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## *Evaluating Rust Preventives on Tube Sections*

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**Project #:** 11-008-1825(bis)

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**Background:** Customer sent 3 pipe sections to Cortec for evaluation. They would like their current rust preventive liquid to be tested and compared to similar Cortec products.

**Sample Received:** Three pipe sections, ~6" I.D.

**Method:** ASTM D-1735 Water Fog (100°F, ~95% relative humidity)

**Materials:** Three pipe sections  
Rustilo 4135 HF  
EcoLine 3690  
BioCorr

**Procedure:** The following procedure was used:

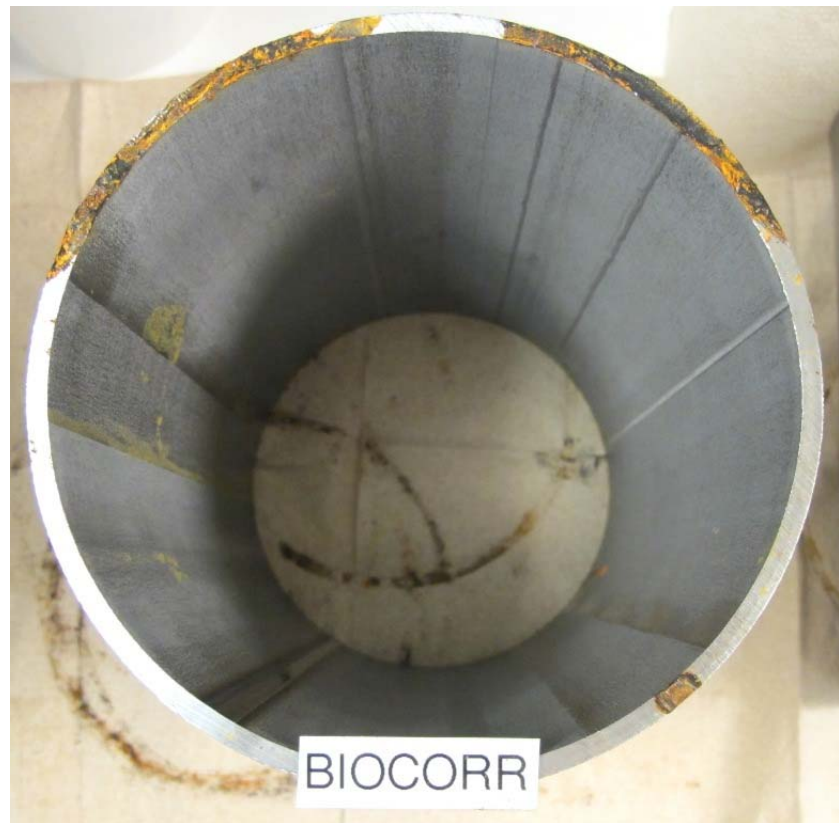
- 1) Upon receipt, all three pipe sections were cleaned thoroughly with methanol.
- 2) After cleaning, pipe sections were dipped in one of the following:
  - a. Rustilo 4135HF (used as received)
  - b. BioCorr Rust Preventative
  - c. EcoLine 3690
- 3) After dipping, pipes were allowed to drip dry overnight.
- 4) All pipes were then placed in ASTM D-1735 water fog cabinet.
- 5) All pipes were visually inspected periodically.
- 6) After 696 hours, all pipes were removed from ASTM D-1735 water fog cabinet.
- 7) All pipes were visually inspected and photographed.

**Results:** The following results were found:

Pipe Treatment	Time to Corrosion (Hours)
Rustilo 4135 HF	96
BioCorr	264
EcoLine 3690	DNF

DNF – Did not fail during 696 hours of ASTM D-1735 testing.

**Photos:**





**Interpretations:** EcoLine 3690 provided the best protection in this test, with no corrosion present after 696 hours of testing. On the other two pipes, corrosion was focused on the edges of the pipe, with small amounts of corrosion forming on the body of the pipe as testing went on.

In addition to providing superior corrosion protection, both Cortec products are made from renewable resources, soybean oil (BioCorr) and canola oil (EcoLine 3690).