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Comparison of VpCI-325 and Fuchs RP on Camshaft Parts II

To: Customer

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Project #: 13-140-1825.bis

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Background: The customer would like to compare the corrosion protection of VpCI-325 to a Fuchs Lubricant rust preventative on their steel, cast, and ductile parts. Additionally, they noticed some discoloration on their parts after our testing. They want to evaluate if the rust removal in the past test was responsible for the discoloration.

Sample Received: - 2 sets of 3 different metal parts (8 inches, 5.5 inches, and 4 inches in length and all are about 1.5 inches in diameter).

Method: ASTM D-1735 (100 °F and ~99% relative humidity)

Materials: Non-VCI polyethylene bags
VpCI-325 (05412)
Fuchs AntiCorit SV 50286 HF-55GL DR
Metal test parts
VpCI-415
VpCI-422

Procedure: The following procedure was used:

1. Clean each part with VpCI-415 to remove the grease and oil on the parts.
2. Remove rust from the parts with VpCI-422 and then immediately place in VpCI-415 to neutralize.
3. Coat one set of three parts with VpCI-325 and place in clear non-VCI polyethylene bag.
4. Coat the other set of three parts with Fuchs rust preventative and place in a different clear non-VCI polyethylene bag.
5. Place both bags in ASTM D-1735 water fog chamber.
6. Monitor the parts for visual corrosion on the metal.

Results and Discussion:

ASTM D-1735 Water Fog Testing

Product Used	Time for parts to reach corrosion failure (hours)
VpCI-325	288
Fuchs RP	168

Interpretations: The same results of corrosion failure were observed in this test as from the first report (13-018-1825). It has been confirmed that the rust removal process does cause some mild discoloration to the parts. This was especially apparent when the parts were left in the rust remover for prolonged periods of time. If parts are properly protected it should not be necessary to use rust removers and cause such discoloration.

Photos:

Before/After photos of rust removal process:



Before Rust Removal



Three Parts after Rust Removal Highlighted in Red Boxes