conducted at 4 psi as outlined in the method.

TEST RESULTS

ASTM D 7088 does not have any requirements. The method is based on the superseded Federal Specification TT-P-1411A Paint, Copolymer-Resin, Cementitious for Waterproofing and Masonry Walls, which specifies the requirements as outlined below.

The coating exhibited the following hydrostatic pressure resistance characteristics:

Testing at 4 PSI

Test	Requirement	Results
Blistering	None	None
Adhesion Loss	None	None
Softening	None	None
Discoloration	None	None
Water Droplets	6 max.	None
Frequency	Medium max.	None

CONCLUSIONS

1) Sample of Rust Grip does not exhibit any water droplets or blistering when tested in accordance with procedures outlined in ASTM D 7088, as tested above.

2) The sample of conforms to the requirements as stated in the superseded Federal Specification TT-P-1411A Paint, Copolymer-Resin, Cementitious for Waterproofing and Masonry Walls, when tested as above.

DL Labs, Inc.

Thomas J. Sliva
Vice President/
Technical Director

cc: M. Lazaro, Jr.

FM Approvals

APPROVAL REPORT

APPROVAL TESTING OF RUST GRIP AND SUPER THERM ROOF COATINGS OVER METAL PANEL ROOFS

Prepared for:

Superior Products International II, Inc.
10835 West 78th Street
Shawnee, KS 66214

Project ID: 3016478
Class: 4470
Date: November 20, 2003

FM APPROVALS
3016478

APPROVAL TESTING OF RUST GRIP AND SUPER THERM ROOF COATINGS OVER METAL PANEL ROOFS

from

Superior Products International II, Inc.
10835 West 78th Street
Shawnee, KS 66214

I INTRODUCTION

1.1 Superior Products International II, Inc. submitted their RUST GRIP and SUPER THERM roof coatings to determine if they meet the Approval requirements of the **Standard** listed below when installed over metal panel roof covers.

1.2 This Report may be reproduced only in its entirety and without modification.

1.3 **Standard:**

Title	Class Number	Date
Approval Standard for Class 1 Roof Covers	4470	April, 1986

1.4 The examination consisted of ASTM E108-00 Spread of Flame testing as well as initial in plant quality control inspections of the manufacturing facilities that produce these products.

1.5 Tests show that the RUST GRIP and SUPER THERM roof coatings meet the Approval requirements of the **Standard** listed above.

1.6 **Listings:** The tested constructions meet the Approval criteria of FM Approvals when installed as specified in the **CONCLUSIONS** of this report. The product will be listed in the FM Approval Guide as follows:

Liquid Applied Roof Coverings

Trade Name:	RUST GRIP
Substrate:	Insulated or protected metal roof panels
Application:	Brush, roller or spray applied at 0.5 gal/sq. (0.2 L/m²). The nominal dry thickness is 3 mils (0.08 mm).
ASTM E 108:	Class A noncombustible at 2 in 12 slope
Trade Name:	SUPER THERM
Substrate:	Insulated or protected metal roof panels
Application:	Brush, roller or spray applied at 1.0 gal/sq. (0.4 L/m²). The nominal dry thickness is 10 mils (2.5 mm).
ASTM E 108:	Class A noncombustible at 2 in 12 slope

II DESCRIPTION

2.1 RUST GRIP is a one part polyurethane coating that combines with atmospheric moisture to cure. Upon curing, it provides a protective coating with adhesion, flexibility and abrasion resistant properties. It is designed for application on prepared metal roof substrates. The application rate is 0.5 gal/sq (0.2 L/m²).

2.2 SUPER THERM is a combination of aliphatic urethanes, elastomeric acrylics, standard acrylics and resin additives in a water-borne formula. It is designed for application on prepared metal roof substrates. The application rate is 1 gal/sq (0.4 L/m²).

2.3 Proprietary formulations of the above products are on file at FM Approvals.

2.4 Production of the coatings used in this program were witnessed by a representative of FM Approvals.

III EXAMINATIONS AND TESTS

3.1 Samples were submitted for examination and testing as shown below. Test samples were prepared by FM Approvals personnel. All data is on file at FM Approvals under J.I 3016478 along with other documents and correspondence applicable to this program.

3.2 ASTM E108-00 Spread of Flame Tests

3.2.1 The fire tests from above the roof cover were conducted in accordance with ASTM E108-00 Spread of Flame Tests.

3.2.2 Sample size was 3-1/3 by 8 ft. (1.0 by 2.4 m).

3.2.3 The wind velocity over the top of the standard panel was adjusted to 12±0.5 mph (5.3±0.2 m/s).

3.2.4 Flame exposure: The flame was adjusted to 1400±50°F (760±28°C) for Class A tests. The flame temperature was measured by a thermocouple located 1 in. (25.4 mm) above the surface of the standard panel and 1/2 in. (13 mm) toward the flame source from the lower edge of the standard panel. The flame was applied to each test panel for 10 minutes.

3.2.5 During and after the application of the flame, each panel was observed for the distance of maximum flame spread, glowing brands and other damage.

3.2.6 Four (4) 3-1/3 by 8 ft. (1.0 by 2.4 m) test samples were prepared. The components and sequence of installation were as follows. All samples were allowed to cure for 28 days.

Sample No.1 and 2:
- painted metal panels were attached to an ASTM E108 test deck
- one coat of RUST GRIP coating was applied at a rate of 0.5 gal/sq (0.2 L/m²) using a ¼ in. (6 mm) nap roller

Sample No.3 and 4: - painted metal panels were attached to an ASTM E108 test deck
- one coat of SUPER THERM coating was applied at a rate of 1.0 gal/sq (0.4 L/m²) using a ¼ in. (6 mm) nap roller

3.2.7 The results of the ASTM E108 Spread of Flame tests were as follows:

Sample No.	Slope	Max. Flame Spread	Rating
1	2 in 12	2 ft 7 in (0.8 m)	Class A
2	2 in 12	2 ft 8 in (0.8 m)	Class A
3	2 in 12	2 ft 4 in (0.7 m)	Class A
4	2 in 12	2 ft 3 in (0.7 m)	Class A

3.2.8 Flying brands and significant lateral flame spread were not observed during the tests.

IV MARKING

4.1 The manufacturer shall mark each packing container with the manufacturer's name and product trade name. In addition, the container must be marked with the Approval Mark of FM Approvals and the words "Subject to the conditions of Approval when installed as described in the current edition of the FM Approval Guide".

4.2 Markings denoting Approval by FM Approvals shall by applied by the manufacturer only within and on the premises of manufacturing locations that are under the FM Approvals Facilities and Procedures Audit program.

4.3 The manufacturer agrees that use of the FM Approvals name or Approval Mark is subject to the conditions and limitations of the Approval by FM Approvals. Such conditions and limitations must be included in all references to Approval by FM Approvals.

V FACILITIES AND PROCEDURES AUDITS

The Superior Products International II, Inc. manufacturing locations in Shawnee, KS and Pleasant Hill, MO will be subject to periodic audit inspections to determine that the quality and uniformity of the materials have been maintained and will provide the same level of performance as originally Approved. The facilities and quality control procedures in place have been found to be satisfactory to manufacture products identical to those examined and tested as described in this report.

VI MANUFACTURER'S RESPONSIBILITIES

6.1 To assure compliance with these procedures in the field, the manufacturer shall supply to the roofer such necessary instruction or assistance required to produce the desired performance achieved in the tests.

6.2 The manufacturer shall notify FM Approvals of any planned change in the Approved product, prior to general sale or distribution, using Form 797, Approved Product Revision Report.

VII DOCUMENTATION

The following document was developed as a result of this program as an aid in conducting follow-up audits at manufacturing facilities. A copy is kept on file at FM Approvals.

Document	Issue or Revision	Description
FM Approvals Facilities and Procedures Audit Manual	November 2003	Provides instructions to follow-up auditors for conducting audits.

VIII CONCLUSIONS

8.1 Test results indicate that the Superior Products International II, Inc. RUST GRIP and SUPER THERM roof coatings, when applied over properly prepared metal substrates, meet the Approval requirements of FM Approvals Standard 4470 for Class 1 roof constructions.

8.2 The roof coatings have satisfactorily met the requirements of the ASTM E108-00 Spread of Flame Tests when applied at the application rates described in this report.

8.3 Facilities and Procedures Audits of the Superior Products International II, Inc. facilities where these products are manufactured indicate that these locations have the necessary equipment, facilities, personnel and quality controls to produce the roof coatings examined in this report.

8.4 Continued Approval is dependent upon manufacture of the roof coatings in accordance with this report, satisfactory field experience, and acceptable quality control procedures as determined by follow-up Facilities and Procedures Audits.

8.5 Approval is effective when the Agreement that accompanies this report is signed and returned to FM Approvals.

8.6 Continued Approval will depend upon satisfactory field experience and periodic Facilities and Procedures Audits.

PROJECT DATA RECORD: **3016478**

ORIGINAL TEST DATA: **None**

ATTACHMENTS: **None**

REPORT BY:

Jeffrey E. Gould
Senior Engineering Specialist

REPORT REVIEWED BY:

Leonard N. D'Angelo
Technical Team Manager - Materials Group

ASTM E 903-96
REFLECTANCE TESTING
FOR
SUPERIOR PRODUCTS INTERNATIONAL II
ON
RUST GRIP #121802
VTEC #100-1711
TESTED: MARCH 13, 2003

VTEC Laboratories Inc.

March 26, 2003

Client: Superior Products International II, Inc.
10835 W. 78th Street
Shawnee, KS 66214

Attention: Mr. J.E. Pritchett

Subject: Standard Method For Solar Absorptance, Reflectance and Transmittance of Materials Using Integrating Spheres According to ASTM E 903-96.

Sample Description: Rust Grip #121802

TEST METHODS AND PROCEDURES:

Hemispherical spectral reflectance measurements were performed in accordance with ASTM Standard Test Method E 903-96. The measurements were performed with a Beckman 5240 Spectrophotometer utilizing an integrating sphere. Total reflectance measurements were obtained in the solar spectrum from 2500nm to 300nm at an incident angle of 15°. The measurements employ a detector-baffled, wall-mounted integrating sphere that precludes the necessity of employing a reference standard except to define the instrument's 100% line. The measurements are properly denoted as being "hemispherical spectral reflectance".

The spectral data were integrated against Air Mass 1.5 global spectrum utilizing 109 weighted ordinates.

212 Manida Street • Bronx, New York 10474 • (718) 542-8248 • Fax: (718) 542-8759 • www.vteclabs.com

DISCLAIMER:

This is a factual report of the results obtained from the laboratory test of sample products. The results may be applied only to the products tested and should not be construed as applicable to other similar products of the manufacturer. The report is not a recommendation or disapprobation by VTEC Laboratories, Inc. of the material tested. While this report may be used for obtaining product acceptance, it may not be used in advertising.

RESULTS:

The measurements were performed on the coated surface in the center of the specimen.

