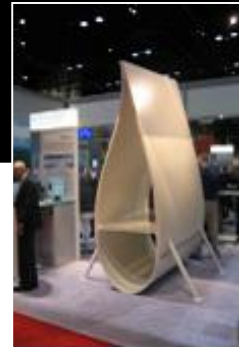




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S-1 HM™ Roving

For Your Demanding Wind Energy Turbine Blade Applications



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

S-1 HM™ High Performance Roving Features & Benefits

- The highest tensile modulus glass fiber available in the world – 90 GPa
- Proprietary glass formulation designed to maximize performance properties while allowing for high volume, economical manufacture
- S-1 HM™ 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 both epoxy or polyester resins
- Direct roving product form tailored for conversion to unidirectional fabrics and prepreps and multi-axial fabrics
- Boron free – environmentally friendly



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S-1 HM™ High Performance Roving Properties

	ASTM	Units	AGY S-1 HM™ Glass	Competitive R-glass Products	E-glass
Glass Strand Properties					
Tensile Strength	D2343	MPa	3070	2700	2000
Tensile Modulus	D2343	GPa	90	83	73
UD Laminate Properties (60% FVF)					
Tensile Strength	D3039	MPa	1504	1150	814
Tensile Modulus	D3039	GPa	52	47	43
Compressive Strength	D3410	MPa	807	720	531
Compressive Modulus	D3410	GPa	51	46	42
Flexural Strength	D790	MPa	1367	1260	1200

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