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## L A B O R A T O R Y   R E P O R T

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**REPORT #:** 080116  
**TITLE:** WEATHERING RESISTANCE OF ENESEAL HR  
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### **Introduction:**

ENESEAL HR has been evaluated for environmental / weathering resistance using two different test methods. These tests are:

- QUV Weather-O-Meter Test
- Atmospheric Environmental Exposure Test

A description of these tests, the results from these tests and photos of the test samples are included in this report.

### **Procedures:**

#### QUV Weather-O-Meter Test (ASTM G-53, ASTM D-4329):

QUV testing evaluates the resistance of the coating to exposure to sunlight and water, as rain or dew. It is an accelerated weathering test. Three steel panels coated with ENESEAL HR were placed in a weather-o-meter chamber and cycled as follows:

- 8 hours exposure to UV light at 122°F
- 4 hours exposure to water condensation at 104°F

The ENESEAL HR samples were continuously exposed to this 12 hour cycle for a total of 1000 hours with the following results: (See Photo 1)

- No discoloration of any of the samples.
- No blistering of any of the samples.
- No other signs of deterioration.

Most other coatings that claim to be weather-resistant only report the results for 200 to 500 hours of QUV weather-o-meter testing.



Photo 1 – QUV Weather-O-Meter ENESEAL HR panels after 1000 hours

Atmospheric Environmental Exposure Testing (ASTM G 7)

Atmospheric environmental exposure testing evaluates the resistance of the coating to direct exposure to the environment. This test exposure was to weathering at Long Island, New York. The test panels were tested at a tilt of 45° from the horizontal facing south. (See photo2)

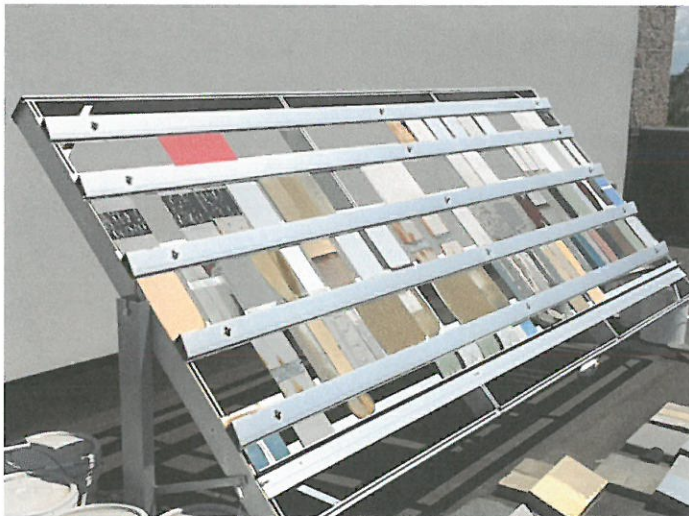


Photo 2 – New York test fence

The test samples were composed of two coats of ENESEAL HR and two coats of a competitive coating applied side by side on various substrates. The competitive coatings were used as control / benchmark samples.

The test samples have been exposed to the environment continuously for a period of 16 years so far. The ENESEAL HR samples, thus far, exhibit the following results: (See Photo 3, 4, 5, 6)

- No blistering.
- No cracking.
- No debonding.
- No other signs of deterioration.



