

MasterBrace® Fibre

The MasterBrace Fibre System is a Fibre Reinforced Polymer (FRP) system for structural strengthening of concrete and timber structures. The system comprises of Carbon, Aramid or Glass fibre sheeting enveloped in a site applied MasterBrace 4500 saturating epoxy

DESCRIPTION

MasterBrace Fibre sheet reinforcement materials are enveloped in **MasterBrace 4500** resin to yield a range of high performance composites with many features.

RECOMMENDED USES

- Flexural and shear strengthening elements that may not be planar (flat)
- Increasing compressive strength via axial confinement of columns
- Seismic retrofitting of columns and piles for earthquake resistance
- Enhancement of fatigue resistance under repetitive loading conditions
- Walls, beams, slabs, silos, chimneys, tanks, pipes, tunnels, piles etc

FEATURES AND BENEFITS

MasterBrace Fibres (in general)

- **Lightweight and durable** - Easy to apply and non-corroding
- **High strength to thickness ratio** – does not interfere with widths or thicknesses of members non-obtrusive

MasterBrace Carbon Fibre

- **Increased strength** - for Flexure, Shear, Confinement & Fatigue enhancement and end anchoring of MasterBrace systems

MasterBrace Aramid Fibre

- **Increased strength for** - Impact resistance or Blast (Explosion) resistance

MasterBrace Glass Fibre

- **Increased strength for** – Seismic upgrading and as isolation between carbon and steel surfaces

Australian Standard

- **AS 5100.8 – 2017**: Easy reference to Appendix A, Section A2. Individual Performance properties may be used for design purposes.

PROPERTIES

MasterBrace FIB 230/50 CFS

Fibre Type	Carbon
Category AS5100.8, Table A2.2.2	Strength CFS(1)
Fibre Areal Weight	230g/m ²
Fabric Design Thickness	0.131mm
Fibre Tensile Strength	4900 MPa
Fibre Tensile E-modulus	230 GPa
Elongation at break	2.1%
Fabric length/roll	100m
Fabric width	50cm

MasterBrace FIB 300/50 CFS

Fibre Type	Carbon
Category AS5100.8, Table A2.2.2	Strength CFS(1)
Fibre Areal Weight	300g/m ²
Fabric Design Thickness	0.166mm
Fibre Tensile Strength	4900 MPa
Fibre Tensile E-modulus	230 GPa
Elongation at break	2.1%
Fabric length/roll	100m
Fabric width	50cm

MasterBrace FIB 450/50 CFS

Fibre Type	Carbon
Category AS5100.8, Table A2.2.2	Strength CFS(1)
Fibre Areal Weight	450g/m ²
Fabric Design Thickness	0.255mm
Fibre Tensile Strength	4900 MPa
Fibre Tensile E-modulus	230 GPa
Elongation at break	2.1%
Fabric length/roll	50m
Fabric width	50cm

MasterBrace FIB 600/50 CFS

Fibre Type	Carbon
Category AS5100.8, Table A2.2.2	Strength CFS(1)
Fibre Areal Weight	600g/m ²
Fabric Design Thickness	0.337mm
Fibre Tensile Strength	4900 MPa
Fibre Tensile E-modulus	230 GPa
Elongation at break	2.1%
Fabric length/roll	50m
Fabric width	50cm

MasterBrace FIB 400/50 CFH

Fibre Type	Carbon
Category AS5100.8, Table A2.2.2	Modulus CFM(2)
Fibre Areal Weight	400g/m ²
Fabric Design Thickness	0.190mm
Fibre Tensile Strength	2650 MPa
Fibre Tensile E-modulus	640 GPa
Elongation at break	0.4%
Fabric length/roll	50m
Fabric width	50cm



We create chemistry

MasterBrace® Fibre

MasterBrace FIB 920/50 GFS

Fibre Type	Glass
Category AS5100.8, Table A2.2.3	GF
Fibre Areal Weight	920g/m ²
Fabric Design Thickness	0.36mm
Fibre Strength	2300 MPa
Fibre Stiffness	76 GPa
Elongation at break	3.1%
Fabric length/roll	40m
Fabric width	50cm

MasterBrace FIB 415/30 AFS

Fibre Type	Aramid
Category AS5100.8, Table A2.2.4	AF
Fibre Areal Weight	415g/m ²
Fabric Design Thickness	0.288mm
Fibre Strength	3200 MPa
Fibre Stiffness	120 GPa
Elongation at break	2.4%
Fabric length/roll	50m
Fabric width	30cm

Note – Some fabrics are made to order and may be subject to minimum order quantities. Please contact your local BASF office for further details.

APPLICATION

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

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

ESTIMATING DATA

Refer to specific material Performance Data tables for details.

PACKAGING

Refer to specific material Performance Data tables for details.

SHELF LIFE

MasterBrace Fibre has a shelf life of 36 months. Store out of direct sunlight, clear of the ground on pallets protected from rainfall.

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STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this BASF publication are based on the present state of our best scientific and practical knowledge. As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by law. The user is responsible for checking the suitability of products for their intended use.

NOTE

Field service where provided does not constitute supervisory responsibility. Suggestions made by BASF either orally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they, and not BASF, are responsible for carrying out procedures appropriate to a specific application.

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