

Metallurgical Engineering Services
 845 E. Arapaho Road | Richardson, Texas 75081

REPORT TO:



BUILDING PRODUCTS ■■■

216 N. Interurban
 Richardson, Texas 75081

June 29, 2015

DATE APPROVED: May 7, 2015

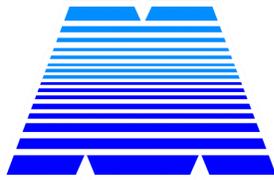
IDENTIFICATION: 1 ea. Sample Block with (3) Bolt samples

PROCEDURES:

Salt spray corrosion testing was performed for 1,000 hours on the submitted samples per ASTM B-117-11 using a Atotek test chamber, Model 22, S/N: 22D272, which was calibrated prior to use. Distilled water was used in the 5% salt solution preparation. Temperature readings were taken twice a day and averaged 97°F. The rate of salt solution collected in milliliters per hour was 1.36. The specific gravity of the solution collected at the chamber operating temperature was 1.033. The average pH of collected solution was 6.9.

RESULTS: Salt Spray Testing -

Sample ID	Date	Observations	Hours
Sample Block	5/11/2015		0
ASTM B117		Photo documentation of test block in the as-received condition	



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Sample ID	Date	Observations	Hours
Test Block	6/22/2015		1,008
ASTM B 117		Photo documentation of test block post exposure	
Left		A mixture of red rust and white corrosion products was observed on the black nut, washer, and bolt system with an approximate surface coverage of 80%. The spotted red rust had an approximate diameter of 1/32-1/16 th on an inch.	
Middle		A mixture of red rust and white corrosion products was observed on the combination washer-nut and bolt with an approximate surface coverage of 15%. The pin-point type red rust was randomly distributed throughout with an approximate diameter of less than 1/32 nd of an inch.	
Right		A mixture of red rust with black and white corrosion products was observed with an approximate surface coverage of 100%. Areas of delaminated coating system were observed through the specimen exposing approximately 20% of the substrate material.	

These results and opinions are based on the tests performed and are subject to change upon the receipt of new or additional information.

Respectfully submitted,

METALLURGICAL ENGINEERING SERVICES, INC.
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