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**Testing and Comparison of NanoMech
GUARDx Premium Corrosion Inhibitor**

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Project #: 16-056-1525

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Background:

Omni Packaging would like NanoMech GUARDx Premium Corrosion Inhibitor tested and compared with similar Cortec coatings. Testing will be performed in salt spray (ASTM B-117) and high humidity (ASTM D-1735). These results will be compared to two Cortec temporary coatings recently tested in salt spray (ASTM B-117) and high humidity (CC-018; ASTM D-1748 conditions).

Sample Received:

One half gallon sample of NanoMech GUARDx Premium Corrosion Inhibitor was received in good condition without any visual impurities.

Method: Water Fog Testing, ASTM D-1735
Salt Fog Testing, ASTM B-117

Materials:

1. Carbon Steel Q-Panels (SAE 1008 Grade, 3"x5")
2. Laboratory grade methanol

Procedure:

1. Carbon steel Q-panels were obtained and sufficiently cleaned with methanol.
2. NanoMech GUARDx coating was drawn down with a Meyer rod at a WFT of 4 mils (100 microns), and allowed to cure for 7 days to a final DFT of approximately 2 mils (50 microns).
3. Panel edges were dipped in paraffin wax to prevent corrosion from the edges from interfering with testing.
4. Two panels were tested according to ASTM B-117.
5. Upon failure, three additional panels were tested according to ASTM D-1735.
6. Failure analyses for ASTM B-117 and run times for panels tested according ASTM D-1735 are listed below in *Table 1* and *Table 2*, respectively.

Results:

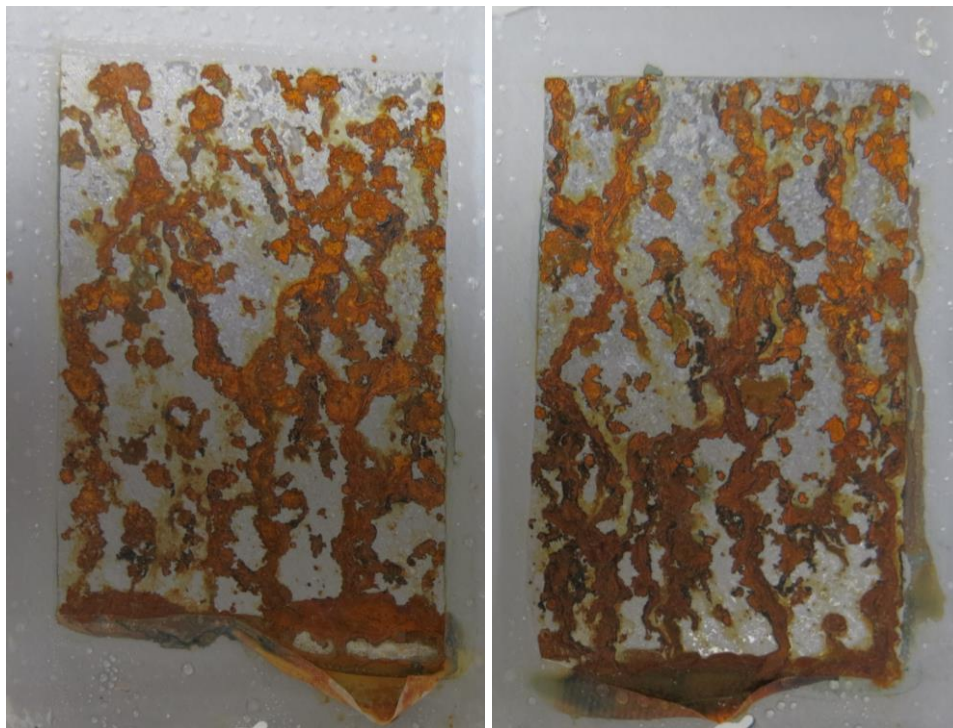
Table 1: Relevant Results from ASTM B-117 Testing

Sample #	Failure Analysis
1	Total Failure
2	Total Failure
Chamber Start Time: 3/31/2016 @ 10am	
Chamber Stop Time: 3/31/2015 @ 12 pm	
Total Chamber Run Time: 26 Hours	

