

## Technical Data

## TCR Chopped Strand Mat

### Product Introduction

M1-AB Chopped Strand Mats are composed of chopped TCR glass fiber strands that are bonded together into mats with a highly soluble polyester powder. The input TCR rovings are boron-free and fluoride-free glass fiber. They provide 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 B<sub>2</sub>O<sub>3</sub> and F<sub>2</sub>, TCR glass is environmental-friendly throughout its production process.

TCR Chopped strand mats are used primarily for hand lay-up, filament winding and press molding of FRP parts. Their many excellent characteristics are able to provide superior performance in a broad range of end-use markets such as marine, transportation, recreation, construction, consumer and anti-corrosion.

### Product Description

M1-AB Chopped Strand Mats are designed to be compatible in an

unsaturated polyester system. To help ensure the quality of customers' products, the quality management programs of manufacturing these products is controlled under the requirements of ISO 9001. M1-AB Chopped Strand Mats have obtained the quality certification of the Norway Boat code.

### Packaging

The TCR Chopped Strand Mat is wound into a roll on a cardboard inner tube. All densities are 30cm (12") in diameter. Each roll is wrapped with a plastic bag and placed in a cardboard box. 12 or 18 boxes are placed vertically on a pallet, which is stretch wrapped.

### 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%. Fiberglass 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

### Customer Benefits

Quick wetting and rapid air release	Maximum molding productivity and reduced cost
Excellent thickness uniformity	Consistent customer part quality
Superb dry integrity	Enhances productivity and reduces materials losses during unrolling, cutting and piece handling
Smaller diameter, very dense rolls	Safe and efficient material handling

## Comparison of TCR Chopped Strand Mat (M1-AB) Input with E-glass & Advantex Roving

Glass Type	M1-AB	E	Advantex
Density (g/cm <sup>3</sup> )	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 <sub>2</sub> SO <sub>4</sub> , 96°C, 48hr, Weight Retention	97.0%	61.8%	95.18%
Acid Resistance, 10% H <sub>2</sub> SO <sub>4</sub> , 96°C, 96hr, Weight Retention	95.48%	/	94.47%

## Product Data

ID Number	Fiber Diameter	Sizing Type	Binder Type	Compatible Resin	% Organic Solid (LOI)	% Moisture Content
M1-AB	13 µm	Silane	Powder	UP	2~8	≤ 0.20

ID Number	Weight (OZ/ft <sup>2</sup> , g/m <sup>2</sup> )	Styrene Solubility	Speed of Wet-out	Standard Width (inch)
M1-010-AB	1.0/300	< 50 sec	< 60 sec	38, 50, 60 (Max. 110")
M1-015-AB	1.5/450			
M1-020-AB	2.0/600			
M1-030-AB	3.0/900			

## Roll Weight Specifications

Width	inch/mm	38/965	50/1270	60/1524
M1-010-AB, M1-015-AB, M1-020-AB	kg, lb	39/86	52/115	61/134
M1-030-AB	kg, lb	41.5/91	53.5/118	63.5/140

## Disclaimer of Liability

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