CORTEC Laboratories
4119 White Bear Parkway, St. Paul, MN 55110 USA
Phone: (651) 429-1100, Fax: (651) 429-1122
Toll Free: (800) 4-CORTEC, E-mail: info@cortecvci.com
cortecvci.com • corteclaboratories.com

Nickel Plated Part Packaging

To: Jessica Carpenter

From: Cortec Corporation Laboratories
4119 White Bear Parkway
St. Paul, MN 55110

cc: Boris Miksic
Cliff Cracauer
Jessica Carpenter

Project #: 13-205-1825.bis

Test conducted by:

Caleb Pheneger
Technical Service Engineer

Approved by:

Margarita Kharshan
VP of R&D

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Background: The customer wants to compare VpCI-377 to their current RP (Formula 36450 RPM, manufactured by Chemsafe International) while considering how it will be affected by their detergent from the wash station.

Samples Received: 9-10-13 In Good Condition: 3 bottles of their process fluids
9-30-13 In Good Condition: 8 small metal parts

Method: ASTM D-1735 (104 ºF and ~99% Relative Humidity)

Materials: VpCI-377 (01663)
Methanol
Received Samples

Procedure: The following procedure was used:

1. Clean all 8 metal test parts with methanol and wipe dry.
2. Submerge 4 of the parts in their wash liquid for 1 minute.
3. Remove 2 of the parts and dip in water than immediate place in VpCI-377 at 5% for 15 seconds. Remove parts and allow drying.
4. Take the other 2 parts from the detergent and rinse with their 2nd stage liquid and then submerge in 3rd liquid for 15 seconds before removing and then allow drying.
5. Place 2 of the metal parts that had only been treated with methanol in the bath of 5% VpCI-377 for 15 seconds, remove and let dry.
6. Use the last 2 parts only treated with methanol as a control.
7. After all parts have dried, place each in a 3 x 5 inch plain polyethylene bag and seal.
8. Place all bags in chamber running ASTM D-1735 and monitor for visual corrosion.
9. Remove all parts after 360 hours and inspect for corrosion.

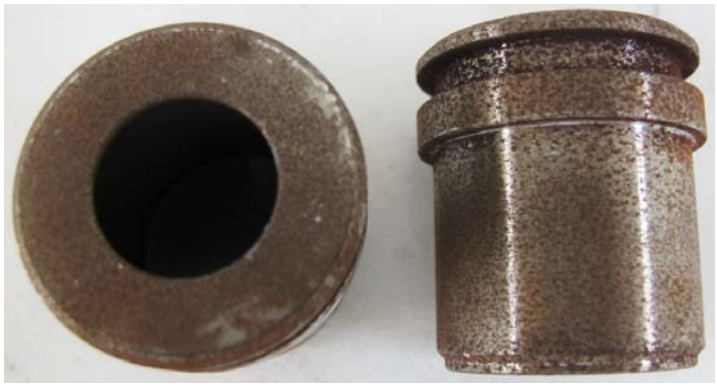
Results:

Table 1: ASTM D-1735 Results

Rust Preventative	Time Until Failure
Methanol → VpCI-377	288 hours
Methanol (Control)	24 hours
Detergent → Water → VpCI-377	240 hours
Detergent → Rinse → Current RP	48 hours

Interpretations: Based on the testing, VpCI-377 shows much better performance on their parts than the RP currently being used. The results seem to indicate that the VpCI-377 coated parts washed with methanol instead of the detergent have better results. This may be the case, but the slight difference could be due to variance.

Photos: Parts after 360 hours of testing:



Control

Current Process

Methanol → VpCI-377

Detergent → Water → VpCI-377