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Evaluating Rust Preventive Solutions for Customer

Purpose: To compare Cortec rust preventives to similar products currently utilized by Customer.

Method: ASTM D-1735 Water Fog Cabinet (100°F, ~95% relative humidity)

Materials: 10 steel samples, provided by Customer
Ferrocote 673BF liquid
Ferrocote 5856 liquid
Rustillo 4130 liquid
Unknown green polyethylene film
BioCorr Rust Preventative
VpCI-327
VpCI-369
VpCI-389
VpCI-126 Blue film

Procedure: The following procedure was used:

- 1) Prior to testing, all parts were cleaned with methanol.
- 2) After cleaning, the parts were prepared for testing in one of the following ways:
 - a. No treatment (control)
 - b. Dipped in Ferrocote 673BF
 - c. Dipped in Ferrocote 5856
 - d. Dipped in Rustillo 4130
 - i. Note: All samples provided by Customer were used as received.
 - e. Dipped in BioCorr
 - f. Dipped in VpCI-327
 - g. Dipped in VpCI-369
 - h. Dipped in VpCI-389
 - i. Wrapped in green competitor film
 - j. Wrapped in VpCI-126 Blue film
- 3) After preparation, all parts were allowed to sit overnight.
- 4) Next, all of the parts were placed into ASTM D-1735 water fog testing.
 - a. Due to the weight of the parts, testing had to be divided into two groups.
- 5) All parts in testing were visually inspected periodically.
- 6) After 500 hours, all parts were removed from ASTM D-1735 water fog testing.
- 7) All parts were visually inspected.



Results: The following results were found:

Treatment	Time to Failure (Hours)
None (Control)	<8
Ferrocote 673BF	DNF*
Ferrocote 5856	<48
Rustilo 4130	<24
BioCorr	120
VpCI-327	144
VpCI-369	DNF*
VpCI-389	DNF*
Unknown green film	240
VpCI-126	DNF*

DNF – Did not fail during 500 hours of ASTM D-1735 testing.

Conclusion: Of the nine rust preventives tested, four of them provided greater than 500 hours of corrosion protection in ASTM D-1735 water fog testing. The green competitor film supplied by Customer did not provide adequate protection, when compared to VpCI-126 Blue Film. Of the liquid rust preventives used by Customer, only Ferrocote 673 lasted greater than 500 hours. Previous testing on VpCI-369 and 389 have shown greater than 1000 hours of corrosion protection in humidity cabinet conditions.

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