



ADVANTEX® GLASS REINFORCEMENTS

SPECIFYING THE RIGHT REINFORCEMENT IS CRITICAL FOR CORROSIVE COMPOSITE APPLICATIONS

COMPOSITES REINFORCED WITH ADVANTEX® GLASS PROVIDES GREATER FEATURES AND BENEFITS WHEN COMPARED WITH TRADITIONAL E-GLASS

■ REDUCES THE POSSIBILITY OF HAVING A CATASTROPHIC FAILURE

Installation mistakes • Poor resin choice • Improper cure • Over-torqued fasteners • Incorrect supports • Unforeseen impact • Poor maintenance • Thermal cycling • Expansion and contraction stresses • Over-pressurization • Unintended vacuum • Weather and other Acts-of-God.

■ LOWERS MAINTENANCE COSTS

■ PROVIDES LONGER LIFE OF AN APPLICATION IN THE FIELD

■ REDUCES DOWN TIME

■ LOWERS OVERALL COST

OWENS CORNING ADVANTEX® GLASS HAS BEEN FORMULATED TO BE

■ A TRUE E-GLASS AND A TRUE E-CR GLASS (ACCORDING TO ASTM D578-00, ISO 2078, DIN 1259-01)

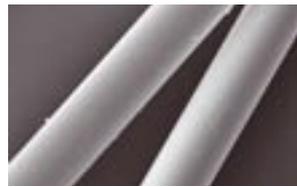
■ A BORON- FREE GLASS

■ A FLUORINE-FREE GLASS

■ Combining electrical and mechanical properties of traditional E-glass and acid corrosion resistance of E-CR glass

IMPORTANCE OF USING THE RIGHT REINFORCEMENT

Advantex® glass



Traditional E-glass



Advantex® and E-glasses in acid for 4 hours

This microscopic view of glass fibers in the acidic media shows the degradation of the E-glass which occurs by an etching process that involves hydration followed by total dissolution of the E-glass, while Advantex remains unharmed.

USING ADVANTEX® GLASS VS TRADITIONAL E-GLASS OFFERS

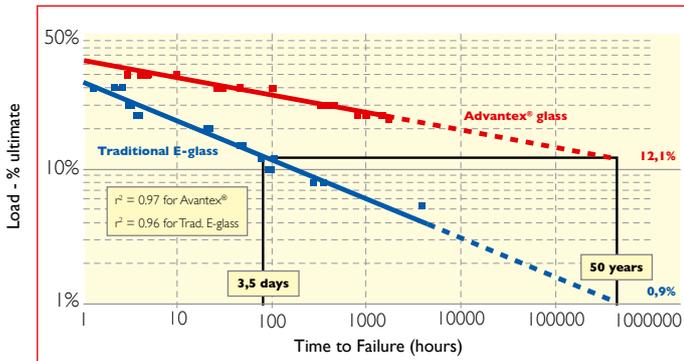
- Up to **54% higher** allowable strain in strain-corrosion resistance, in H₂SO₄
- Up to **50 Years** instead of 3 months lifetime for composite rods, in stress-corrosion in salt water (under identical conditions)
- Up to **50 Years** instead of 4 days lifetime for rods, in stress-corrosion in 1N HCl (under identical conditions)

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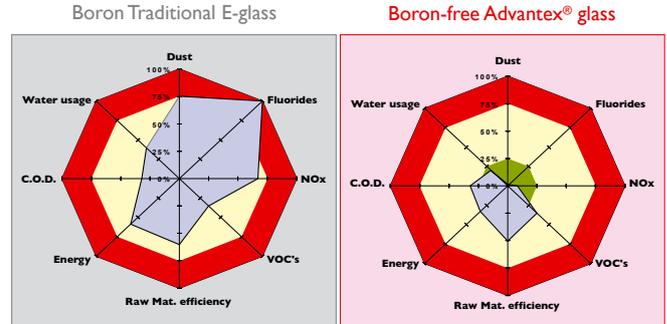
COMPOSITE APPLICATIONS IN CORROSIVE ENVIRONMENTS MADE USING OWENS CORNING ADVANTEX® GLASS REINFORCEMENTS OUT PERFORM TRADITIONAL E-GLASS

Stress-Rupture of Composite Rods in 1 Normal Acids (HCl-H²SO⁴)



Advantex® offers a useful stress 12 times that of a laminate made with traditional E-Glass in acid applications. Another way of looking at the performance differences is by noting the traditional E-glass laminate would fail in approximately four days when stressed at the 50 year stress limit for the Advantex® laminate while exposed to a 10% hydrochloric acid environment.

ADVANTEX® IS THE MOST ENVIRONMENTALLY FRIENDLY ECR/E-GLASS ON THE MARKET



The above comparison was typical for OCV™ plant conversions. Actual results vary from plant to plant.



The main benefits are related to air emissions environmental impacts

- Removing Boron from the glass composition prevents the generation of dust particulates associated with its partial volatilization when exposed to high temperature
- The same benefit results from the removal of added fluorides from the composition
- Lower SO₂, NO_x and CO₂ emissions

OCV™ BUSINESS IS A WORLDWIDE SUPPLIER

Supporting our customers with the entire Advantex® reinforcement product range including glass fibre, technical fabrics and specialty glass.

Most OCV™ products are manufactured with Advantex® glass today. On-going conversion programs are driven in Europe, Asia Pacific and Latin America manufacturing plants while North America plants are already converted 100% to Advantex® glass.

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