Hemispherical Spectral Reflectance Test Results:

Rust Grip #121802

Specimen #	% Solar Reflectance	% Solar Absorptance
1	46.6	53.4
2	41.3	58.7
3	46.0	54.0
AVERAGE:	**44.6**	**55.4**

Neil Schultz
Executive Director

A. Rahim
Amirudin Rahim
Technical Director

Designation: E 1795 – 04

An American National Standard

Standard Specification for Non-Reinforced Liquid Coating Encapsulation Products for Leaded Paint in Buildings[1]

This standard is issued under the fixed designation E 1795; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This specification covers minimum material performance requirements and laboratory test procedures for non-reinforced liquid coating encapsulation products (single or multiple-coat systems) for leaded paint in buildings. Performance properties addressed in this specification are:

1.1.1 Impact resistance,
1.1.2 Adhesion,
1.1.3 Dry Abrasion Resistance,
1.1.4 Water Vapor Transmission,
1.1.5 Water and Chemical Resistance,
1.1.6 Surface Burning Characteristics,
1.1.7 Volatile Organic Compound (VOC) Content,
1.1.8 Weathering,
1.1.9 Aging,
1.1.10 Scrub Resistance,
1.1.11 Mildew Resistance,
1.1.12 Paintability/Repairability,
1.1.13 Flexibility, and
1.1.14 Tensile Properties.

1.2 This specification does not address the selection of an encapsulation product for specific use conditions. Specific use conditions may require performance values other than those stated in this specification. See Guide E 1796.

1.3 This specification complements Specification E 1797 for reinforced liquid coating encapsulation products.

1.4 This specification does not cover the use of encapsulation products on industrial steel structures nor on residential coated metal surfaces because no corrosion control requirements are included.

1.5 This specification applies to any non-reinforced liquid applied product that relies primarily on adhesion for attachment to the surface. These products are used to encapsulate a leaded paint surface with the intent of reducing human exposure to lead.

1.6 The results of the test methods included in this specification will not necessarily predict field performance.

1.7 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

1.8 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory requirements prior to use.*

2. Referenced Documents [2]

2.1 *ASTM Standards:*

D 16 Terminology for Paint and Related Coatings, Materials, and Applications
D 522 Test Methods for Mandrel Bend Test of Attached Organic Coatings
D 823 Practices for Producing Films of Uniform Thickness of Paint, Varnish, and Related Products on Test Panels
D 1005 Test Methods for Measurement of Dry-Film Thickness of Organic Coatings Using Micrometers
D 1186 Test Methods for Nondestructive Measurement of Dry Film Thickness of Nonmagnetic Coatings Applied to a Ferrous Base
D 1212 Test Methods for Measurement of Wet Film Thickness of Organic Coatings
D 1308 Test Method for Effect of Household Chemicals on Clear and Pigmented Organic Finishes
D 1475 Test Method for Density of Paint, Varnish, Lacquer, and Related Products
D 1653 Test Methods for Water Vapor Transmission of Organic Coating Films
D 2370 Test Method for Tensile Properties of Organic Coatings
D 2486 Test Method for Scrub Resistance of Wall Paints
D 2794 Test Method for Resistance of Organic Coatings to Effects of Rapid Deformation (Impact)
D 3273 Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber

[1] This specification is under the jurisdiction of ASTM Committee E06 on Performance of Buildings and is the direct responsibility of Subcommittee E06.23 on Lead Hazards Associated with Buildings.

Current edition approved April 1, 2004. Published April 2004. Originally approved in 1995. Last previous edition approved in 2000 as E 1795 – 00.

[2] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

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Accredited by National Institute of Standards and technology - No. 0252
Accepted by Canadian General Standards Board - No. 76005
ISO/IEC 25 Approved

March 5, 1999

Superior Products International
P.O. Box 1930
Independence, MO 64055

Att: **Mr. J.E. Pritchett**
President

DL-12111

OBJECTIVE

To test a coating for compliance to the requirements as outlined in ASTM E-1795, "Standard Specification for Non-Reinforced Liquid Coating Encapsulation Products for Leaded Paint in Buildings", Type III, Either Exterior or Interior Use.

PRODUCT TESTED

RustGrip

TEST PROCEDURES

The coating was applied in two coats, 6 mils wet per coat with four hours dry between coats and allowed to cure twenty-one days at ambient conditions before testing in accordance with procedures outlined in ASTM E-1795.

TEST RESULTS

The test results are shown in the Appendix.

CONCLUSION

The sample of RustGrip conforms to all of the requirements in ASTM E-1795, Standard Specification for Non-Reinforced Liquid Coatings Encapsulation Products for Leaded Paint in Buildings, Type III, Either Exterior or Interior Use, with the exception of flexibility after weathering and aging (paragraphs 5.9 and 5.10.2).

D/L Laboratories

Mario Lazaro, Jr.
Group Leader

cw

cc: S. Spindel

APPENDIX

TEST RESULTS

ENCAPSULANT PRODUCT PERFORMANCE

Product: **RUST GRIP Batch Number – None**

Par.	Property	Requirement	Result
5.1	**Impact Resistance, Direct**	80 in. lbs min.	90 in. lbs.
5.2	**Adhesion**	5A min.	5A
5.3	**Dry Abrasion Resistance, Thickness Loss** CS–17, 1000 gms	20% max.	16%
5.4	**Water Vapor Transmission**	grains/ft²/hr./in. Hg (perms)	0.22 perms
5.5	**Flexibility**	No crack ¼" from apex	None
5.6	**Water and Chemical Resistance**		
5.6.1	50% Ethanol		
	Blistering	None	None
	Wrinkling, Cracking, etc.	None	None
	Difference in Hardness, 24 hrs.	None	None
	5% Acetic Acid		
	Blistering	None	None
	Wrinkling, Cracking, etc.	None	None
	Difference in Hardness, 24 hrs.	None	None
	5% Sodium Hydroxide		
	Blistering	None	None
	Wrinkling, Cracking, etc.	None	None
	Difference in Hardness, 24 hrs.	None	None
	5% Hydrochloric Acid		
	Blistering	None	None
	Wrinkling, Cracking, etc.	None	None
	Difference in Hardness, 24 hrs.	None	None

APPENDIX (cont)

Par.	Property	Requirement	Result
5.6.1	**Water and Chemical Resistance (cont)**		
	5% Citric Acid		
	Blistering	None	None
	Wrinkling, Cracking, etc.	None	None
	Difference in Hardness, 24 hrs.	None	None
	Corn Oil		
	Blistering	None	None
	Wrinkling, Cracking, etc.	None	None
	Difference in Hardness, 24 hrs.	None	None
	2% Phosphoric Acid		
	Blistering	None	None
	Wrinkling, Cracking, etc.	None	None
	Difference in Hardness, 24 hrs.	None	None
	5% Trisodium Phosphate		
	Blistering	None	None
	Wrinkling, Cracking, etc.	None	None
	Difference in Hardness, 24 hrs.	None	None
	Distilled Water		
	Blistering	None	None
	Wrinkling, Cracking, etc.	None	None
	Difference in Hardness, 24 hrs.	None	None
5.6.2	Water Immersion, 24 Hrs.		
	Adhesion after 2 hrs. recovery	5A min.	5A
	Difference in Hardness, 24 hrs.	None	None
5.7	**Surface Burning Characteristics**		
	Flame Spread Index	25 max.	0
	Smoke Development Rating	50 max.	5

APPENDIX (cont)

Par.	Property	Requirement		Result
5.8	**Volatile Organic Content**			
	gm/L			425 g/L
	lbs/gal			3.5 lbs/gal
5.9	**Weathering**			
	1000 hours – 4 hours UVB 313 at 60°C + 4 Hours condensation at 50°C			
	Chalking	8 min.		10
	Adhesion	5A min.		5A
	Flexibility	No crack ¼" from apex	*	cracking 3/4"
	Elongation	35% relative change		9%
5.10	**Aging**			
5.10.1	Exterior Products			
	12 cycles – 1 hour at 49°C + 15 minutes at 25°C at 1 hour at –15°F + 15 minutes at 25°C			
	Adhesion	5A min.		5A
	Flexibility	No crack ¼" from apex		None
	Tensile Strength	psi		6760 psi
	Elongation	35% relative change, max.		4%
5.10.2	Interior Products			
	2 weeks at 40°C			
	Adhesion	5A min.		5A
	Flexibility	No crack ¼" from apex	*	cracking 3/4"
	Tensile Strength	psi		6780 psi
	Elongation	35% relative change, max.		–5%
5.11	**Scrub Resistance, cycles**	1200 min.		2500+
5.12	**Mildew Resistance, Rating**	8 min.		10
5.13	**Paintability / Repairability**			
5.13.1	Encapsulant / Latex Paint	5A min.		5A
5.13.2	Encapsulsnt / Encapsulant	5A min.		5A
5.14	**Tensile Properties**			
	Tensile Strength	psi		6170 psi
	Elongation	%		10%
	Elongation at 100 psi	%		2%

* Fails to meet specifications requirements

116 East 16th Street
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E-mail: dllabs@aol.com

Accredited by National Voluntary Laboratory Accreditation Program - Lab Code 100252
Accepted by Canadian General Standards Board - No. 76005 - ISO/IEC 25 Approved

May 5, 1999

Superior Products
P.O. Box 1930
Independence, MO 64055

Att: **Mr. J.E. Pritchett**
President

DL-12283

Via FAX (816) 241-1772

OBJECTIVE

To test a coating for compliance to the flexibility requirement as outlined in ASTM E 1795, "Standard Specification for Non-Reinforced Liquid Coating Encapsulation Products for Leaded Paint in Building", Type I : Interior Use Only, Par. 5.10.2, Aging - Interior Products.

PRODUCT TESTED

The coating was submitted by Superior Products and identified as RustGrip.

TEST PROCEDURE

The coating was applied at 3 mils wet film thickness and allowed to cure twenty-one days at ambient conditions before testing in accordance with procedures outlined in ASTM E-1795, Par. 10.10.2.

TEST RESULTS

The coating did not exhibit any cracking or other visual defects when measured at 0.25 inches from the end of the conical mandrel.

D/L Laboratories

Mario Lazaro, Jr.
Group Leader

cw

cc: T. Sliva
S. Spindel

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Accredited by National Voluntary Laboratory Accreditation Program - Lab Code 100252
Accepted by Canadian General Standards Board - No. 76005 - ISO/IEC 25 Approved

July 21, 1999

Superior Products
P.O. Box 1930
Independence, MO 64055

Att: **Mr. J.E. Pritchett**
President

DL-12370

Via FAX (816) 241-1772

OBJECTIVE

To test a coating for compliance to the flexibility requirement as outlined in ASTM E 1795, "Standard Specification for Non-Reinforced Liquid Coating Encapsulation Products for Leaded Paint in Building", Par. 5.10.1, Aging -Exterior Products.

PRODUCT TESTED

The coating was submitted by Superior Products and identified as RustGrip.

TEST PROCEDURE

The coating was applied at 3 mils wet film thickness and allowed to cure twenty-one days at ambient conditions before testing in accordance with procedures outlined in ASTM E-1795, Par. 10.10.1.

TEST RESULTS

The coating did not exhibit any cracking or other visual defects when measured at 0.25 inches from the apex of the conical mandrel.

