



Quality Standards: Rhino TriView™ UV Resistance

At Rhino we understand the importance of providing high quality products that withstand the rigors of outdoor exposure in harsh environments for long periods of time. In order to meet this challenge, we hold ourselves to stringent standards to ensure performance in both testing-environments as well as in the real world out on the right-of-way.

RhinoPoly Resins:

We use only our proprietary blend of virgin resins specifically designed for outdoor exposure including polypropylene, high density polyethylene and UV stable pigments free of heavy metals.

Extrusion Process:

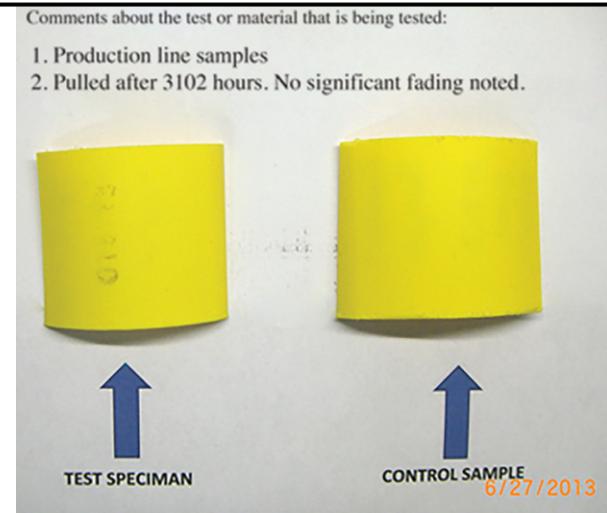
Resin is automatically fed from one of our two 70,000 pound silos. This virgin base resin is blended with the other components using computerized controls which digitally measures and feeds the raw materials to the extruders at consistent temperature, pressure, and viscosity to ensure optimum blend.



UV Resistance Testing

In House Testing:

We have our own Weatherometer (Q-Sun Xe-1 testing chamber) which is used to test the performance of our products in "extreme" weather conditions and allows for accelerated aging. By using this technique we can observe the physical effects of sunlight, heat, and weather on the surface of our products. This test allows us to see the estimated equivalent of years of exposure in only a few months. Our test criteria are based on ASTM G-155-98 Cycle also known as 102-18.



Independent Laboratory Testing:

To validate our internal testing we have an independent laboratory perform the same Weatherometer testing procedure. (ASTM G-155-98)

See attached: *TriView COMTECT Testing PRINT.pdf*

Real World Validation:

- The Rhino TriView™ has been in use since 1999.
- In the past 10 years 500,000 TriViews have been installed in all 50 US states and Canada.
- The two US states with the most TriViews installed are Texas, and Florida which supports the fact that the TriView's RhinoPoly Resins perform well in intensive UV conditions.



10 Year Warranty:

Almost 20 years of real world experience combined with our stringent quality control system and Weatherometer testing gives us the confidence to offer a 10 year warranty. The warranty states the TriView will not fade significantly or become brittle for a minimum of 10 years when used within the service, range and purpose for which intended.

Photo taken 4/2018 • TriView install date 5/2007



Composite Materials Technology Center

August 24, 1999

Scott Landes
Repnet Inc.
1204 West 96th Street
Bloomington, MN 55431

TRIXIEW FLEX WEATHEROMITER TESTING.

We have completed 2000 hours of exposure on samples sent by your company. The exposure test followed ASTM G53 (Standard practice for light and water exposure of nonmetallic material.) The cycle of exposure of the specimens was 4 hours of UV light at 60 deg.C. followed by 4 hours of condensation at 50 deg.C. in a Qpanel Accelerated Weathering Tester with UVA-340 lamps as the light source. The lamps are rotated every 400 hours to maintain an even light distribution over the specimens.

TRIXIEW FLEX SAMPLES.

The appearance of the TriView samples is unchanged from unexposed material. All of the exposed specimens remained flexible and showed no sign of cracking.

TRIXIEW FLEX CAPS.

The TriView plastic cap was exposed under the same conditions as the other samples and shows no cracking or blistering only minor dulling of the exposed surface, it also remains flexible (no indication of any brittleness).

Sincerely,

Jerry Johnson
COMTEC