



## POR-15 Rust Preventive Paint Test Results



<u>Weather Resistance</u>	
<p><b>Weatherometer</b> - The weatherometer is perhaps the most accurate weather resistance indicator due to the cycling of conditions. The cycle is 30 mins sun at 135 degrees F, (57deg C) 30% relative humidity and 30 mins dark at 75-80 degrees F. ( 24-27 deg C), at 100% relative humidity</p>	<p>1,000 hours of exposure equals 5 years of simulated exposure in the Rocky Mountain region. There was no change in 3 panels coated with POR-15 exposed for 2,000 hours.</p>
<p><b>ASTM B-117 Salt Spray</b> - The oldest and most widely used weather cabinet test. It introduces a spray in a closed chamber where specimens are exposed at specific locations and angles. It creates a 100% relative humidity condition in the exposure zone.</p>	<p>Two separate B-117 tests. One with new steel and the other with rusted steel.</p> <ul style="list-style-type: none"> <li>▪ No change in 3 panels of new steel exposed for 250 hours at 98 degrees F ( 97 deg C). Thickness = 2 mils</li> <li>▪ No change in 3 panels of rusted steel exposed for 1000 hours at 98 degrees F ( 97 deg C). Thickness = 2 mils</li> </ul>

<u>Structural Strength Measures</u>	
<p><b>ASTM C-580 Flexural Strength</b> - This test method measure flexural strength and modulus of elasticity expressed in pounds per square inch.</p>	<p>5,200 pounds per square inch</p>
<p><b>ASTM C-579 Compressive Strength</b> - This test method measures compressive strength, the capacity of a material to withstand axially directed pushing forces.</p>	<p>12,500 pounds per square inch - Verified. Not tested to failure.</p>
<p><b>ASTM C-307 Tensile Strength</b> - This test measures tensile strength of cured chemical-resistant materials.</p>	<p>3,200 pounds per square inch</p>
<p><b>ASTM D-4541 Bond Strength To Concrete</b> - This test method measures the strength of a coatings bond to concrete.</p>	<p>Concrete fails before POR-15. It far exceeds the tensile strength of concrete</p>

<u>Abrasion Resistance</u>	
<p><b>ASTM C-501 Taber Abraser</b> - This industry standard for the establishment of an abrasive wear by determination of the loss of weight resulting from abrasion.</p>	<p>In two separate ASTM C-501 Taber Abraser tests, POR-15 had:</p> <ol style="list-style-type: none"> <li>1. No loss after 1,000 cycles with a 1,000 gram abramer,</li> <li>2. Loss after 10,000 cycles with 1,000 gram abramer = 0.09 grams</li> </ol>

<b><u>Chemical Resistance</u></b>	
<b><u>Chemical Bath Test</u></b>	After 200 hours of soaking in the following chemical bathes, panels coated with POR-15 experienced no changes: 10% hydrochloric acid, 50% sulphuric acid, 55% chromate, 85% phosphoric acid, 10% sodium hydroxide 98% methanol
<b><u>Raw Sewage Test</u></b>	A metal box that houses a filter for raw sewage in a treatment facility was coated with POR-15. After a year of service no viable undercutting or rusting was present on the housing.

<b><u>Impact, Porosity and Temperature Tests</u></b>	
<b><u>Mil-D-3134J Impact Resistance</u></b>	POR-15 exceeds standards in paragraph 3.15
<b><u>ASTM C-413 Water Absorption</u></b> - This test method covers the determination of the absorption of chemical-resistant mortars, grouts, monolithic surfacing, and polymer concretes.	0.0001 maximum
<b><u>NACE Stand TM0174</u></b>	0.00 POR-15 is a non-porous coating
<b><u>Temperature Resistance</u></b>	POR-15 is temperature resistant up to 700 degrees F (371 deg C). A test showed that no adhesion was lost at 700 degrees F (371 deg C) for 10 hours