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Evaluating Rust Preventives

From: Cortec Corporation Laboratories
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Project #: 11-xxx-xxxx

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Sample Received: Six scrap metal pieces
Chemetall Permatreat 438
CRC 3-36 liquid

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

Materials: Six scrap metal pieces
Chemetall Permatreat 438
CRC 3-36
BioCorr
VpCI-418LM
Plain polyethylene (PE) bags

Procedure: The following procedure was used:

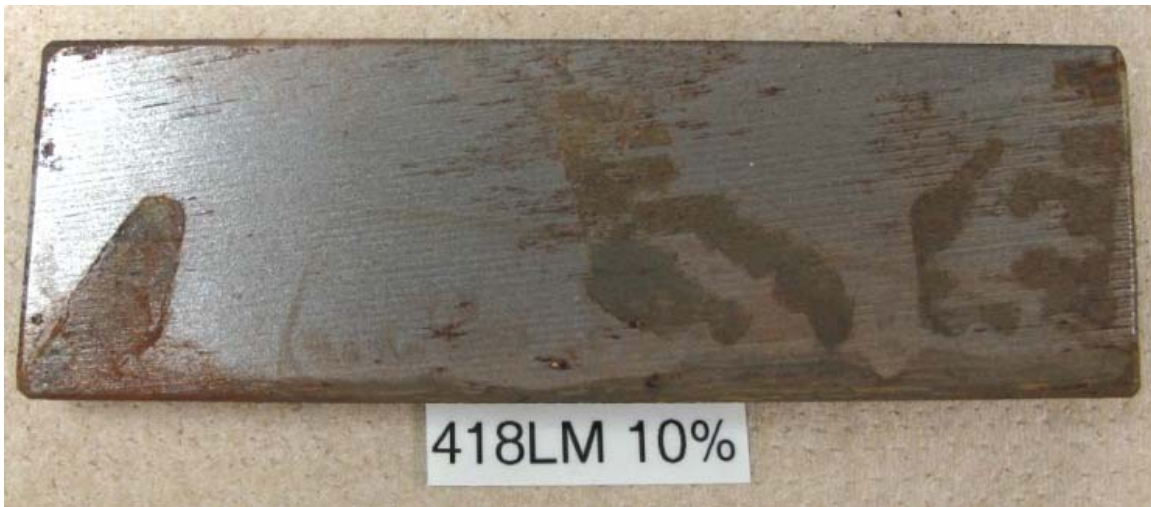
- 1) Prior to testing, all parts were cleaned with methanol.
- 2) After cleaning, parts were prepared as follows:
 - a. Control (no further preparation)
 - b. Dipped in Chemetall Permatreat 438 (neat)
 - c. Dipped in CRC 3-36 (neat)
 - d. Dipped in BioCorr
 - e. Dipped in VpCI-418LM (10% concentration)
 - f. Dipped in VpCI-418LM (15% concentration)
- 3) After dipping, all parts were allowed to air dry overnight.
- 4) All parts were then packaged in plain PE Ziploc bags.
- 5) After packaging, all parts were placed in ASTM D-1735 water fog cabinet.
- 6) All parts were visually inspected periodically.
- 7) After 400 hours, all parts were removed from ASTM D-1735 water fog cabinet.
- 8) All parts were unpackaged, visually inspected and photographed.

Results: The following results were found:

Rust Preventive	Time to Corrosion (Hours)
None (control)	<24
Chemetall 438	120
CRC 3-36	336
BioCorr	400
VpCI-418LM (10%)	120
VpCI-418LM (15%)	192

Photos:





Interpretations: Of all the products tested, BioCorr provided the best corrosion protection. Of the cleaners tested, VpCI-418LM at 15% provided the best protection, while VpCI-418LM at 10% provided the same protection as Chemetall Permatreat 438.