HIGHER PERFORMANCE COMPOSITES

Introducing higher performance composites by Owens Corning – OC HP has more modulus, more benefits, more opportunities. This new higher performance glass provides a boost in mechanical properties enhancing part performance or cost optimization through redesign. The compatibility and processing of Owens Corning's sizing chemistries are directly transferable to higher performance to easily leverage into your existing operations and designs.

OC HP — NEXT LEVEL COMPOSITES

Product Benefits

PULTRUSION
Reduce the weight of pultruded parts by up to 8% by using higher modulus glass, saving material cost.

TELECOM
Central strength members can be made 8% lighter, enabling increased fiber optic capacity in the cable.

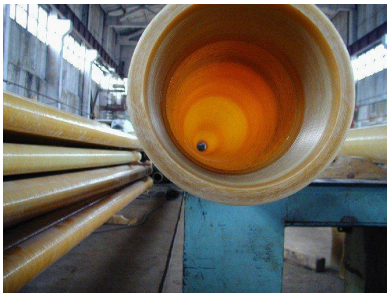
REBAR
Higher modulus can enable fiberglass rebar with modulus up to 70 GPa on straight bars. Properties previously unattainable on bent bars can now be achieved.

FILAMENT WINDING
Improve performance by up to 15% in axial tensile strength for helically wound pipe compared to reference products.

LONG FIBER THERMOPLASTICS
Reduce the weight of parts for automotive applications by up to 9%.

MUFFLERS
The glass can be used in high temperature muffler applications due to an annealing point increase of 25-30°C compared to current products.

Applications



More Strength and Modulus than Advantex®

FIBER AND BULK GLASS PROPERTIES	TEST METHOD	UNIT	E-GLASS	ADVANTEX® E-CR GLASS	OC HP
Fiber Density (predicted)	Proprietary	g/cm^3	2.60-2.62	2.63	2.59
Refractive Index (bulk annealed)	Proprietary		1.562-1.565	1.567	1.557

MECHANICAL PROPERTIES	TEST METHOD	UNIT	E-GLASS	ADVANTEX® E-CR GLASS	OC HP
Pristine Fiber Tensile Strength, 22 °C	Proprietary	MPa	3815-3830	4050	4650
Young's Modulus, 22 °C	Proprietary	GPa	78-79	82	89.5
Elongation at Break	ASTM D3822	%	3	3	4

Corrosion Resistance

SOAKING SOLUTION	ADVANTEX®	COMPETITOR 1	COMPETITOR 2	COMPETITOR 3	OC HP
NaOH pH=12.88	X	X	X	✔	✔
10% HCl	✔	✔	✔	X	✔
10% H_2SO_4	✔	✔	✔	X	✔

Glass was tested using a dry tensile method based on ASTM D578 before and after soaking in corrosive solutions for 32 days. Passing is defined as retention of ≥75% of starting strength.

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Pub number: 10023976. Higher Performance Composites_sell sheet. January 2021. English.