D/L Laboratories

Mario Lazaro, Jr.
Group Leader

cw

cc: T. Sliva
S. Spindel

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E-mail: dllabs@aol.com

Accredited by National Institute of Standards and Technology - No. 0252
Accepted by Canadian General Standards Board - No. 76005
ISO/IEC 25 Approved

November 6, 1998

Superior Products International, Inc.
P.O. Box 1930
Independance, MO 64055

Att: **Julie**

Re: Accreditation

Dear Julie:

The D/L Laboratories is accredited by the U. S. Department of Commerce's NVLAP program in the fields of paints and sealants (NVLAP Code No. 100252-0). A copy of our Certificate of Accreditation is enclosed.

Sincerely,

Saul Spindel
President

cw

cc: T. Sliva

CONSUMER TESTING LABORATORIES, INC.

HARDLINES LABORATORY • 611 DREAM VALLEY ROAD • ROGERS, AR 72756

TEL: (479) 636-8782 • FAX: (479) 636-8961

EVALUATION OF TEST RESULTS

LABORATORY REPORT NO.: ARHL0087813 **DATE:** July 21, 2010

TO: Superior Products International
10835 W. 78th Street
Shawnee, KS 66214

ATTN: Julie Pritchett

SAMPLE: One Sample of "Rust Grip" Surface Coating

STYLE NO.: 0411
SUPPLIER: Superior Products International
COUNTRY OF ORIGIN: USA

REASON FOR ANALYSIS: Testing and evaluation of the sample from the viewpoint of soluble elements in surface coatings content as requested by the client.

EXECUTIVE SUMMARY: The surface coating sample was found to comply with the maximum soluble elements limits when tested in accordance to ASTM F963. Please refer to the attached table for actual test results.

CONSUMER TESTING LABORATORIES

J Willis

JEFF WILLIS
CATEGORY MANAGER, HARDLINES TESTING

CONSUMER TESTING LABORATORIES

KEVIN MADRYGA
DIRECTOR, HARDLINES TESTING

Soluble Heavy Metals In Surface Coatings Report
Hardlines Laboratory - Chemistry
611 Dream Valley Road, Rogers, AR 72756 479-636-8783

The following samples have been tested for soluble antimony, arsenic, barium, cadmium, chromium, lead, mercury, and selenium in the surface coating sample according to the procedure in 9-13 SOP Test Method for Analysis of Soluble Heavy Metals in Surface Coatings, which references the test method in ASTM F 963 section 8.3. The samples were analyzed using an ICP-OES spectrometer. The samples were supplied as surface coating scrapings. Results are reported below.

Originating Lab Number	Sample	Soluble Arsenic (ppm As)	Soluble Barium (ppm Ba)	Soluble Cadmium (ppm Cd)	Soluble Chromium (ppm Cr)	Soluble Mercury (ppm Hg)	Soluble Lead (ppm Pb)	Soluble Antimony (ppm Sb)	Soluble Selenium (ppm Se)	Pass / Fail
	Requirement Limit	**25**	**1000**	**75**	**60**	**5**	**90**	**60**	**500**	
ARHL0087813	Surface Coating Gray	< 2.5	< 2.0	< 2.0	< 2.0	< 0.5	< 2.0	< 6.0	< 8.0	**Pass**

LABORATORY REPORT No. ARHL0087813

Photo Page

180 EXPOSURE TO
AMMONIA, UREA, & DIESEL FUEL
PER ASTM G20 TESTING
FOR SUPERIOR PRODUCTS
ON RUST GRIP
VTEC #100-2613-2
TESTED: MAY 17, 2007 - NOVEMBER 13, 2007

VTEC Laboratories Inc.

December 6, 2007

Client: Superior Products
10835 W. 78th Street
Shawnee, KS 66214

Scope:
This report contains the reference to the test method, preparation of sample, observation of material, test and post-test observation data test results.

Test Method:
The samples were immersed in three different chemicals: 5% Ammonia, 5% Urea, and Diesel Fuel. The samples were visual observed at 30, 60, 90 and 180 days. The test method used was ASTM G20.

Disclaimer:
This is a factual report of the results obtained from the laboratory test of sample products. The results may be applied only to the products tested and should not be construed as applicable to other similar products of the manufacturer. The report is not a recommendation or disapprobation by VTEC Laboratories, Inc. of the material tested. While this report may be used for obtaining product acceptance, it may not be used in advertising.

Notice: VTEC Laboratories Inc. will not be liable for any loss or damage resulting from the use of the data in this report, in excess of the invoice. This report pertains to the sample tested only. Such report shall not be interpreted to be a warranty, either expressed or implied as to the suitability or fitness of said sample for such uses or applications, as the party contracting for the report may apply such sample.

Material Tested:

1) Manufacturer:	Superior Products
2) Product Description:	Rust Grip coating applied to 6" long, 2.4" diameter black iron pipe.
3) Color:	Gray
4) Number of Specimens:	12 (6 with holidays, 6 without)
5) Material description:	By Manufacturer and VTEC
6) Date of selection:	April 2007
7) Temperature:	70-80°F
8) Average Immersion Area:	45 in^2
9) Average Vapor Phase Area:	45 in^2

Test Results:

After 180 Days:

Sample #	Thk (mils)	Holiday	Chemical	Observations
5	8.0	Yes	5% Urea	Discoloration; rust around holidays; no softening, blistering, or loosening.
6	6.4	Yes	5% Urea	Discoloration; rust around holidays; no softening, blistering, or loosening.
22	8.0	No	5% Urea	Discoloration; some rust spots, no Softening, blistering, or Loosening.
23	7.5	No	5% Urea	Discoloration; no Softening, blistering, or Loosening.
11	6.4	Yes	5% Ammonia	Discoloration; blistering; no softening or loosening.
12	7.7	Yes	5% Ammonia	Discoloration; blistering; no softening or loosening.
27	7.5	No	5% Ammonia	Discoloration; blistering; no softening, or loosening.
28	10.1	No	5% Ammonia	Discoloration; blistering; no softening, or loosening.
17	7.4	Yes	Diesel	No change
18	7.1	Yes	Diesel	No change
32	6.3	No	Diesel	No change
33	7.7	No	Diesel	No change

Analysis:

There was no visual change in the samples between 90 days and 180 days.

Neil Schultz
Executive Director

A. Rahim
Amirudin Rahim
Technical Director

Photos:

After 180 Days:

Sample #5 Exposed to 5% Urea

Sample #6 Exposed to 5% Urea

Sample #22 Exposed to 5% Urea

Sample #23 Exposed to 5% Urea

Sample #11 Exposed to 5% Ammonia

Sample #12 Exposed to 5% Ammonia

Photos:

After 180 Days:

Sample #27 Exposed to 5% Ammonia

Sample #28 Exposed to 5% Ammonia

Sample #17 Exposed to Diesel

Sample #18 Exposed to Diesel

Sample #32 Exposed to Diesel

Sample #33 Exposed to Diesel

SUPERIOR PRODUCTS
INTERNATIONAL II, INC.

INSULATION CO
CORROSION PROTEC

August 22, 1994

Enclosed is a report received from the State Transportation departments on their testing performed on RUST GRIP. The State of Lousiana finished their new "Prohesion" test covering 1500 hours. The Prohesion test is a combination of weatherometer/salt spray but under more extreme conditions and methods.

In this test, RUST GRIP was applied over rusted metal plates for the test making it even more critical. RUST GRIP scored a 9 out of a possible 10 score. There were no signs of corrosion on any surface. Their test result formula states that if there is any rust present anywhere on the plate, they can not give a 10. Since RUST GRIP was applied over rusted surfaces, we could not achieve a perfect 10.

Regards,

JÆ.

MAR 2 0 1995

9090 Bond Street • Overland Park, KS 66214-1723 • Phone: 913-492-0601; Fax: 913-492-2012

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
MATERIAL TESTING SYSTEM
EXCEPTION REPORT FOR THE TEST OF
ACCELERATED TESTING OF COATING SYSTEMS(247)
DISTRICT 22

07-14-94

PROJECT NUMBER..MATLAB
LAB NUMBER.....22-611919
IDENT.....
PURPOSE..SOURCE APPROVAL
SUBMITTED BY..KIRT CLEMENT, MATERIALS SECTION
SOURCE...MATLAB - GENERAL SAMPLE
REMARKS..SUPERIOR PRODUCTS USA RUST GRIP, RUST GRIP (HS)
FOR INFO ONLY/PROHESION 1500 HRS B-14 FEW
ITEM NO..

DATE SAMPLED..04-11-94
DATE TESTED...07-13-94
QUANTITY..... 2 QTS
SPEC CODE.....3

TEST PROPERTY	VALUE	REMARKS
FIRST COAT PRODUCT NAME	RUST GRIP	
PRODUCT LAB NUMBER	22-611910	
DRY FILM THICKNESS (MILS)	1.2	
SECOND COAT PRODUCT NAME	RUST GRIP (HS)	
PRODUCT LAB NUMBER	22-611911	
DRY FILM THICKNESS (MILS)	3.9	
SALT FOG HOURS	1500	
SALT FOG RESULTS	R-9	
QUV HOURS	1500	
QUV RESULTS	SL FAD	

REMARKS..FOR INFO ONLY/PROHESION 1500 HRS B- 4 FEW

COPIES TO:
KIRT CLEMENT, MATERIALS SECTION
DISTRICT LAB ENGINEER
DISTRICT ADMINISTRATOR

MATERIALS ENGINEER BY _____

STATE OF LOUISIANA
SIDNEY A. RATHE
REG. No. 14823
REGISTERED
Professional Engineer
IN
CHEMICAL ENGINEERING

CERTIFICATE NUMBER

04-HS442035/2-PDA

DATE

15 June 2009

ABS TECHNICAL OFFICE

Houston SED - Ship Systems

CERTIFICATE OF Design Assessment

This is to Certify that a representative of this Bureau did, at the request of

SUPERIOR PRODUCTS INTERNATIONAL II, INC. - SHAWNEE

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate. It will remain valid as noted below or until the Rules or specifications used in the assessment are revised (whichever occurs first).

PRODUCT:	Coating
MODEL:	RUST GRIP®
ABS RULE	2009 Steel Vessels Rules 1-1-4/7.7 & 3-4-1; 2008 Mobile Offshore Drilling Units Rules 5-1-1; 2007 Guide for Building and Classing High Speed Naval Craft 3-2-12
OTHER STANDARD:	1)VTEC Labs.Inc. Report 100-1944-7, 22 Apr. 04. 2) VTEC Labs.Inc. Report 100-1944-1, 20 Apr. 04. 3) SPI Tec. Info - Rust Grip®, April 2004 4) SPI Spec; Nov 07 SPI Tec. Data, Mar 09.; IMO Res.MSC 61(67) Parts 2 & 5, IMO Res.MSC 41(64), IMO Res.A 653(16); U.S. Coast Guard approval number 164.112/ 0729/458158.; European Union Marine Equipment Directive 96/98/EC as amended by 2002/75/EC;

AMERICAN BUREAU OF SHIPPING

Hans P. Haendle

Engineering Type Approval Co-ordinator

AR258(07/03)

SUPERIOR PRODUCTS INTERNATIONAL II, INC.
10835 W. 78TH STREET
SHAWNEE
KS 66214.
United States
Telephone: 913-962-4848
Fax: 913-962-6767

PRODUCT: Coating

MODEL: RUST GRIP®

Intended Service:
Bulkhead, Ceilings and Decks in Marine Applications where compliance with IMO requirements for Smoke and Toxicity and Low Surface Flammability are indicated.