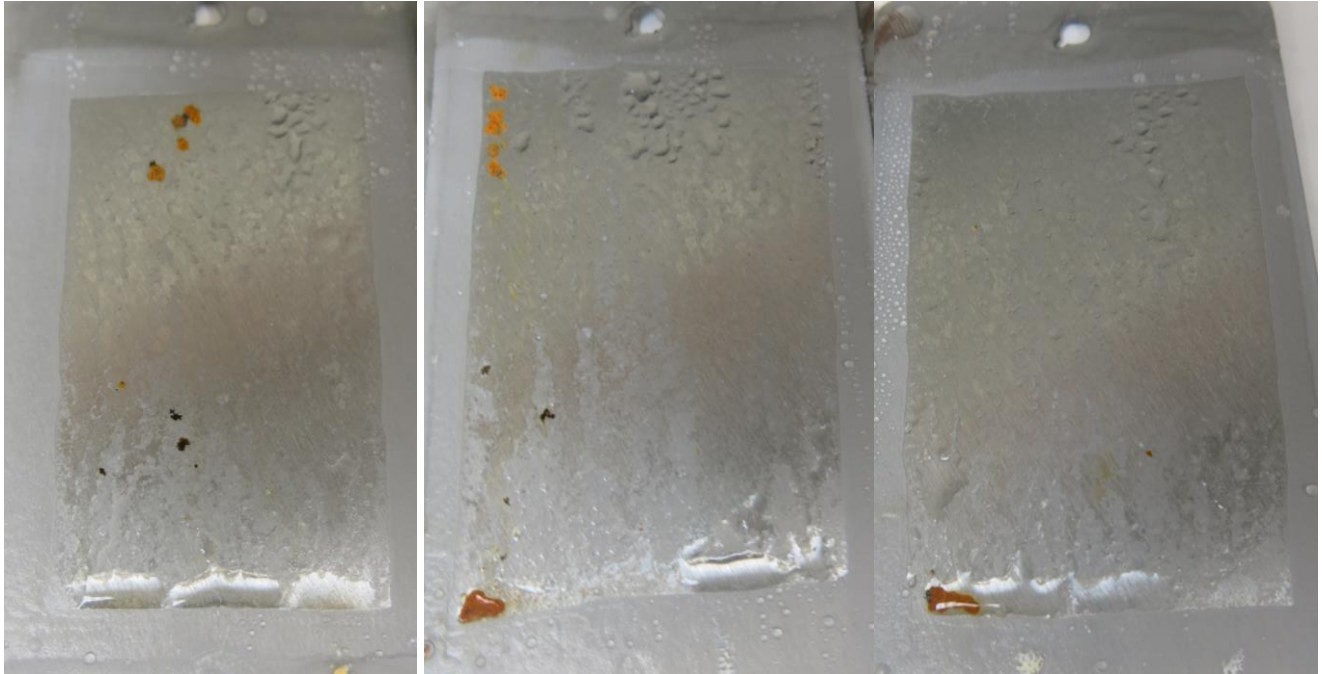
Table 2: Relevant Results from ASTM D-1735 Testing

Sample #	Rust First Observed	Run Time [Hours]
3	4/21/2016 @ 10 am	357
4	4/27/2016 @ 9 am	500
5	4/28/2016 @ 10 am	525
Chamber Start Time: 4/16/2016 @ 1 pm		
Chamber Stop Time: 4/28/2016 @ 10 am		
Total Chamber Run Time: 525 Hours		

Photos:



Picture 1: Panels 1 & 2 showing total field failure after 26 hours of ASTM B117 testing.



Picture 2: Panels 3, 4, and 5 after 525 hours of testing according to ASTM D-1735.

Interpretations:

NanoMech's GUARDx provided less than 26 hours of protection in ASTM B-117 conditions and only 525 hours of protection in ASTM D-1735 conditions. Both of these results show a lack of protection for any outdoor storage application, and moderate protection for indoor storage.

Two comparable Cortec coatings, VpCI-368 and VpCI-369, were tested recently (test report #15-102-1825) and provided 1175 hours and 740 hours of protection in ASTM B-117, respectively. In high humidity testing (ASTM D1748), both provided greater than 4300 hours of protection. Both tests show vastly superior results with Cortec products.