TPR Corporation
161 Interstate Lane
Waterbury, CT 06705

Att: Mr. John Liutkus PhD
Technical Director

Re: DL-14815R
Via FAX 203-756-8779

September 28, 2009

OBJECTIVE

To determine the performance properties of an elastomeric high build coating.

PRODUCT TESTED

The elastomeric coating was submitted for testing by TPR Corporation. The coating was identified as:

(AFES) Flexible Thermal Coating,
Flexible Fireshell, Active Fire Extinguishing, AFES-F4.

PROCEDURES

The performance properties of the AFES-F4 Flexible Thermal Coating, Flexible Fireshell coatings were determined using the following procedures.

<table>
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<tr>
<th>Procedures</th>
<th>Test Methods</th>
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<tbody>
<tr>
<td>Flexibility, Method A – Conical Mandrel</td>
<td>ASTM D 522</td>
</tr>
<tr>
<td>Scrub Resistance</td>
<td>ASTM D 2486</td>
</tr>
<tr>
<td>Abrasion Resistance, Falling Sand</td>
<td>ASTM D 968</td>
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<tr>
<td>Impact Resistance, Direct &amp; Reverse Impact</td>
<td>ASTM D 2794</td>
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<tr>
<td>Adhesion, Pull-off Strength</td>
<td>ASTM D 4541</td>
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<tr>
<td>Freeze/Thaw Resistance, Five cycles</td>
<td>ASTM D 2243</td>
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<tr>
<td>Accelerated Weathering – 1000 hours (on mortar)</td>
<td>ASTM G 153</td>
</tr>
<tr>
<td>8 hours UVA 340 at 60°C followed by</td>
<td></td>
</tr>
<tr>
<td>4-hours Condensation at 50°C</td>
<td></td>
</tr>
</tbody>
</table>

This report may contain test data obtained from test methods not covered by NVLAP accreditation. See reverse side for those test methods which are covered.

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**Procedures**

- Tensile Properties
  - Tensile Strength at Break
  - Percent Elongation at Break
- Wind Driven Rain
- Mold Resistance
- Sag Resistance
- Moisture Resistance, 100-hours (on mortar)
- Visual Color Change
- Degree of Chalking
- Degree of Cracking

**Test Methods**

- ASTM D 412
- TT-C-555B / ASTM D 6904
- TT-P-29 / ASTM D 3273
- FTMS 141 Method 4494
- ASTM D 4585
- ASTM D 1729
- ASTM D 4214
- ASTM D 661

**TEST RESULTS**

The test results for the *AFES-F4 Flexible Thermal Coating, Flexible Fireshell* coating can be found in the appendix.

DL Labs, Inc.

Mario Lazaro, Jr.
Assistant Technical Director
APPENDIX

TEST RESULTS

AFES-F4 Flexible Thermal Coating, Flexible Fireshell

Flexibility, Percent Film Elongation
   One coat application 32%
   Two coat application 32%

Scrub Resistance
   370 cycles

Abrasion Resistance
   Falling Sand Abrasion
   >1000 Liters

Impact Resistance
   Direct Impact
   >160 inch-pounds
   Reverse Impact
   >160 inch-pounds

Adhesion Strength
   Pull-off Strength
   90 psi
   Mode of Film Failure
   Cohesive, 100%

Freeze Thaw Resistance
   After Three Freeze / Thaw Cycles
   Coagulated

Accelerated Weathering – 1000 hours (on mortar)
   Gloss Change, visual
      500-hours
      None
      1000-hours
      None
   Chalking
      500-hours
      None
      1000-hours
      None
   Cracking
      500-hours
      None
      1000-hours
      None

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APPENDIX

TEST RESULTS

**AFES-F4 Flexible Thermal Coating, Flexible Fireshell**

**Tensile Properties**
- Tensile Strength at Break: 45 psi
- Percent Elongation at Break: 55%

**Wind Driven Rain Resistance**
- Without masonry block filler
  - Water Absorption: 0.2 pounds maximum
  - Visible leaks: None
  - Rear face dampness: None
- With masonry block filler
  - Water Absorption: 0.2 pounds maximum
  - Visible leaks: None
  - Rear face dampness: None

**Mold / Fungus Resistance**
- Fungal Growth: 10 ASTM Rating
- No fungal growth

**Sag Resistance**
- >12-mils

**Moisture / Humidity Resistance – 100-Hours (on mortar)**
- Blistering: 4F
- After 24-48 hour recovery period: Satisfactory
- Loss of Adhesion: None
- Wrinkling: None
- Other defects: None