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Comparing Chemtool and Perkool Cutting Fluids to EcoLine Cutting Fluid

- Background:** Vern Drechsler sent two cutting fluids to Cortec. The corrosion protection capabilities of these fluids will be compared to EcoLine Cutting Fluid. All the fluids are used at 5%.
- Purpose:** Evaluate the corrosion protection of Chemtool and Perkool cutting fluids, and compare to EcoLine Cutting Fluid.
- Method:** ASTM D-1748 humidity cabinet
- Materials:** 1010 carbon steel panels
Chemtool cutting fluid
Perkool cutting fluid
EcoLine Cutting Fluid
- Procedure:** The following procedure was used:
- 1) Three carbon steel panels were cleaned with methanol in preparation for testing.
 - 2) Next, 5% solutions were made of the following products:
 - a. Chemtool cutting fluid
 - b. Perkool cutting fluid
 - c. EcoLine Cutting Fluid
 - 3) Each panel was then dipped in one of the three solutions.
 - 4) After dipping, the panels were hung to dry overnight.
 - 5) Panels were then placed in ASTM D-1748 humidity cabinet.
 - 6) All panels were visually inspected periodically.
 - 7) After 360 hours, all panels were removed from ASTM D 1748 humidity cabinet.
 - 8) Panels were visually inspected and photographed.
- Results:** The following results were found:

ASTM D-1748 Humidity Cabinet

- 1) Chemtool cutting fluid: The panel dipped in Chemtool started to corrode within 24 hours. After 360 hours, corrosion was present on 5% of the panel.
- 2) Perkool cutting fluid: The panel dipped in Perkool started to corrode within 24 hours. After 360 hours, corrosion was present on 5% of the panel.
- 3) EcoLine Cutting Fluid: After 360 hours, no corrosion was present on the panel dipped in 5% EcoLine Cutting Fluid.

- Conclusion:** Both of the competitor products, Perkool and Chemtool, provided less than 24 hours of corrosion protection when used at 5% concentration. EcoLine Cutting Fluid provided greater than 360 hours protection when used at the same concentration. In many applications, EcoLine Cutting Fluid can be effectively used at concentrations down to 2.5%.