Description:
One-part polyurethane corrosion control coating that performs as a primer, topcoat or encapsulant for metal, concrete, masonry, wood, and most other surfaces. Registered with the EPA as an encapsulant of rust, lead-based paints, asbestos, and other bio-hazardous materials. See attached 'pdf'.

Ratings:
Meets the SOLAS 1974 (as amended) requirements for paints/finish materials requiring compliance with Parts 2 (Smoke & Toxicity) and 5 (Surface Flammability) of the IMO FTP Code, Res.MSC.61(67).

Service Restriction:
Unit Certification is not required for this product. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.
1) General shipboard and offshore use.
2) This product may not be used solely in order to provide A-Class, B-Class or F-Class fire resistance to coated surfaces where such classification is required, unless further testing has been performed and approval has been achieved.
3) This product may not be used in applications requiring intumescent coatings.
4) This product may not be used as a primary deck covering if
(a) required to be not readily ignitable, and
(b) it is placed underneath any other floor covering, without further testing.

Comments:
1) Approval is not on behalf of any Flag Administration.
2) Coating thickness - 8 mils (wet), 4 mils (dry).
3) Application and use are to be to the manufacturer's instructions and the limitations set forth herein.
4) ABS assessment regarding performance is limited solely to the characteristics tested and for which the ratings are as stated above.

Notes/Documentation:

SUPERIOR PRODUCTS INTERNATIONAL II, INC.

This Product Design Assessment (PDA) is valid only for products intended for use on ABS classed vessels, MODUs or facilities which are in existence or under contract for construction on the date of the ABS Rules used to evaluate the Product.
1)VTEC Labs.Inc. Report 100-1944-7 "MSC.41(64) Test For SSPI- II on Rust Grip® Batch # 021804-1000"; 22 Apr. 04. 2) VTEC Labs.Inc. Report 100-1944-1 "IMO A.653(16) Testing For SPI-II on Rust Grip® Batch # 021804-1000"; 20 Apr. 04. 3) SPI Tec. Info. - Rust Grip®; April 2004. 4) SPI Spec; Nov. 07. SPI Tec. Data; Mar. 09;
The Manufacturer is allowed to affix the U.S. Coast Guard approval number 164.112/ 0729/458158 as allowed by the "Agreement between the European Community and the United States of America on Mutual Recognition of Certificates of Conformity for Marine Equipment" signed February 27th, 2004.

Term of Validity:
This Design Assessment Certificate number 04-HS442035/2-PDA, dated 15/Jun/2009 will expire on 14/Jun/2014 or at an earlier date should there be alterations to the product's design or changes to the referenced ABS Rules and other specifications, which affect the product. Product use on or after 1 January 2010, will be subject to compliance with the ABS Rules or specifications in effect when the vessel, MODU or facility is contracted. The product's acceptability on board ABS-classed vessels or facilities is defined in the service restrictions of this certificate.

STANDARDS

ABS Rules:
2009 Steel Vessels Rules 1-1-4/7.7 & 3-4-1; 2008 Mobile Offshore Drilling Units Rules 5-1-1; 2007 Guide for Building and Classing High Speed Naval Craft 3-2-12

National:
1)VTEC Labs.Inc. Report 100-1944-7, 22 Apr. 04. 2) VTEC Labs.Inc. Report 100-1944-1, 20 Apr. 04. 3) SPI Tec. Info. - Rust Grip®; April 2004. 4) SPI Spec; Nov. 07. SPI Tec. Data; Mar. 09.

International:
IMO Res.MSC.61(67) Parts 2 & 5, IMO Res.MSC.41(64), IMO Res.A.653(16)

Government Authority:
U.S. Coast Guard approval number 164.112/ 0729/458158.

EUMED:
European Union Marine Equipment Directive 96/98/EC as amended by 2002/75/EC

Others:

IMO A.653(16) TESTING
FOR
SUPERIOR PRODUCTS INTERNATIONAL II
ON
RUST GRIP COATING
VTEC #100-1944-1
TESTED: APRIL 20, 2004

VTEC Laboratories Inc.

April 20, 2004

Client: Superior Products International II
10835 W. 78th Street
Shawnee Mission, KS 66214

Attention: Mr. J.E. Pritchett

Scope: This report contains the reference to the test method, preparation and conditioning of sample, observation of material, test and post test observation data test results.

Test Method: This test was conducted in accordance with IMO A.653(16) specification.

This standard should be used to measure and describe the properties of materials, products, or assemblies in response to heat and flame under controlled laboratory conditions and should not be used to describe or appraise the fire hazard or fire risk of materials, products, or assemblies under actual fire conditions. However, results of this test may be used as elements of a fire risk assessment which takes into account all of the factors which are pertinent to an assessment of the fire hazard of a particular end use.

Disclaimer: This is a factual report of the results obtained from the laboratory test of sample products. The results may be applied only to the products tested and should not be constructed as applicable to other similar products of the manufacture. The report is not a recommendation or a disapprobation by VTEC Laboratories, Inc. of the material tested. While this report may be used for obtaining product acceptance, it may not be used in advertising.

Notice: VTEC Laboratories Inc. will not be liable for any loss or damage resulting from the use of the data in this report, in excess of the invoice. This report pertains to the sample tested only. Such report shall not be interpreted to be a warranty, either expressed or implied as to the suitability or fitness of said sample for such uses or applications, as the party contracting for the report may apply such sample.

SUPERIOR PRODUCTS INTERNATIONAL II

IMO A.653(16) FLAME SPREAD DATA

PRODUCT: Superior Products International II Rust-Grip coating applied to 11 gauge steel plates at 6 wet mils, dry thickness average 2.5 mils.

VTEC # 100-1944-1
COLOR: Silver/Gray
AL FOIL ? Yes
DATE: 4/20/2004

SOURCE: SUPERIOR PRODUCTS INTERNATIONAL II
DIMENSIONS: 155 mm X 800 mm
SPECIMEN THICKNESS: 3.25 mm Overall (2.4 mils Dry Rust Grip Coating)
OBSERVATIONS: No ignition after 10 minutes. Coating discolored and bubbled away from steel but did not combust.

TIME TO: Sample #	150 mm sec.	200 mm. sec.	250 mm. sec.	300 mm. sec.	350 mm. sec.	400 mm. sec.
1						
2						
3						

	SAMPLE 1	SAMPLE 2	SAMPLE 3	AVERAGE
Nonimpinging Pilot flame used?	YES	YES	YES	
Test Duration (min.)	10.00	10.00	10.00	10.00
Heat of Ignition (MJ/m^2)	0.00	0.00	0.00	0.00
Heat of Sustained Burning at (MJ/m^2):				
150 mm	0.00	0.00	0.00	0.00
200 mm	0.00	0.00	0.00	0.00
250 mm	0.00	0.00	0.00	0.00
300 mm	0.00	0.00	0.00	0.00
350 mm	0.00	0.00	0.00	0.00
400 mm	0.00	0.00	0.00	0.00
Sample Average:	0.00	0.00	0.00	0.00
Time of Extinguishment (min.)	0.00	0.00	0.00	0.00
Distance burned (mm)	0	0	0	0
Critical Flux at Extinguishment (kW/m^2)	#N/A	#N/A	#N/A	#N/A
Total Heat Release (MJ)	0.61	0.51	0.55	0.56
Peak Heat Release (kW)	1.76	1.81	1.85	1.81
Heat for Sustained Burning (MJ/m^2)	0.00	0.00	0.00	0.00

CONCLUSIONS: The specimens provided met all requirements per IMO Resolution A.653(16) for bulkhead, wall and ceiling linings, and floor coverings.

Neil Schultz
Executive Director

A. Rahim
Amirudin Rahim
Technical Director

MSC.41(64) TESTING
FOR
SUPERIOR PRODUCTS INTERNATIONAL II
ON
RUST GRIP
BATCH # 021804-1000
VTEC #100-1944-7
TESTED: APRIL 22, 2004

VTEC Laboratories Inc.

April 28, 2004

Client: Superior Products International II
10835 W. 78th Street
Shawnee, KS 66214

Attention: J.E. Pritchett

I. INTRODUCTION:

The following Scope, Summary of Method, Test Specimens, and Classification Criteria sections are abridged from the MSC.41(64) Standard Test Method for Measuring Smoke and Toxic Products of Combustion.

II. SCOPE:

The smoke generation test is conducted in accordance with ISO 5659 Part 2, with additional test procedures as described in the MSC.41(64) standard. The method of test covers a procedure for measuring the smoke generated by materials and assemblies in thickness up to and including one inch. The test is based on the attenuation of a light beam by smoke accumulating within a closed chamber. Specimens are mounted horizontally within the chamber and exposed to thermal radiation on their upper surfaces at a constant irradiance of 25 kW/m^2, in both the flaming and non-flaming modes, and at 50 kW/m^2 in only the non-flaming mode.

Additionally, the gas concentrations measured at each test condition. Colorimetric gas detector tubes for each specific gas are used in the toxic gas analysis.

III. SUMMARY OF METHOD:

This method employs an electrically-heated radiant energy source mounted within an insulated ceramic tube and positioned so as to produce the irradiance levels mentioned above. This exposure provides the non-flaming exposures of the test.

For the flaming condition, a six-tube burner is used to apply a row of air-propane flamelets across the lower edge of the exposed specimen area and into the specimen holder trough. The application of flame in addition to the specified irradiance level from the heating element constitutes the flaming combustion exposure.

The test specimens are exposed to the flaming and non-flaming conditions within a closed 18 cubic foot chamber. A photometric system with a 36" vertical light path measure the continuous decrease in light transmission as smoke accumulates.

When the toxicity measurements are performed, the gases are sampled during the smoke testing of either the second or third specimen at each test condition, from the geometrical center of the chamber within 3 minutes of the time when a maximum specific optical density of smoke is reached. The concentration of each toxic gas is determined as ppm in the chamber volume.

IV. TEST SPECIMENS:

The test sample is comprised of nine specimens; six specimens are tested at 25 kW/m^2 (three in the non-flaming mode and three in the flaming mode), and three specimens are tested at 50 kW/m^2 in the non-flaming mode. A nominal 3" X 3" specimen is mounted within a holder, which exposes an area 2-9/16" X 2-9/16". The holder can accommodate specimens up to one inch thick, depending on the particular sample thickness. When coating substrates or cores as used in normal practice, including coating items such as paints and adhesives, the number of coats and type of substrate is included in the test report.

DATE: 4/22/2004
PROJECT #: 100-1944-7
SUPPLIED BY: Superior Products Inter. II
CONDITIONING TEMP: 73 deg. F
BURNER FUEL: 500 cc/min air; 50 cc/min. propane
SPECIAL PREPARATION: NONE
IRRADIANCE: **25 Kw/sq. m**
DESCRIPTION OF MATERIAL: Rust Grip, Batch 021804-1000, applied at a thickness of 6 mils wet (3 mils dry) to 11 gage steel plates.

