

Advantex® E-CR Glass

Advantex® glass fiber reinforcements from Owens Corning are both an E-glass and a true E-CR glass according to ASTM D 578, ISO 2078, and DIN1259-1. The product provides improved corrosion resistance compared to standard E-glass.

When it was introduced in 1997, boron-free Advantex® glass was expected to provide superior corrosion resistance in acidic environments. That benefit was confirmed with field use data, and field experience also found that the product performs well in any aqueous environment, including water and alkaline solutions.

Compared to standard E-glass, Advantex® glass also decreases emissions and reduces the environmental impact of manufacturing fiberglass.

A recent study by Owens Corning also shows how Advantex® glass fiber outperforms standard E-glass reinforcements in stressed composite laminates in a corrosive environment. Previous testing examined the impact of corrosive chemicals on bare glass. The new study checked laminates under load in a corrosive environment to more closely simulate conditions an application may encounter in the field.

The study combined corrosion and stress testing and examined the laminates using SEM (Scanning Electron Microscopy) and EDX (Energy Dispersive X-ray) spectroscopy. Advantex® glass fiber laminates demonstrated superior corrosion resistance compared to E-glass in laminates exposed to a solution of 10 percent sulfuric acid. The study also confirmed previous findings on the leaching mechanism of E-glass in acidic environments.

The outcome provides a compelling reason for using Advantex® glass fiber reinforcements throughout a composite structure. While some designs require E-CR glass in a corrosion barrier and allow standard E-glass in the rest of the laminate, these results argue for reducing the risk of laminate failure by using E-CR glass throughout the structure.

Advantex® glass fibers provide a competitive advantage for our customers by helping them create high-value applications for the benefit of their customers and the end-users.

For additional information, visit www.owenscorning.com/composites/aboutAdvantex.asp