Photo 3 – aluminum substrate



Photo 4 –cement board substrate

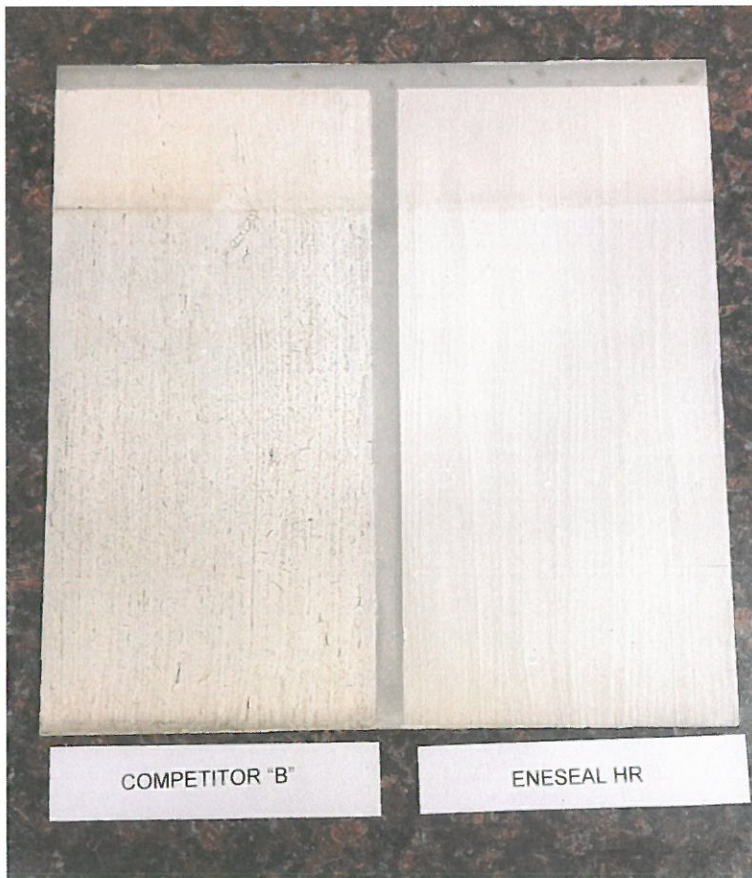


Photo 5 – aluminum substrate

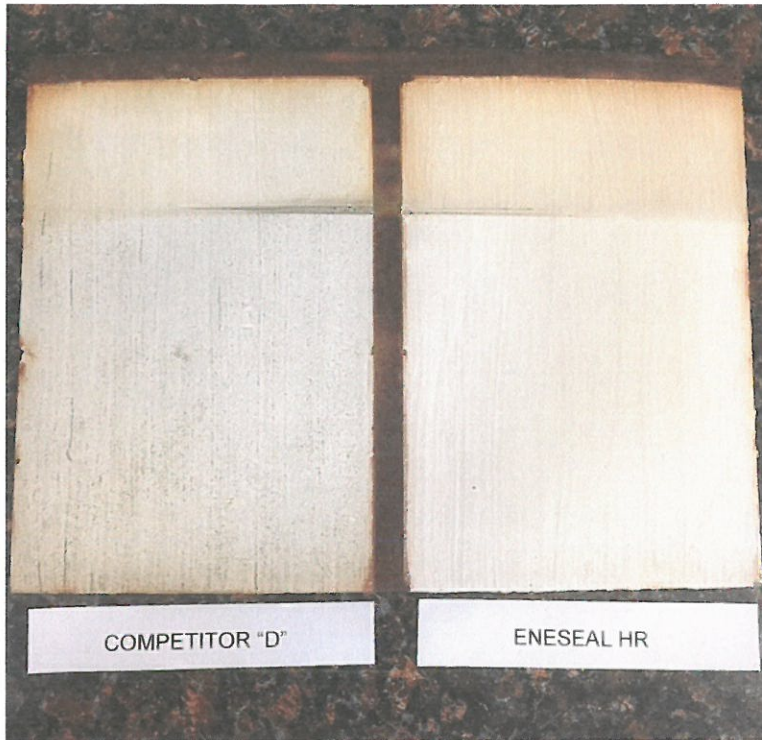


Photo 6 – primed steel substrate

**CONCLUSION:**

These two tests provide evidence that ENESEAL HR is highly resistant to long term:

- Sunlight / UV exposure
  - Precipitation degradation
  - Blistering and peeling
  - Staining and discoloration
  - Freeze / thaw cycling
  - Aging
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