	FLAMING			
SAMPLE #:	**1**	**2**	**3**	**Average D_m**
Type of Holder:	no trough	no trough	no trough	
Thickness (in):	0.23	0.23	0.23	
Weight (g):	139.2	138.0	135.3	
T 100%:	1.009	1.010	1.008	
Tmin:	0.433	0.457	0.285	
Tmin (%):	42.89	45.24	28.26	
D_m:	48.54	45.47	72.45	
T (clear):	0.913	0.883	0.945	
T% (clear):	90.45%	87.44%	93.73%	
D_c (clear):	6.3	8.3	4.2	
D_m (corr):	42.25	37.21	68.26	
D_m:	**48.54**	**45.47**	**72.45**	**55.48**
Color of Smoke:	Gray	Gray	Gray	

OBSERVATIONS:
The samples did not ignite.

Neil Schultz
Executive Director

A. Rahim
Amirudin Rahim
Technical Director

DATE: 4/22/2004
PROJECT #: 100-1944-7
SUPPLIED BY: Superior Products International II
CONDITIONING TEMP: 73 deg. F
BURNER FUEL: 500 cc/min air; 50 cc/min. propane
SPECIAL PREPARATION: NONE
IRRADIANCE: **25 Kw/sq. m**
DESCRIPTION OF MATERIAL: Rust Grip, Batch 021804-1000, applied at a thickness of 6 mils wet (3 mils dry) to 11 gage steel plates.

	NON-FLAMING			
SAMPLE #:	**1**	**2**	**3**	**Average D_m**
Type of Holder:	no trough	no trough	no trough	
Thickness (in):	0.23	0.23	0.23	
Weight (g):	131.8	132.4	136.9	
T 100%:	1.007	1.006	1.010	
Tmin:	0.229	0.128	0.305	
Tmin (%):	22.72	12.76	30.17	
D_m:	84.95	118.02	68.70	
T (clear):	0.920	0.873	0.961	
T% (clear):	91.38%	86.81%	95.15%	
D_c (clear):	5.6	8.4	3.4	
D_m (corr):	79.39	109.59	65.28	
D_m:	**84.95**	**118.02**	**68.70**	**90.56**
Color of Smoke:	Gray	Gray	Gray	

OBSERVATIONS:
The samples did not ignite.

Neil Schultz
Executive Director

Amirudin Rahim
Technical Director

DATE: 4/22/2004
PROJECT #: 100-1944-7
SUPPLIED BY: Superior Products Inter. II
CONDITIONING TEMP: 73 deg. F
BURNER FUEL: 500 cc/min air; 50 cc/min. propane
SPECIAL PREPARATION: NONE
IRRADIANCE: **50 Kw/sq. m**
DESCRIPTION OF MATERIAL: Rust Grip, Batch 021804-1000, applied at a thickness of 6 mils wet (3 mils dry) to 11 gage steel plates.

	NON-FLAMING			
SAMPLE #:	**1**	**2**	**3**	**Average D_m**
Type of Holder:	no trough	no trough	no trough	
Thickness (in):	0.23	0.23	0.23	
Weight (g):	135.3	138.9	134.6	
T 100%:	1.008	1.009	1.008	
Tmin:	0.165	0.151	0.185	
Tmin (%):	16.35	14.94	18.32	
D_m:	103.83	108.98	97.28	
T (clear):	0.893	0.837	0.855	
T% (clear):	88.61%	82.95%	84.85%	
D_c (clear):	7.4	11.2	9.9	
D_m (corr):	96.45	97.76	87.43	
D_m:	**103.83**	**108.98**	**97.28**	103.37
Color of Smoke:	Gray	Gray	Gray	

OBSERVATIONS:
The samples did not ignite.

Neil Schultz
Executive Director

A. Rahim
Amirudin Rahim
Technical Director

TOXICITY

DATE:	4/22/2004
PROJECT #:	100-1944-7
SUPPLIED BY:	Superior Products Inter. II
CONDITIONING TEMP:	73 deg. F
BURNER FUEL:	500 cc/min air; 50 cc/min. propane
SPECIAL PREPARATION:	NONE
DESCRIPTION OF MATERIAL:	Rust Grip, Batch 021804-1000, applied at a thickness of 6 mils wet (3 mils dry) to 11 gage steel plates.

TOXICITY RESULTS

	25 Kw Non-Flaming	25 Kw Flaming	50 Kw Non-Flaming	
WEIGHT (g):	132.4	138.0	138.9	
GAS	**CORRECTED PPM**	**CORRECTED PPM**	**CORRECTED PPM**	**REQUIRED CONCENTRATION LIMITS (PPM)**
CO	40	40	150	1,450
HCN	5	1.75	4	140
SO_2	10	5	5	120
HCL	0	0	0	310
HF	0	0	0	590
NO_X	0	19	0	350
CO_2	2,000	22,000	2,300	60,000
Formaldehyde	2	0	1	3.2
HBr	0	0	0	50

AMBIENT TEMPERATURE:	67.7° F
RELATIVE HUMIDITY:	60%
BAROMETRIC PRESSURE:	29.94 inches of mercury

Neil Schultz
Executive Director

A. Rahim
Amirudin Rahim
Technical Director

SUPERIOR PRODUCTS
INTERNATIONAL II, INC.

INSULATION COATING
CORROSION PROTECTION

20 August 1998

Latest updated testing results

We have a new test report from China on mainly RUST GRIP and SUPER THERM going through the salt spray / UV weathering tests. It has passed both the 1000 hour and 2000 hour time tests.

The 1000 hour test gives us approval for use in China and the government for construction.

The Chinese government requires completion of the 2000 hour test for all their ship building, dry dock usage and container painting. We have passed this testing.

We also have been entered into a corrosion coating contest for the Colombian Corrosion Institute in South America. There were three phases of this testing. RUST GRIP was rated #1 in all three phases. We will be presented a certificate for RUST GRIP later this month.

6459 Universal Avenue • Kansas City, MO 64120 • Phone: 816-241-1976; Fax: 816-241-1772

1000 hr. TEST RESULT

国家技术监督局 (97)量认(国)字(MO729)号

中国船舶工业总公司
船用非金属材料技术检测中心

检 测 报 告

(编号: J-98026)

CMA

(97)量认(国)字(MO729)号

试验报告专用章

产品名称: RUST GRIP 4 SUPER THERM

生产单位: 美国卓越油漆公司

委托单位: 美国卓越油漆公司 上海办事处

检测类别: 委托检测

一九九八年五月二十日 签发

中国船舶工业总公司 船用非金属材料技术检测中心 检测报告编号：J－98026				共 1 页	第 1 页
产品名称	RUST GRIP + SUPER THERM		生产单位	美国卓越油漆公司	
样品来源	美国卓越油漆公司送样		委托单位	美国卓越油漆公司 上海办事处	
样品批号	☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆		生产日期	☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆	

序号	检 测 项 目	检测依据	检 测 结 果	检测评定
1	耐沸水性	GB/T 1733-93	沸腾8小时大面积起泡。	——
2	耐盐雾 (1000hr)	GB/T 1771-91	完好	——
3	人工老化(1000hr)	GB/T 1865-88(89)	变色 1 级	——
4	附着力 (拉开法)	GB/T 5210-85	1.07 MPa	——
5	耐盐水性(1000hr)	GB/T 10834-88	完好	——
※	(以下无项目)		(以下空白)	

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编 制 人：顾建伟 (顾建伟) 审 核 人：[illegible] (余启鹏)

校 核 人：[illegible] (傅建华) 批准日期：98.5.20

单位地址：上海中山南二路851号 邮政编码：200032 电话：64399626转2123分机 图文传真：021-64390908

中国船舶工业总公司 船用非金属材料技术检测中心 检测报告编号：J－98021	共 1 页	第 1 页

产品名称	SUPER THERM	生产单位	美国卓越油漆公司
样品来源	美国卓越油漆公司送样	委托单位	美国卓越油漆公司 上海办事处
样品批号	☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆	生产日期	☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆

序号	检 测 项 目	检 测 依 据	检 测 结 果	检测评定
1	耐冲击	GB/T 1732-93	50 Kg · cm Impact resistance Test (GB 1732)	
2	附着力 （拉开法）	GB/T 5210-85	6.72 MPa Adhesion Test (GB 5210)	
3	弯曲试验	GB/T 6742-86	Φ2 mm Flexibility Test (GB 6742)	
※	（以下无项目）	—	（以下空白）	

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校 核 人：[signature] （倪建华） 98.4.24

中国船舶工业总公司船用非金属材料技术检测中心 检验报告专用章

单位地址：上海中山南二路851号 邮政编码：200032 电话：64399626转2123分机 图文传真：021-64390908

中国船舶工业总公司 船用非金属材料技术检测中心 检测报告编号：J－98022	共 1 页	第 1 页

产品名称	EPOXOTHERM	生产单位	美国卓越油漆公司
样品来源	美国卓越油漆公司送样	委托单位	美国卓越油漆公司 上海办事处
产品批号	☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆	生产日期	☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆

序号	检测项目	检测依据	检测结果	检测评定
1	耐沸水性	GB/T 1733-93	15次循环，每次循环沸煮8小时，自然冷却16小时，轻度泛黄，不锈。 TEST	Boiling water (GB 1753)
2	耐盐雾 (500 hr)	GB/T 1771-91	3%锈点 SALT SPRAY CORROSION TEST (GB 1771)	
3	附着力 (拉开法)	GB/T 5210-85	>15.92 MPa ADHESION TEST (GB 5210)	
4	耐盐水性(500 hr)	GB/T 10834-88	完好 DIPPING IN SALT WATER TEST (GB 10834)	
※	(以下无项目)		(以下空白)	

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编制人：（签名）（顾建伟）　　　（签名）（余启鹏）

校核人：（签名）（傅建华）　　　98.4.28

（印章：……检测报告专用章）

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样品批号	☆☆☆☆☆☆☆☆☆☆☆☆	生产日期	☆☆☆☆☆☆☆☆☆☆☆☆

序号	检测项目	检测依据	检测结果	检测评定
1	耐湿热性(500 hr)	GB/T 1740-79(89)	完好 Humidity Test (GB 1740)	——
2	耐盐雾 (500 hr)	GB/T 1771-91	完好 Salt spray Test (GB 1771)	——
3	纯水 (500 hr)	GB/T 5209-85	完好 Dipping in Pure water Test (GB 5209)	
4	附着力 (拉开法)	GB/T 5210-85	>15.92 MPa Adhesion Test (GB 5210)	——
5	划水 (200 hr)	GB/T 9260-88	锈蚀发生在划痕线上，完好。 Scour Test (GB 9260)	
6	耐盐水雪(500 hr)	GB/T 10834-88	完好 Dipping in Salt water Test (GB 10834)	
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校核人：[signature] (何建华) 批准人：[signature] 98.5.24

检测报告专用章

单位地址：上海中山南二路851号 邮政编码：200032 电话：64389626转2123分机 西文传真：021 61390908

Moist Metal Grip.

CONTRACT OF TEST FOR SUPERIOR PRODUCTS

Side A: Shanghai Office, Superior Products International II Inc. (SPI)

Side B: Shipbuilding Technology Research Institute (STRI),
China State Shipbuilding Corporation (CSSC)

1. Duty for Contract

Side A (SPI): Supplying Paint Samples, Product Manuals, Application Guides.

