

MasterBrace® Fibers

Carbon and Glass Fiber sheets used for FRP structural strengthening

MATERIAL DESCRIPTION

MasterBrace Fiber sheets are encapsulated in MasterBrace 4500 resin to form a structural composite to yield a range of high performance features. The MasterBrace Fiber range includes unidirectional carbon and glass fiber

RECOMMENDED USES

- MasterBrace composites can be used to increase flexural, shear, and axial load capacity on number
- Increased impact resistance and to provide blast mitigation
- Reduction of crack propagation and increased resistance to fatigue
- MasterBrace is ideal for a variety of structures including
 - Concrete/Masonry Walls, beams and slabs
 - Columns and chimneys
 - Silos and tanks
 - Pipes and tunnels
 - Strengthening of heritage structures.
 - Seismic Strengthening

FEATURES AND BENEFITS

- **High strength to weight ratio** – provides additional strength without adding to the ‘dead load’ of a structure
- **Carbon and Glass** – allows ‘tailor made’ designs for a wide range of applications
- **Lightweight** – easily applied using hand techniques
- **Fast curing** – quick installation avoiding costly downtime of structures or buildings
- **Simple installation** – can be applied in-situ on structures in use

PROPERTIES

MasterBrace Carbon fiber sheet

Technical data of fiber	230 gsm	430 gsm
Modulus of elasticity	230 kN/mm ²	230 kN/mm ²
Tensile strength	4900 N/mm ²	4900 N/mm ²
Weight of C fiber (main direction)	200 g/m ²	400 g/m ²
Density	1.8 g/cm ³	1.8 g/cm ³
ε Ultimate %	1.5	1.5
Thickness for static design weight / density	0.112 mm	0.25 mm

MasterBrace - Unidirectional Glass fiber sheet

Technical data of fiber	E-Glass, 900 gsm
Modulus of elasticity	73 kN/mm ²
Tensile strength	3400 N/mm ²
Total weight of sheet	900 g/m ² in main directions
Density	2.6 g/cm ³
ε Ultimate %	4.5
Thickness for static design weight / density	0.342 mm
Safety factor for static design	1.5 (recommended)

Values given in the Performance Data table are mean values obtained from regular, quality assurance testing. The structural designer is advised to satisfy themselves, by prior testing if necessary, that the grade chosen will conform to the performance criteria for their specific design requirements.

APPLICATION

For detailed instructions, refer to the “MasterBrace Application Guidelines for FRP Fabric (Sheet) Materials” document.

Fibers must be completely saturated in resin. Carry out work only under appropriate environmental conditions

ESTIMATING DATA

Follow the engineering design for material quantities, lengths and section sizes.

PACKAGING

MasterBrace Glass Sheet EU 900 Width 500mm **MasterBrace Carbon** Fiber 230/400 system: Width 500mm, Length 50M

MasterBrace Carbon Fiber 230/200 system: Width 500mm, Length 100M

SHELF LIFE

MasterBrace fibers have a shelf-life of more than 24 months if stored on warehouse conditions.

PRECAUTIONS

For the full health and safety hazard information and how to safely handle and use this product, please make sure that you obtain a copy of the Master Builders Solutions Material Safety Data Sheet (MSDS) from our office or our website.

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STATEMENT OF RESPONSIBILITY

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NOTE

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