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Evaluation of Corrosion Inhibitors to Replace Birchwood Casey's Product

Background: Customer manufactures gears and currently utilizes Birchwood Casey Satin Shield SS-10 as a rust preventative. Customer would prefer to have a product that provides superior protection to the gears that is safer environmentally than the Satin Shield SS-10.

Purpose: Compare the corrosion protection provided by the Birchwood Casey Satin Shield SS-10 to equivalent Cortec products.

Materials: 4 uncoated gears
2 gears coated with Birchwood Casey Satin Shield SS-10
VpCI-377
Deionized Water

Method: Modified ASTM-D-1748

Procedure: The following procedure was followed:

1) Six gears arrived, provided by Customer, four uncoated and two coated with Birchwood Casey Satin Shield SS-10
2) The gears were coated as follows:

Part	Coating
A23	Control, no coating
B23	Satin Shield SS-10*
C23	Satin Shield SS-10
D23	VpCI-377 at 5%
E23	VpCI-377 at 10%
F23	20% Corrshield Transit Coating

* = Gears were provided to Cortec coated

3) After the gears were fully dried the gears were placed in the ASTM-D-1748 Humidity Cabinet and periodically inspected.
4) After 120 hours the gears were removed from the ASTM-D-1748, inspected, photographed and a report was written.

Results: The following results were found:

Part	Time to Failure (hours)
A23	Less than 16
B23	40
C23	40
D23	Did not Fail
E23	120
F23	96

Conclusion: VpCI-377 at 5-10% dilution in water provided more than three times the corrosion protection to the customer's gears than the Satin Shield SS-10.

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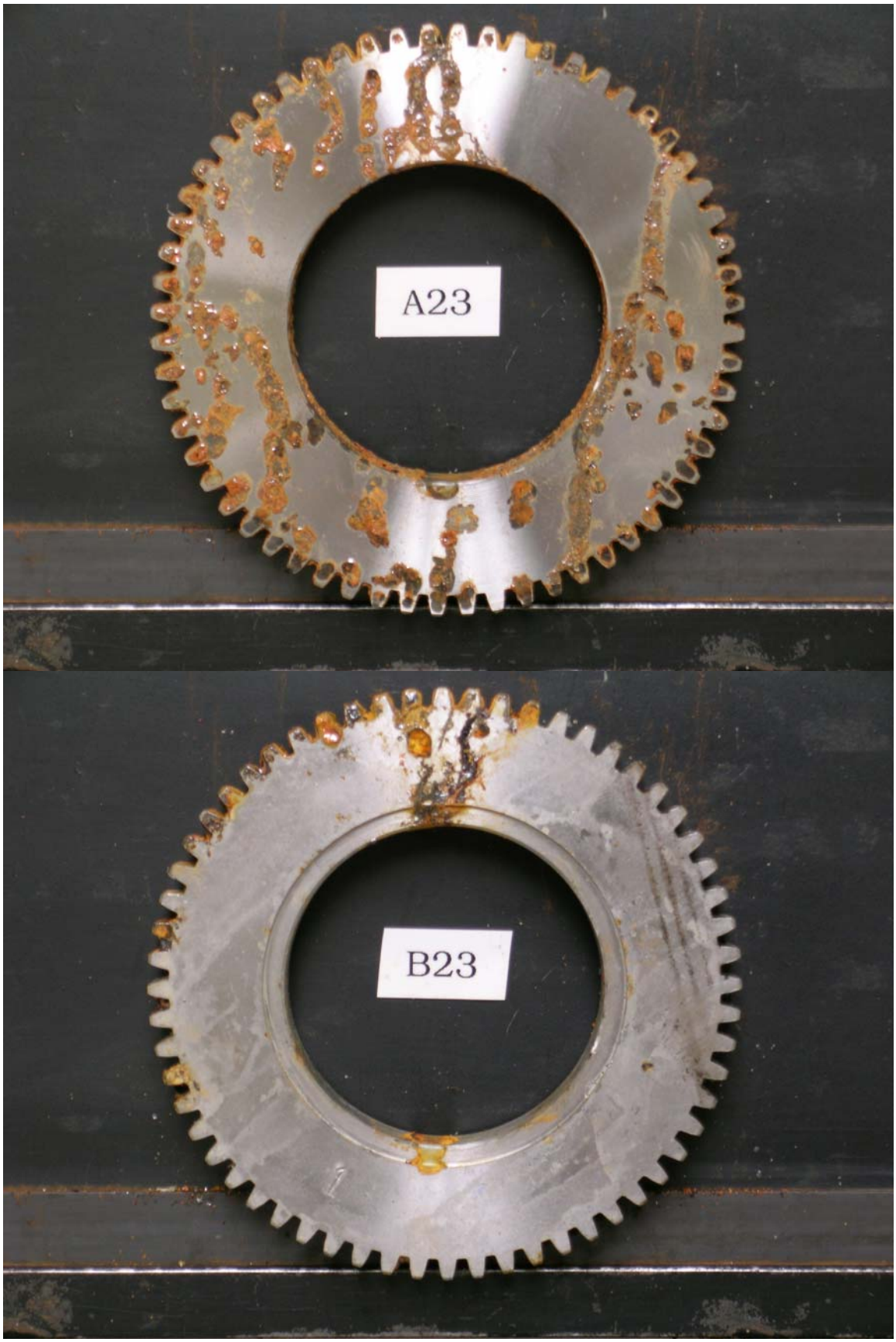
A23
B23


C23
D23


E23
F23