



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

Corrosion Testing of Small Metal Bearings

To: Customer

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

cc: Boris Miksic
Cliff Cracauer
Jessica Carpenter

Project #: 13-132-1825.bis

Test conducted by:

Caleb Pheneger

Caleb Pheneger
Technical Service Engineer

Approved by:

M. Kharshan

Margarita Kharshan
VP of R&D

Date: July 25, 2013



Background: The customer currently uses a product to both clean and provide corrosion protection to small steel bushings and may have better corrosion protection from using separate cleaner and RP.

Samples Received: 6-17-13 Received 28 small bushings ~3/4" inch width and length
Small bottle of Perkleen 1250-ND

Method: ASTM D-1735 (Water Fog Test)

Materials: VpCI-418 LM (09912)
BioCorr (03673)
Methanol
Received sample liquid
Received metal samples
Plain Polyethylene bags

Procedure: The following procedure was used:

1. Clean each metal bushing with methanol and wipe dry
2. Coat 5 bushings each with the following treatments and dilutions:
 - a. Nothing (Control)
 - b. VpCI-418 LM at 5% in water to clean and then BioCorr
 - c. BioCorr
 - d. Perkleen 1250 ND at 5% in water
3. Allow the parts to dry overnight
4. Place each part in a non-VCI polyethylene bag
5. Place parts in ASTM D-1735 chamber
6. Monitor parts daily for visual corrosion
7. Remove parts after 648 hours and photograph

Results: **Table 1: ASTM D-1735 Results**

Treatment	Time until Failure
Control	24 hours
VpCI-418LM + BioCorr	600 hours
BioCorr	DNF
Perkleen	384 hours

*DNF = did not fail during 648 hours

Interpretations: The results show that BioCorr provides the best corrosion protection and there was no improvement by adding VpCI-418 LM as a cleaner before coating in BioCorr. Using VpCI-418 LM may improve corrosion protection in most cases if the parts are not properly cleaned otherwise; however, in this test the parts had already been thoroughly cleaned in methanol.

Photos: Taken after 648 hours of humidity testing