SUPER THERM	>2 L
RUST GRIP	>2 L
EPOXOTHERM	>2 L
MOISTMETAL GRIP	>2 L

Side B (STRI): Testing for Paints, Supplying a Test Report every 500 hours.

2. Item, Time, Standard for Test

A. Salt Spray Corrosion Test (GB 1771)

a. SUPER THERM	(500 hrs)
b. RUST GRIP + SUPER THERM	(2000 hrs)
c. EPOXOTHERM	(500 hrs)
d. RUST GRIP	(500 hrs)
e. MOIST METAL GRIP	(500 hrs)

B. Weathering Test (GB 1865)

RUST GRIP + SUPER THERM	(2000 hrs)

C. Boiling Water Test (GB 1733, 16 cycles, once: boiling 8 hrs, cooling 16 hrs)

a. SUPER THERM
b. RUST GRIP + SUPER THERM
c. EPOXOTHERM

D. Dipping Test in Salt Water (GB 10834)

a. SUPER THERM	(500 hrs)
b. RUST GRIP + SUPER THERM	(1000 hrs)
c. EPOXOTHERM	(500 hrs)
d. RUST GRIP	(500 hrs)
e. MOIST METAL GRIP	(500 hrs)

E. Dipping Test in Pure Water (GB 5209)

MOIST METAL GRIP	(500 hrs)

F. Scour Test (GB 9260)
MOIST METAL GRIP (200 hrs)

G. Humidity Test (GB 1740)
a. RUST GRIP (500 hrs)
b. MOIST METAL GRIP (500 hrs)

H. Impact-resistance Test (GB 1732)
a. SUPER THERM
b. RUST GRIP

I. Flexibility Test (GB 6742)
a. SUPER THERM
b. RUST GRIP

J. Adhension Test (GB 5210)
a. SUPER THERM
b. RUST GRIP + SUPER THERM
c. EPOXOTHERM
d. RUST GRIP
e. MOIST METAL GRIP

K. Abrasion-resistance Test (GB 1768)
RUST GRIP

L. Thermal Resistance Measurement (GB 3398)
a. SUPER THERM
b. EPOXOTHERM

M. Thermal Resistance Measurement
a. SUPER THERM
b. EPOXOTHERM

3. Expenditure for Test: RMB 85,000

Side A: Shanghai Office, Superior International II Inc. (SPI)

Signed by:

Date:

Fax:

Side B: Shipbuilding Technology Research Institute (STRI), CSSC

Signed by:

Date:

Fax: 0086-21-64390908

2000 hr. Test Re

国家技术监督局 (97)量认(国)字(M0729)号

中国船舶工业总公司
船用非金属材料技术检测中心

检 测 报 告

(编号: J-98035)

(97)量认(国)字(M0729)号

产品名称: RUST GRIP + SUPER THERM

生产单位: 美国卓越油漆公司

委托单位: 美国卓越油漆公司 上海办事处

检测类别: 委托检测

一九九八年七月一日 签发

中国船舶工业总公司 船用非金属材料技术检测中心 检测报告编号：J－98035			共 1 页	第 1 页
产品名称	RUST GRIP + SUPER THERM	生产单位	美国卓越油漆公司	
样品来源	美国卓越油漆公司送样	委托单位	美国卓越油漆公司 上海办事处	
样品批号	☆☆☆☆☆☆☆☆☆☆☆	生产日期	☆☆☆☆☆☆☆☆☆☆☆	

序号	检 测 项 目	检测依据	检 测 结 果	检测评定
1	耐沸水性	GB/T 1733-93	沸腾8小时大面积鼓泡。	———
2	耐盐雾 (2000hr)	GB/T 1771-91	完好。	———
3	人工老化(2000hr)	GB/T 1865-88(89)	无粉化、开裂，变色0~1级。	———
4	附着力 (拉开法)	GB/T 5210-85	4.07 MPa	———
5	耐盐水性(1000hr)	GB/T 10834-88	完好	———
※	(以下无项目)		(以下空白)	

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※ 委托单位如对样品的检测结果有异议，请在报告之日起[illegible]个月内提出，逾期不予受理。

编 制 人：顾健伟 (顾健伟) 批 准 人：[illegible] (余启鹏)

校 核 人：[illegible] (倪建华) 批准日期：98.7.1

单位地址：上海中山南二路851号 邮政编码：200032 电话：64399626转2123分机 附文传真：021-64390908

WINDOW CYCLING TESTING ON RUST GRIP COATING FOR SUPERIOR PRODUCTS INTERNATIONAL II, INC.

VTEC 100-701-2

TESTED: APRIL 4, 1997

VTEC Laboratories Inc.

April 4, 1997

Introduction:

Client: Superior Products International II, Inc.
6459 Universal Avenue
Kansas City, MO 64120

Attn: Mr. J. E. Pritchett

Supplier's Description of Sample: A double hung window, removed from a Lead Abatement job by a certified contractor in Bloomsburg, PA. that was coated with Lead-base Paint (LBP) and was condemned by risk assessor.

Preparation: The window was coated with a patented encapsulant Rust Grip and allowed to cure. Then the window was rigged with a electronic opening/closing rotary wheel with digital counter specifically for this test. This allowed the window to be opened and closed at two second intervals.

Procedure: This test was designed to measure friction wear of a coating over LBP to find the failure point of friction wear that would expose the hazardous LBP. The tested window completed 20,000 cycles / opening and closing, which is equal to the opening and closing of a window once a day, every day for 54 years.

Test No. VTEC 100-701 Date of Test: March 28, 1997

212 Manida Street, Bronx, New York 10474 • 718-542-8248 • FAX 718-542-8759

Material Tested:

1) Manufacturer: Superior Products International II, Inc.

2) Distributor: Native American Environmental Technologies

3) Product Description: Rust Grip Coating

4) Color: Gray

5) Material Description: by Supplier and VTEC

6) Date of Selection: March 1997

7) Purpose of Test: Rust Grip Coating Erosion After Window Cycling

8) Method of Sample Mounting: Window Frame

Test Results

Cycles	Observations
0	Start Cycling.
1,200	Particles On Teflon From Coating.
3,000	Particles On Teflon From Coating.
5,400	Particles On Teflon From Coating.
10,800	Rubbing but no exposure of underlying coating.
14,400	Same amount of rubbing as above.
20,700	The top right side of window rubbed off 1.5" line through the coating.
24,300	Same amount of rubbing as above.
27,900	Rubbing still on top right side of window, but also rubbing 3" long halfway down same side. Also rubbing 1" on other side bottom and 2" on window track in front of glass.
29,700	All rubbing was in same areas, but longer.

Conclusion: A visual inspection showed no wear or friction burn through, and no LBP exposed after 20,000 cycles. Wiping test with a sterile gauze pad proved no LBP dust.

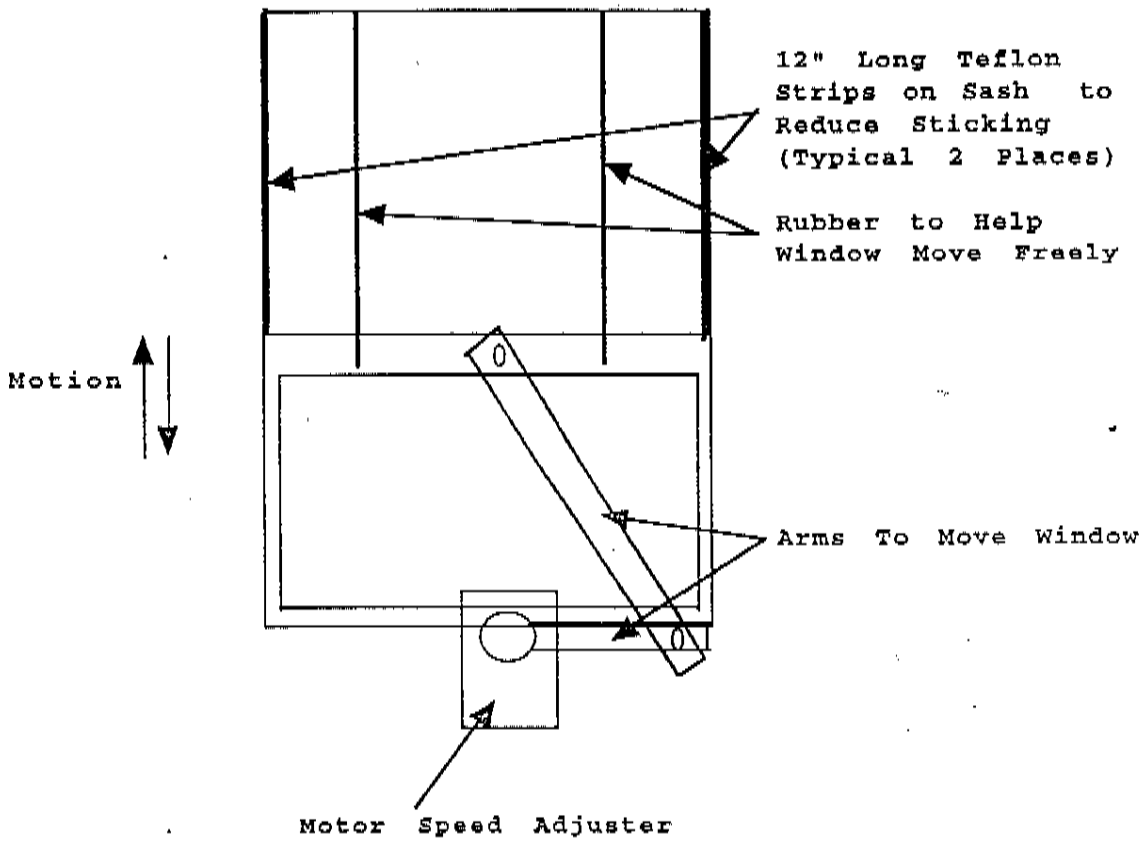
Disclaimer:

This is a factual report of the results obtained from the laboratory test of sample products. The results may be applied only to the products tested and should not be construed as applicable to other similar products of the manufacturer. The report is not a recommendation or a disapprobation by VTEC Laboratories, Inc. of the material tested. While this report may be used for obtaining product acceptance, it may not be used in advertising.

Neil Schultz
Executive Director

Amirudin Rahim
Technical Director

Window Frame Setup For Cycling



THERMAL ANALYSIS
FOR SUPERIOR PRODUCTS
INTERNATIONAL II INC.
ON RUST GRIP 4- 6 MILS
VTEC #100-2678
TESTED: MAY 15, 2007

VTEC Laboratories Inc.

