



4119 White Bear Parkway, St. Paul, MN 55110 USA  
Phone: (651) 429-1100, Fax: (651) 429-1122  
Toll Free: (800) 4-CORTEC, E-mail: info@cortecvc.com  
cortecvc.com • corteclaboratories.com

## *Evaluating Corrosion Preventive Options*

**From:** Cortec Corporation Laboratories  
4119 White Bear Parkway  
St. Paul, MN 55110

**cc:** Boris Miksic  
Anna Vignetti  
Bill Harrod  
Cliff Cracauer  
Bob Boyle

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**Test conducted by:**

Eric Uutala  
Technical Service Engineer

**Approved by:**

Margarita Kharshan  
Laboratory Director

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**Background:** Customer sent six small steel blocks to Cortec for accelerated corrosion testing.

**Sample Received:** Six steel blocks, sent by customer

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

**Materials:** Six steel blocks  
VpCI-126 Blue Film  
EcoLine 3690

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

- 1) Steel blocks from Customer arrived in five VpCI-126 Blue Film bags.
- 2) Blocks were sandblasted and cleaned prior to being sent.
  - a. Two of the blocks were also coated with Customer's rust preventive, "Rust Proof".
  - b. The remaining four blocks were cleaned with methanol upon arrival.
  - c. Two of the four blocks were treated as controls, and were not coated with any products.
  - d. The other two blocks were dipped in EcoLine 3690 and allowed to drip dry overnight.
- 3) Next, three of the blocks (one control, one treated with Rust Proof, one coated with EcoLine 3690) were packaged in VpCI-126 Blue Film bags.
  - a. All bags were heat sealed.
- 4) All six blocks were placed in ASTM D-1735 water fog cabinet.
- 5) All blocks were visually inspected periodically.
- 6) After 576 hours, all blocks were removed from ASTM D-1735 water fog cabinet.
- 7) All blocks were unpackaged, visually inspected, and photographed.

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

Treatment	Time to Corrosion (Hours)
None (control)	<24
VpCI-126	336
Rust Proof	96
VpCI-126/Rust Proof	360
EcoLine 3690	576
VpCI-126/EcoLine 3690	DNF*

DNF – Did not fail during 576 hours of ASTM D-1735 testing.

**Photos:**



Figure 1: Blocks not packaged in VpCI-126, after 576 hours of ASTM D-1735 testing.



Figure 2: Blocks packaged in VpCI-126 film, after 576 hours of ASTM D-1735 testing.

**Interpretations:** EcoLine 3690, used with and without VpCI-126, provided superior corrosion protection in this test. Customer's current rust preventive provided nearly the same protection with and without the use of VpCI-126.