

MasterBrace[®]Fibers

Carbon and Glass Fiber sheets used for FRP structural strengthening

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	230	330	430	630
of fiber	gsm	gsm	gsm	gsm
Modulus of	230	230	230	230
elasticity	kN/mm²	kN/mm²	kN/mm²	kN/mm²
Tensile strength	4900	4900	4900	4900
	N/mm ²	N/mm ²	N/mm ²	N/mm ²
Weight of C fiber	200	300	400	600
(main direction)	g/m²	g/m²	g/m²	g/m²
Density	1.8	1.8	1.8	1.8
-	g/cm ³	g/cm ³	g/cm³	g/cm ³
ε □Ultimate %	1.8	1.8	1.8	1.8
Thickness for	0.11	0.16	0.23	0.33
static design	mm	mm	mm	mm
weight / density				

MasterBrace - Unidirectional Glass fiber sheet

Technical data of fiber	E-Glass, 900 gsm
Modulus of elasticity	76 kN/mm ²
Tensile strength	3400 N/mm ²
Total weight of sheet	900 g/m ² in main directions
Density	2.62 g/cm ³
ε □Ultimate %	4.5
Thickness for static	0.351 mm
design weight / density	
Safety factor for static	1.5 (recommended)
design	

Values given in the Performance Data table are mean values obtained from regular, quality assurance testing. Standard deviation of \pm 5% is acceptable. 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 Carbon Fiber 230/200, 230/300/ 230/400 and 230/600 system: Length: 100M, Width 500mm

MasterBrace Glass Fiber 73/900: Length: 100M, Width 500mm

SHELF LIFE

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

PRECAUTIONS

Please refer the Material Safety Data Sheet for handling and storage of this product.

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