May 15, 2007

Client: Superior Products International II
10835 W. 78th Street
Shawnee, KS 66214

Attn: J. E. Pritchett

PROCEDURE:

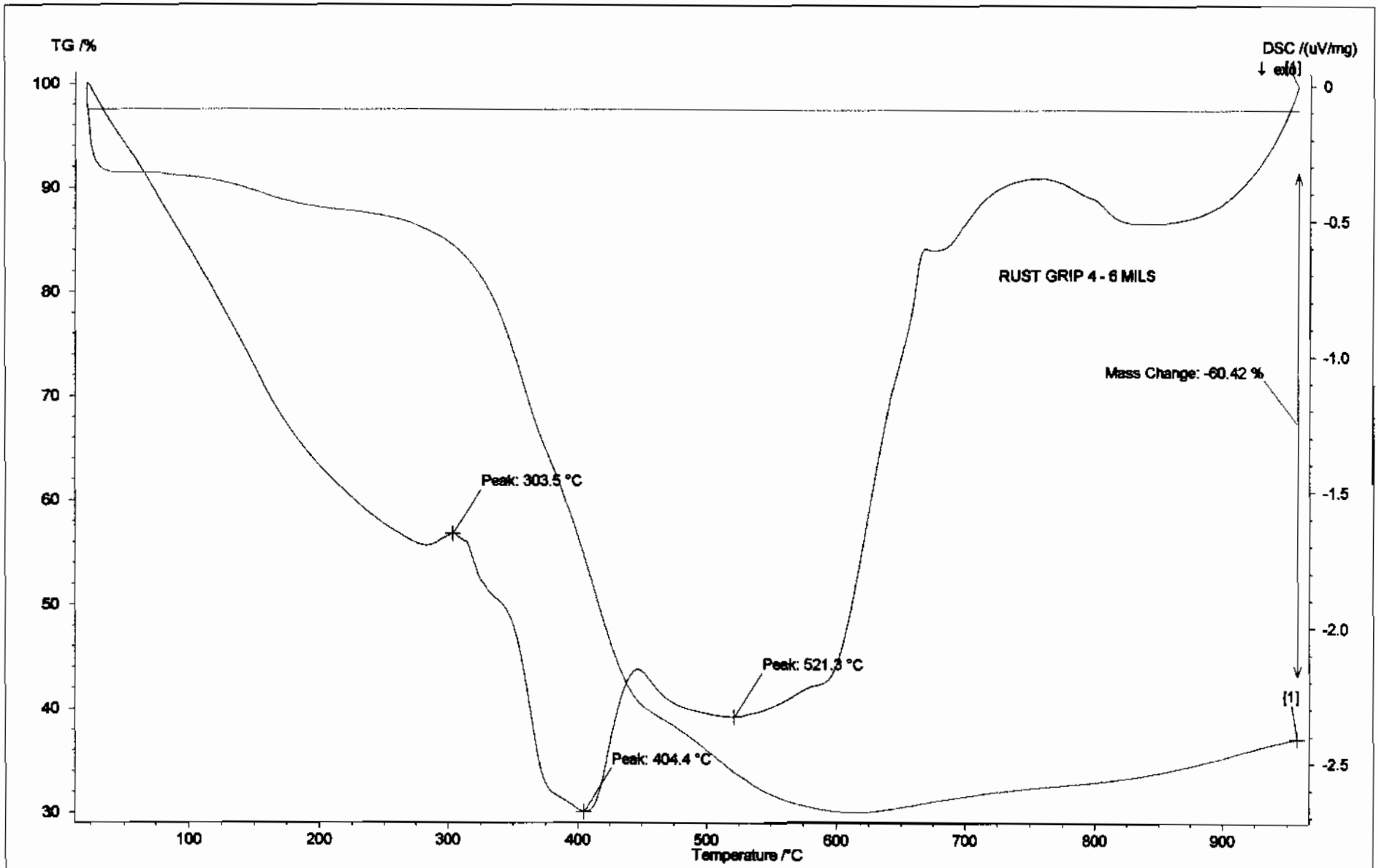
The thermal analysis was determined in a NETZSCH STA 409 PC/PG unit under flowing N_2 (flow rate 100 mL/min) at a scan rate of 20°K per minute from 20°C to 1000°C.

RESULTS:

The results are contained on the following pages.

Neil Schultz
Executive Director

Amirudin Rahim
Technical Director



Preferred Customer

Instrument:	NETZSCH STA 409 PC/PG	Sample:	RUST GRIP 4-6 mils, 16.000 mg	Mode/Type of Meas.:	DSC-TG / Sample
File:	rustgrip.ssv	Reference:	Al2O3,0.000 mg	Segments:	1/1
Project:	100-26xx	Material:		Crucible:	DSC/TG pan Al2O3
Identity:	RUST GRIP 4-6 mils	Correction File:		Atmosphere:	Nitrogen/100 / —/---
Date/Time:	5/15/2007 4:31:11 PM	Temp.Cal./Sens. Files:	Tcalzero.tcx / Senszero.esx	TG Corr./M.Range:	000/30000 mg
Laboratory:	VTEC	Range:	20.0/20.00(K/min)/1000.0	DSC Corr./M.Range:	000/5000 µV
Operator:	Jerry	Sample Car./TC:	DSC(/TG) HIGH RG 2 / S	Remark:	

USDA United States Department of Agriculture
Food Safety and Inspection Service

July 2, 1991

FOR

UNITED STATES DEPARTMENT OF AGRICULTURE (USDA)

FOOD SAFETY AND INSPECTION SERVICE
WASHINGTON, D.C. 20250

"FSIS DIRECTIVE 11,000.4"
APPROVAL OF PAINTS AND COATINGS USED IN OFFICIAL ESTABLISHMENTS

LETTER OF WRITTEN CERTIFICATION AS ACCEPTED BY USDA FROM MANUFACTURER

PRODUCT IDENTIFICATION: **RUST GRIP®**
SUPPLIER'S NAME AND ADDRESS: SUPERIOR PRODUCTS INTERNATIONAL II, INC.
10835 W. 78th Street
Shawnee, Kansas 66214 USA

STATEMENT FOR FINISHED PRODUCT:

- RUST GRIP® will not result in adulteration of food products if used and applied as stated in the supplied instructions and label directions.
- RUST GRIP® will perform well under a daily regimen of rigorous cleaning, cyclical temperature change, and wet conditions.
- RUST GRIP® is impervious to moisture, completely water-proof, and is not water soluble, and water has no effect on RUST GRIP® even in the presence of standing water on a raw edge impervious to moisture.
- RUST GRIP® is a light solid color (excluding flooring materials) that will not obscure detection of debris or unsanitary conditions.
- RUST GRIP® contains no known categories of carcinogens, mutagen, or teratogens classified as hazardous substances, heavy metals, or other toxic substances, and after curing, RUST GRIP® will not decompose, deteriorate, eject, emit, or otherwise exude residuals in either a liquid, solid, or gas form.
- RUST GRIP® is not considered a pesticide and does not have pesticidal characteristics.

Superior Products International II, Inc. will provide to FSIS, in a timely manner, the complete chemical composition of the materials used to manufacture RUST GRIP® upon request.

SIGNED:

J.E. Pritchett
President
Superior Products International II, Inc.

United States Department of Agriculture
Food Safety and Inspection Service
Facilities, Equipment and Sanitation Division
Approval of Paints and Coatings

Department of Agriculture

Food Safety and Inspection Service

Regulatory Programs
Building 306, BARC-East
Beltsville, MD 20705

July 02, 1991

Mr. J. E. Pritchett
Superior Products International II, Inc.
2361 Saxwood
Salina, KS 67401

Dear Mr. Pritchett:

This is in reply to your request for compound authorization received on May 29, 1991 for your prooduct Rust Grip.

This product is chemically acceptable as a coating for application to structural surfaces or surfaces where there is a possibility of incidental food contact in official establishments operating under the Federal meat and poultry products inspection program. This letter does not authorize use of the coating on any surface where there is direct or prolonged contact with food. Before food product may be placed in the area where the material is being used, the area should be sufficiently free of odor to prevent product contamination. As a safety precaution, smooth coatings should not be applied to walking or standing surfaces in processing areas.

The final granting of authorization to use coatings on structural surfaces such as walls or ceilings, or on equipment surfaces below the product zone, is the responsibility of the inspector in charge of the official plant. Before applying the coating to equipment which will subsequently be installed in an official plant, you must obtain clearance from the Equipment Standards and Review Branch, Science and Technology in Washington, DC 20250. Technical advice will be provided by the Product Safety Branch upon request.

The above acceptance of this compound will not be indicated in the publication, "List of Proprietary Substances and Nonfood Compounds." This letter acts as continuing authorization for its use under the conditions stated above.

Acceptance of compounds by this Department is in no way to be construed as an endorsement of the compounds or of any claims made for them.

If any change is made in the labeling information or formulation, the authorization for use in official plants becomes void immediately.

MAR 20 1995

Sincerely,

John M. Damaré

John M. Damaré, Chief
Product Safety Branch
Food Ingredient Assessment Division

cc: H S C Industrial Coatings, Inc.

US005695812A

United States Patent [19]

Pritchett

[11] Patent Number: 5,695,812

[45] Date of Patent: Dec. 9, 1997

[54] **METHOD FOR ABATING BIO-HAZARDOUS MATERIALS FOUND IN COATINGS**

[76] Inventor: **Joseph E. Pritchett**, 6459 Universal Ave., Kansas City, Mo. 64120

[21] Appl. No.: **677,558**

[22] Filed: **Jul. 8, 1996**

[51] **Int. Cl.**[6] **B32B 35/00**

[52] **U.S. Cl.** **427/140**; 427/385.5; 427/407.1; 427/421; 427/428; 427/429

[58] **Field of Search** 427/140, 385.5, 427/407.1, 421, 428, 429

[56] **References Cited**

U.S. PATENT DOCUMENTS

3,870,550	3/1975	Mann	117/84
3,900,611	8/1975	Corbett et al.	427/214
4,067,840	1/1978	Wolf	260/29.6 R
4,112,191	9/1978	Anderson	428/497
4,748,051	5/1988	Songer et al.	427/212
5,466,489	11/1995	Stahl	427/421
5,478,604	12/1995	Leeper	427/397.8

FOREIGN PATENT DOCUMENTS

61-162567	7/1986	Japan .
62-260071	11/1987	Japan .

Primary Examiner—Bernard Pianalto
Attorney, Agent, or Firm—Richard C. Litman

[57] **ABSTRACT**

The abatement of bio-hazardous particulate materials, such as asbestos, has a high priority for providing children with a future. The method of the present invention involves abating such materials by encapsulating them in a simple and effective manner. The method uses a special formulation that when applied to a potentially bio-hazardous surface, such a coating on a substrate, seeps into the pores of the surface, encircles and encapsulates the particles. The formulation also bonds the encapsulated particles to the surface of the substrate carrying the coating. The results of the method are complete encapsulation of potentially bio-hazardous particulate matter found in a coating on a substrate, bonding of the encapsulated particles to the surface of the substrate, and finally, the sealed coating is resistant to impact and abrasion.

12 Claims, No Drawings

METHOD FOR ABATING BIO-HAZARDOUS MATERIALS FOUND IN COATINGS

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a method for encapsulating, with a impact and abrasion resistant formulation, bio-hazardous particulate matter, such as asbestos, lead, and metallic oxides.

