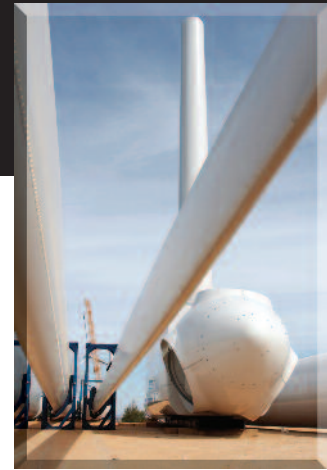


AGY ADVANCED MATERIALS

S-1 HM[®] Rovings for Demanding Wind Energy Turbine Applications



AGY, the leading global supplier of high performance glass fibers, introduces S-1 HM[®] high performance rovings to meet the demanding requirements of the wind energy market.

S-1 HM[®] Rovings Features and Benefits

- ▶ The highest tensile modulus glass fiber available – 90 GPa
- ▶ Proprietary glass formulation designed to maximize performance properties while allowing for high volume, economical manufacture
- ▶ S-1 HM[®] rovings performance vs. typical E-Glass:
 - 20% higher tensile modulus – longer blades with no weight increase, or weight reduction at same length
 - 50% higher tensile strength – higher loadings
 - 10x higher fatigue – improved reliability and lower total cost of ownership
- ▶ Sizing chemistries for compatibility with epoxy and polyester resins
- ▶ Direct roving product form tailored for conversion to unidirectional fabrics and prepregs and multi-axial fabrics
- ▶ Boron-free and environmentally friendly

For product samples please call 1.888.434.0945 (Toll Free US) or (+33) 4727 81775 (France)

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S-1 HM[®] Rovings for Demanding Wind Energy Turbine Applications

S-1 HM[®] Glass Properties

	ASTM	Units	S-1 HM [®] Glass	Typical R-Glass	Typical E-Glass
Glass Strand Properties					
Density		g/cc	2.55	2.57	2.58
Tensile Strength	D2343	MPa	3090	2700	2100
Specific Tensile Strength		10 ³ m	121	105	81
Tensile Modulus	D2343	GPa	90	83	73
Specific Tensile Modulus		10 ³ m	3.53	3.23	2.83
UD Fabric Laminate Properties (60% FVF)					
Tensile Strength	D3039	MPa	1230	1050	775
Tensile Modulus	D3039	GPa	51	47	40
Compressive Strength	D3410	MPa	850	720	600
Compressive Modulus	D3410	GPa	51	46	41
Flexural Strength	D790	MPa	1390	1260	1200

S-1 HM[®] rovings, developed as a next generation of S-Glass products, is designed to give the highest mechanical properties while meeting the economic needs for the reinforcement market. AGY has a long-standing track record of meeting the demands for challenging customer requirements with unique and dynamic modifications of glass and sizing chemistries.

AGY has the largest portfolio of glass chemistries of any glass fiber manufacturer including E-Glass, S-2 Glass[®], L-Glass[®], S-3 HDI[®] Glass, S-1 Glass[®] and S-1 HM[®] Glass.

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