TRI-SEAL™ LONG-LIFE COATING

TRI-SEAL™ Long-Life Coating is a high performance dip spin finish, developed to minimize corrosion when used in exterior building applications. It consists of three layers; the first layer is a metallic zinc layer, the second layer is a high-grade anti-corrosion chemical conversion film and the third, outer layer, is a baked ceramic surface coating.

The distinguishing feature of TRI-SEAL™ is the tight joining of the baked ceramic surface coating and the chemical conversion film. These two layers are bonded together through chemical reactions, and this unique method of combining layers result in a rigid combination of the coating films.

- Excellent resistance against gas, weather, and other kinds of corrosion factors, including salt water.
- Compatible for use in ACQ and Fire Treated Lumber.
- Composite layers minimize the effect of scratches on the protection coating.

**Salt Spray Test Results**
1,000hrs Per ASTM B117
Compatible for use in treated lumber

**Corrosion Testing**
Salt Spray: 1,000hrs.
Per ASTM B117.
No red rust

Kesternich: 30 cycles.
Per DIN 50018

**Material Properties**

<table>
<thead>
<tr>
<th>Test Items</th>
<th>Test Methods</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardness</td>
<td>Peeling test by pencil hardness</td>
<td>Over 4H</td>
</tr>
<tr>
<td>Adhesion</td>
<td>Peeling test by adhesive tape on cross scribed test piece in 1 mm width</td>
<td>Nothing abnormal</td>
</tr>
<tr>
<td>Acid Resistance</td>
<td>Immersion in 5% sulfuric acid solution for 24 hours</td>
<td>Nothing abnormal</td>
</tr>
<tr>
<td>Alkali Resistance</td>
<td>Immersion in 5% sodium hydroxide solution for 72 hours</td>
<td>Nothing abnormal</td>
</tr>
<tr>
<td>Heat Resistance</td>
<td>Exposure to 250 C (482 F) heat for an hour</td>
<td>Nothing abnormal</td>
</tr>
<tr>
<td>Accelerated Weathering</td>
<td>Sunshine weather-0-meter test for 1,000 hours</td>
<td>Free from red rust</td>
</tr>
<tr>
<td>Contact Corrosion w/other Metals</td>
<td>Corrosive investigation after Salt Spray Test (JIS Z2371) done comparatively on surface treated steel bolts/nuts tightened on a stainless steel plate</td>
<td>Clearly superior to zinc electroplated (colored chromate) and hot dip galvanizing</td>
</tr>
</tbody>
</table>

Contact TFC for additional details on TRI-SEAL™.

Disclaimer: All test results and specifications are a result of laboratory tests. Appropriate safety factors should be used by the user or specifier. Determining the proper fastener is the responsibility of the user or specifier. Since application conditions vary and are uncontrollable by TFC, we assume no liability for the use of this information.
SUBMITTAL / DATA SHEET
Report No. DS052810

Product: TRI-SEAL™ long-life coating

1.0 Purpose
The following are the requirements for fasteners which are TRI-SEAL™ long-life coated

2.0 Coating Specification
.0003" Min electro zinc and yellow dichromate base coat with two coats of dip spin coating.

3.0 Corrosion Requirement
Salt Spray Test - 1,000 hrs minimum (per ASTM B-117).
Kesternich Test - 30 cycles minimum (per DIN50018-1.0)

4.0 Coating Types
Various proprietary coatings are available under numerous brand names. It is recognized that with any of these coatings, that a minimum corrosion requirement in the form of salt spray and kesternich must be achieved.

4.1 TRI-SEAL™ Long-Life Coating Material

4.2 Description
Ruspert (or equivalent) is a duplex fastener coating system that combines an electroplated zinc and chromate substrate with an organic topcoat. The electroplated zinc layer provides sacrificial protection of the steel substrate while the topcoat creates a durable barrier. This coating system is engineered to provide extend field life and improve mechanical performance of fasteners such as wood and decking screws. It cross-links at a PMT of 4000 F and provides excellent chemical and fluid resistance.

4.3 Use
Ruspert (or equal) when applied over zinc and yellow dichromate offers increased corrosion in ACQ treated wood while maintaining consistent torque and galvanic protection.

4.4 Performance
Salt Spray: 1,000 hrs with two coats (approximately 1.5 mil thick). No red rust.

4.5 Colors
Silver-grey / Yellow

4.6 Physical Properties
Viscosity: 25-40 sec Ford #4 @ 800F
Theo. Coverage (ft.2/gal): 1027 @ 0.5 mil
Weight per Gallon: 9.3#
Weight Solids: 45%

4.7 Application
Dip/spin

Approved: _______________________
Joe Stager
VICE PRESIDENT
Product Development and Marketing

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