2. Description of the Prior Art

Many attempts have been embarked upon for reducing the health hazards of particulate materials found in and around building structures. Specifically, the presence of asbestos, lead, and rust, to name a few, have been found to be extremely dangerous to small children. The small children generally do not realize the health and bio-hazards associated with the ingestion or inhalation of the particles of these materials. Most often, these small children in an inquisitive mindset will eat flaking asbestos, peeling paint and other items. The end results are not favorable to the children, their parents, and society as a whole. In recent years, a number of patents have issued offering remedies to this problem affecting children. For instance, U.S. Pat. No. 3,870,550, issued Mar. 11, 1975 to Mann, discloses a method of preventing the ingestion of lead based paints by applying a bitter tasting solution to the paint, so that the mere taste will discourage children from eating at the eventual paint chips. U.S. Pat. No. 3,900,611, issued Aug. 19, 1975 to Corbett et al., discloses a applied solution of a surfactant and a polymer for reducing dust particulate matter from becoming airborne. U.S. Pat. No. 4,067,840, issued Jan. 10, 1978 to Wolf, discloses a chromogen in the form of microcapsules that upon mastication or ingestion, will change colors signaling that the chromogen has been masticated or ingested. U.S. Pat. No. 4,112,191, issued Sep. 5, 1978 to Anderson discloses a digestible coating for lead based paint coatings form of certain metallic salts the when simultaneously ingested with the lead based paint, will precipitate the lead in an insoluble and indigestible form. U.S. Pat. No. 4,748,051, issued May 31, 1988 to Songer et al., discloses removing the bulk of hazardous material for an area and subsequently coating with a latex type material that produces a tacky films on drying. U.S. Pat. No. 5,466,489, issued Nov. 14, 1985 to Stahl, discloses a method of coating in-situ lead based paints and asbestos with an environmental encasement. U.S. Pat. No. 5,478,604, issued Dec. 26,1995 to Leeper, discloses a coating for lead based paint for reducing the digestion and absorption of lead from the intestinal tract. Japan Patent Document No. 61-162,604, published Jul. 23, 1986 to Iwato, discloses a multiple coating compositions for producing smooth laminated finishes. Japan Patent Document No. 62-260,071, published Nov. 12, 1987 to Suzuki et al., discloses a process for treating the surfaces of tin or tin alloy plated materials.

None of the above inventions and patents, taken either singly or in combination, is seen to describe the instant invention as claimed. More specifically, it is noted that the aforementioned prior art references do not provide any resistance to impact or abrasion, which would prevent the particulate materials from becoming health hazards.

SUMMARY OF THE INVENTION

For many years, children have been victimized by the use of cost effective materials for various purposes. Specifically, school buildings and structures have been fireproofed with asbestos; finishes have routinely used lead based paints; and playground equipment has been constructed with less than adequate rust protecting coatings. The results are devastating; children are subjected to contracting tetanus, lead poisoning, blood disorders, and even cancer from their environment because of the numerous bio-hazardous materials they come into contact.

Accordingly, it is a principal object of the invention to provide a method for abating bio-hazardous materials.

It is another object of the invention to provide a method for abating bio-hazardous materials sealing the pre-existing bio-hazardous materials before they loose to the environment.

It is a further object of the invention to provide a method for abating bio-hazardous materials sealing the pre-existing bio-hazardous materials before they loose to the environment by encapsulating the hazardous material.

Still another object of the invention is to provide a method for abating bio-hazardous materials sealing the pre-existing bio-hazardous materials before they loose to the environment by encapsulating the hazardous material using composition of urethanes and metallics.

It is an object of the invention to provide improved elements and arrangements thereof in an apparatus for the purposes described which is inexpensive, dependable and fully effective in accomplishing its intended purposes.

These and other objects of the present invention will become readily apparent upon further review of the following specification.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

The present invention is primarily focussed on the abatement of asbestos. However, the general application of this method is not solely limited to the abatement of asbestos, rather to any material that potentially presents a bio-hazard to the environment. Other bio-hazards abated by this method include, but are not limited to, lead particles found in lead based paints, and metallic oxides such as rust.

The present method uses a one part, moisture-curing, aromatic polyurethane composition containing metallics and additional trade secret additives that improve the encapsulating properties. The composition is commercially available from Superior Products International II, Inc., 6459 Universal Avenue, Kansas City, Mo. 64120, under the product name RUST GRIP. RUST GRIP is a unique blend of a diphenyl methane diisocyanate-based polyurethane containing proprietary additives and metallics. This unique blend includes 15–40% by weight aromatic solvents, 5–10% mineral spirits, 3–7% prepolymer diphenyl methane diisocyanate, 3–7% 4,4 diphenyl methane diisocyanate, 10–30% aluminum, and 15–40% by weight isocyanate catalyzed polyurethane. The resulting formulation provides an impact and abrasive resistant finish over existing coatings that contain hazardous materials.

The method of the present invention uses this formulation of a combination of high performance urethanes and additives in a single component unit to give the formulation the ability to encapsulate, and seal any surface. Unlike the prior art methods that require the coated surfaces be prepped before applying any sealing or overlay material. The prior art methods require a cleaning, scraping, removing, or the like, of any excess, peeling, or flaking of the previous coating. This procedure allows the hazardous materials, in particulate form, to contaminate the environment. Additionally, this procedure requires further extensive and expensive clean-up to insure environmental security and safety.

The present method does not require the expensive, extensive, and time consuming steps of preparing the coated surfaces. The present method applies the formulation directly to the coated substrate surface. The method applies the formulation in a manner consistent with many other general purpose coatings, however, the method is novel because it produces the new and unexpected result of encircling, encapsulating and bonding otherwise bio-hazardous particulate matter to the substrate surface. The method of the present invention involves providing the formulation set forth above. The application of the formulation involves the simple procedure of coating the surface of the coated substrate. This is accomplished in various conventional manners, such as, brushing, rolling, or spraying. As stated above, it is not necessary to prepare the surface in any extensive manner, however, the method requires that the surface be completely dry. Additionally, a light dust removal or vacuuming may enhance the effectiveness, although not required.

The formulation once initially applied, is allowed time to percolate through the coating and bond to the substrate surface. The formulation percolates through the pores of the coating on the substrate surface. During the percolation, the formulation also expands internally of the pores by absorbing atmospheric moisture. The expansion also provides the vehicle with which the formulation also attaches to the particulate matter that forms the bio-hazard. The attachment virtually causes the formulation to encircle the particulate matter and bond the particulate matter to the substrate surface.

During the percolating of the formulation, the method also allows the formulation to cure for a first period of time not to exceed four hours. The formulation is re-applied, re-percolated, and re-cured at least for one additional application after the initial application. The formulation has a property that once it is allowed to completely dry out, the ability to apply a second coat is lost. The formulation is most effective when at least two complete applications of the formulation are administered. The second or subsequent application is allowed to cure for a time period also not to exceed four hours unless the seconds or subsequent application is the final application.

The final application is allowed to completely cure or dry, generally six to eight hours. Once the final application is completely cured, the formulation forms a encapsulating seal around all particles of the hazardous material, bonds to the substrate surface, and produces a virtually impact resistant shell that maintains integrity exceeding impacts of 200 psi. Further, this shell is also abrasion resistant on the order of 18 mg/kHz loss. The standard protocol generally requires abrasion resistance to be within the range limits of 100–150 mg/kHz, or less to be acceptable.

The bio-hazardous materials of the coating on a substrate is abated and the surface is impact and abrasion resistant. The particulate materials, such as asbestos, is no longer a substantial threat to children, or anyone, during the normal course of use of the substrate. That is, the asbestos particles will not be released as air borne contaminants using applicant's method when the asbestos coated substrate is used in a normal fashion. Likewise, any other potentially bio-hazardous coating (e.g., lead based paint) when encapsulated by the present method is rendered virtually harmless to anyone, particularly children.

It is to be understood that the present invention is not limited to the sole embodiment described above, but encompasses any and all embodiments within the scope of the following claims.

I claim:

1. A method of encapsulating bio-hazardous particulate matter contained in the coating of a coated substrate comprising the steps of:

A: providing an encapsulating formulation including solvent-based urethanes and metallics ;

B: applying the encapsulating formulation to a substrate having a coating including lead particles;

C: percolating the encapsulating formulation through the coating of the substrate such that the encapsulating formulation bonds to the lead particles and to the substrate;

D: curing the formulation for a first predetermined period of time;

E: repeating steps B and C; and

F: re-curing the formulation for a second predetermined length of time;

whereby, upon re-curing, the encapsulating formulation is bonded to the lead particles and the substrate encapsulates and seals the lead particles to the substrate; and forms an impact and abrasion resistant barrier over the coating of the substrate.

2. The method according to claim 1, the first predetermined time period is equal to or less than four hours.

3. The method according to claim 1, said step of applying includes brushing the formulation onto the coated substrate.

4. The method according to claim 1, said step of applying includes rolling the formulation onto the coated substrate.

5. The method according to claim 1, said step of applying includes spraying the formulation onto the coated substrate.

6. The method according to claim 1, wherein said step of percolating includes the steps of:

penetrating pores in the coating and the substrate;

expanding the encapsulating formulation in the pores; and

encircling the lead particles in the coating.

7. A method of encapsulating bio-hazardous particulate asbestos matter contained in the coating of a coated substrate comprising the steps of:

A: providing an encapsulating formulation including solvent-based urethanes and metallics;

B: applying the encapsulating formulation to a substrate having a coating including asbestos particles;

C: percolating the encapsulating formulation through the coating of the substrate such that the encapsulating formulation bonds to the asbestos particles and to the substrate;

D: curing the formulation for a first predetermined period of time;

E: repeating steps B and C; and

F: re-curing the formulation for a second predetermined length of time;

whereby, upon re-curing, the encapsulating formulation is bonded to the asbestos particles and the substrate; encapsulates and seals the asbestos particles to the substrate; and forms an impact and abrasion resistant barrier over the coating of the substrate.

8. The method according to claim 7, the first predetermined time period is equal to or less than four hours.

9. The method according to claim 7, wherein said step of percolating includes the steps of:

penetrating pores in the coating and the substrate;

expanding the encapsulating formulation in the pores; and

encircling the asbestos particles in the coating.

10. The method according to claim 7, said step of applying includes spraying the formulation onto the coated substrate.

11. The method according to claim 7, said step of applying includes brushing the formulation onto the coated substrate.

12. The method according to claim 7, said step of applying includes rolling the formulation onto the coated substrate.

* * * * *

The United States of America

The Commissioner of Patents and Trademarks

Has received an application for a patent for a new and useful invention. The title and description of the invention are enclosed. The requirements of law have been complied with, and it has been determined that a patent on the invention shall be granted under the law.

Therefore, this

United States Patent

Grants to the person(s) having title to this patent the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States of America or importing the invention into the United States of America for the term set forth below, subject to the payment of maintenance fees as provided by law.

If this application was filed prior to June 8, 1995, the term of this patent is the longer of seventeen years from the date of grant of this patent or twenty years from the earliest effective U.S. filing date of the application, subject to any statutory extension.

If this application was filed on or after June 8, 1995, the term of this patent is twenty years from the U.S. filing date, subject to any statutory extension. If the application contains a specific reference to an earlier filed application or applications under 35 U.S.C. 120, 121 or 365(c), the term of the patent is twenty years from the date on which the earliest application was filed, subject to any statutory extension.

Bruce Lehman

Commissioner of Patents and Trademarks

Marjorie V. Turner

Attest