

Technical Data

TCR Direct Rovings

Product Introduction

D1-AB & D4-AB glass are boron-free and fluoride-free glass fiber. It provides higher mechanical properties (modulus of elasticity) than E glass, superior chemical corrosion resistance, especially very similar acid resistance with traditional ECR glass. Without any content of B2O3 and F2, D1-AB & D4-AB glass is environmental-friendly throughout all its production process.

Product Description

All D1-AB & D4-AB direct roving are manufactured to meet ISO 9001 standards. These direct rovings are produced by pulling individual fibers directly from the bushing and then winding them onto a roving package ready for shipment. The uniform distribution of a proprietary sizing system assures an excellent resin-to-glass binding through uniform distribution of the binding agent. A direct roving process represents the optimum technology in forming glass fiber and

results in maximum strand integrity.

Packaging

Pallet dimensions

Pallet height, cm (in) 94 (37) or 119 (47)

Pallet length, cm (in) 1280 (50)

Pallet width, cm (in) 96 (38)

Number of layers: 3 or 4

36-roll pallet weight, kg (lb) 792 (1746)

48-roll pallet weight, kg (lb) 1056 (2328)

Doff dimensions

Doff height*, cm (in) 26.5 (10.5)

Doff weight*, kg (lb) 22 (48.5)

Doff diameter, cm (in) 30 (12)

Doffs/layer 12

Doffs/pallet 36 or 48

Doffs are wrapped in plastic bags, then packed in individual cardboard boxes or bulk-packed.

Storage

Unless otherwise specified, it is recommended to store glass fiber products in a cool, dry area. Temperature



should not exceed 35°C (95°F) and the relative humidity should be kept below 75%. Glass roving products must remain in packaging material until just prior to its use. If these conditions are respected, the glass fiber product should not undergo significant changes when stored for extended periods of time.

Stacking

To ensure safety and avoid damage to the product, skids should not be stacked more than two high. When stacking two pallets high, care should be taken to correctly and smoothly place the top pallet.

Features and Product Benefits

- Superior processing
- Fast wet-out
- Excellent laminate mechanical properties
- Excellent packaging run out and transfer
- Optimized to maximize equipment uptime
- High abrasion resistance
- Low fuzz and low sizing deposit on contact point
- Meets or exceeds physical properties requirements for a broad range of applications

Comparison of D1-AB & D4-AB Roving with E-glass & Advantex Roving

Glass Type	D1-AB & D4-AB	E	Advantex
Density (g/cm ³)	2.55-2.60	2.54-2.60	2.53-2.60
Tensile Strength (MPa) ASTM D 2343	2250-2350	2150-2250	2250-2350
Tensile Modulus (GPa) ASTM D 2343	80-82	73-75	80-82
Glass Softening Point (°C)	905-920	835-850	890-905
Acid Resistance, 10% H ₂ SO ₄ , 96°C, 48hr, Weight Retention	97.0%	61.8%	95.18%
Acid Resistance, 10% H ₂ SO ₄ , 96°C, 96hr, Weight Retention	95.48%	/	94.47%

Product data

Direct Rovings are reinforcement products for filament winding, pultrusion, knitting and weaving applications with polyester (UP), vinylester (VE) and epoxy (EP) resin systems. Direct Rovings are produced by pulling individual fibers directly from the bushing and winding them onto a roving package ready for shipment.

TCR direct rovings combine the electrical and mechanical properties of traditional E-glass rovings with the acid corrosion resistance of E-CR glass rovings. They are compatible with all of the most widely used resin systems. Processability and production characteristics of TCR direct rovings are comparable to traditional E-glass and E-CR glass formulations.

ID Number	Linear Density (NOM TEX)	Yield (NOM yds/lb)	% Organic solid (LOI)	Filament diameter (µm)	Compatible Resin	% Moisture Content	Application
D1-AB	300 - 4800	1654 - 103	0.55 ± 0.20	13 - 24	UP, VE, EP	≤ 0.2	FW/Weaving/Knitting
D4-AB	300 - 4800	1654 - 103	0.50 ± 0.20	13 - 24	EP	≤ 0.2	FW/Weaving/Pultrusion

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