

# MasterBrace<sup>®</sup> 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 Saturant 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 Laminates

### 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

## PROPERTIES

### MasterBrace FIB 300/50 CFS

Fiber Areal Weight	300g/m <sup>2</sup>
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

Fiber Areal Weight	450g/m <sup>2</sup>
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

Fiber Areal Weight	600g/m <sup>2</sup>
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

Fiber Areal Weight	400g/m <sup>2</sup>
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

### MasterBrace FIB 415/30 AFS

Fiber Areal Weight	415g/m <sup>2</sup>
Fabric Design Thickness	0.288mm
Fibre Strength	3200 MPa
Fibre Stiffness	120 GPa
Fabric Tensile Strength	2060 MPa
Fabric E=modulus	118 GPa
Elongation at break	2.4%
Fabric length/roll	50m
Fabric width	30cm

### MasterBrace FIB 920/50 GFS

Fiber Areal Weight	920g/m <sup>2</sup>
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



We create chemistry

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## 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.

MasterBrace-Fibre-ANZ-V5-0117

### 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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