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## *Evaluating Corrosion Protection Options for Customer*

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**Background:** Customer sent cast iron pieces to Cortec. They would like various corrosion protection systems evaluated.

**Sample Received:** Five cast iron pieces  
Castrol Rustilo 4163  
Unknown blue polyethylene (PE) film

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

**Materials:** Cast iron pieces  
Castrol Rustilo 4163  
Unknown blue PE film  
VpCI-126 Blue Film  
BioCorr Rust Preventative (RP)

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

- 1) Prior to testing, all cast iron pieces were cleaned with methanol.
- 2) After cleaning, one piece was set aside to be used as a control.
- 3) The remaining four pieces were treated as follows:
  - a. Two pieces were dipped in Castrol Rustilo 4163, used as received.
  - b. Two pieces were dipped in BioCorr RP.
- 4) After dipping, all pieces were allowed to air dry.
- 5) After drying, the dipped pieces were packaged, two in VpCI-126 Blue Film and two in unknown blue film used by CUSTOMER.
- 6) All film was heat sealed.
- 7) Next, all five pieces were placed in ASTM D-1735 water fog cabinet.
- 8) All pieces were visually inspected periodically.
- 9) After 336 hours, all pieces were removed from ASTM D-1735 water fog cabinet.
- 10) All pieces were unwrapped, visually inspected, and photographed.

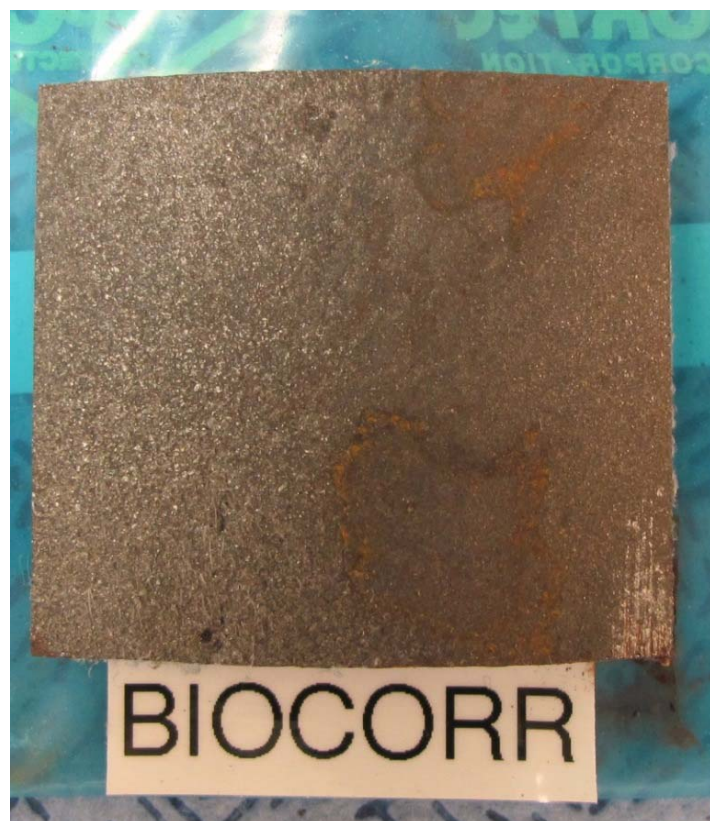
**Results:** The following results were found:

Protection System	Time to Failure (Hours)
None (Control)	<8
Rustilo/Unknown film	120
Rustilo/VpCI-126	192
BioCorr/Unknown film	168
BioCorr/VpCI-126	312

**Photos:**







**Interpretations:** The corrosion protection system of VpCI-126 Blue Film and BioCorr Rust Preventative provided the best protection on the cast iron pieces from customer.