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Evaluating Current Fluid Used by Falk Paper

Background: Falk Paper Company currently utilizes a Rexnord cutting fluid in their facilities. Two cutting fluids samples used by Falk Paper were sent to Cortec for evaluation.

Purpose: Evaluate the corrosion inhibiting ability of the cutting fluid currently used by Falk, and compare to EcoLine Cutting Fluid.

Method: ASTM D-1748 humidity cabinet

Materials: 1010 Carbon Steel panels
'Rexnord/Falk E-206' cutting fluid, supplied by Falk Paper
EcoLine Cutting Fluid

Procedure: The following procedure was used:

1) Two samples of the Falk cutting fluid were used in testing.
    a. One sample was marked 'Used' and the other was marked 'Clean'.
    b. Both samples had two distinct layers in them; a blue green liquid with a brown layer on top.
    c. Both samples were mixed prior to testing.
2) Three carbon steel panels were coated.
    a. A1: Coated with the 'Used' Falk cutting fluid.
    b. B1: Coated with the 'Clean' Falk cutting fluid.
    c. C1: Coated with a 5% solution of EcoLine Cutting fluid.
    d. D1: Control
3) The three panels were then hung to dry overnight.
4) All panels were then placed in ASTM D-1748 humidity cabinet.
5) Panels were visually inspected periodically.
6) After 500 hours, all panels were removed from ASTM D-1748 humidity cabinet.
7) Panels were visually inspected and photographed.

Results: The following results were found:

Panel	Time to Failure (Hours)
A1	120
B1	216
C1	DNF*
D1	<24

DNF – Did not fail during 500 hours of testing.

Conclusion: The two submitted cutting fluid samples provided little corrosion protection. Neither product lasted half of the 500 hour testing time, while EcoLine Cutting Fluid showed no corrosion after this amount of testing.

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