

MasterBrace[®] FIB

Unidirectional High Strength Fiber Fabrics for the MasterBrace Composite Strengthening System

DESCRIPTION

MasterBrace FIB are unidirectional fabric sheets of Aramid, Carbon or Glass Fibres used as a part of **MasterBrace** Composite Strengthening System.

FIELDS OF APPLICATION

- Increasing the flexural and shear strength of the concrete beams
- Increasing flexural strength of concrete slabs
Increasing compressive strength of concrete
- columns
- Enhancement of the ductility of concrete columns
- Increasing the flexural strength of wooden beams
- Increasing mechanical strengths of masonry elements.

Note: For information regarding aramid or glass fiber fabric for the **MasterBrace** Composite Strengthening System, please contact your Master Builders Solutions representative.

FEATURES AND BENEFITS

- Light and easy to carry.
- Easy to cut and re-shape.
- Easy to design (Unidirectional fibers and similar elasticity modulus with steel).
- Good fatigue properties.

APPLICATION PROCEDURE

Preparation of substrate

The mineral based substrates (concrete & brick) must be sound, clean and dry. The concrete should be free of frost, curing membranes, waterproofing treatments, oil stains, laitance, friable material and dust. If there is a water leakage it must be drained or properly sealed. In case of low strength concrete (<1.5 N/mm²), the loose concrete must be broken out and the surfaces should be refilled with structural repair mortars from the **MasterEmaco S** range. Before the **MasterBrace SAT** application let repair mortars cure for at least 7 days.

MasterBrace FIB sheets should be free of oil stains and dust. Contact Master Builders Solutions Technical Services Department for advice on preparation.

Application method

MasterBrace SAT 4500 should be applied to the primed surfaces by using a soft roller. Apply **MasterBrace FIB** on to the surfaces while the adhesive is still wet. After application, strongly press the sheets two or three times in the longitudinal direction of the fiber using a roller or rubber spatula in order to allow **MasterBrace SAT 4500** penetrate into the sheet and to eliminate air from the coat of resin. For plastering on the fiber surface, clean and sound sand should be spread on to the fiber surface while the adhesive is still wet. After curing of adhesive any kind of plaster can be easily applied. For details please refer to **MasterBrace SAT 4500** and the relevant **MasterEmaco S** range datasheets.

WATCHPOINTS

MasterBrace FIB applications should be done by approved experts. Work clothes, protective gloves, glasses and masks must be used during the application. Do not touch the fibers without gloves. Consult to the Master Builders Solutions Technical Services Department for advice on application method.

PACKAGING

MasterBrace FIB 230/50 CFS & MasterBrace FIB 300/50 CFS 50 m² (0.50 x 100 m) rolls

MasterBrace FIB 450/50 CFS & MasterBrace FIB 600/50 CFS 25m² (0.50 x 50 m) rolls

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TYPICAL PROPERTIES*

	MasterBrace FIB 230/50 CFS	MasterBrace FIB 300/50 CFS	MasterBrace FIB 450/50 CFS	MasterBrace FIB 600/50 CFS
Material Type	Carbon	Carbon	Carbon	Carbon
Elasticity Modulus (N/mm ²)	230,000	230,000	230,000	230,000
Tensile Strength (N/mm ²)	4900	4900	4900	4900
Design Cross Section Thickness (mm)	0.111	0.166	0.255	0.337
Fiber Weight (g/m ²)	230	300	450	600
Elongation at Break (%)	2.10	2.10	2.10	2.10
Width (mm)	500	500	500	500

Note: All the above carbon fibre fabrics are available in high elasticity modulus of 340,000N/mm² with tensile strength of 4600N/mm² and Ultra high elasticity modulus of 640,000N/mm² with tensile strength of 2650N/mm²

CLEANING OF TOOLS

After the application all tools should be cleaned with a proper detergent or solvent such as thinner.

STORAGE

Store in original container in cool (+5°C to 30°C) and dry indoor conditions.

PRECAUTIONS

READ ALL SAFETY DIRECTIONS AND WARNINGS AND REFER TO MATERIAL SAFETY DATA SHEET FOR HANDLING PROCEDURES.

Store in cool, dry area 5°C to 30°C away from direct sunlight, flame or other hazards. **MasterBrace FIB** reinforcement materials contain carbon and glass fibres. During application of **MasterBrace FIB** materials, wear appropriate work clothing to minimise contact. Use caution when handling flammable liquids and eliminate all sources of ignition from work area. Product Material Safety Data Sheets are available and should be consulted and on hand during application and/or whenever handling these products. These products are for professional and industrial use only; application directions must be followed.

MAINTENANCE

Periodically inspect the applied material and repair localised areas needed. Consult your representative for additional information.

NOTE

Field service, where provided, does not constitute supervisory responsibility. For additional information contact your local Master Builders Solutions representative.

Master Builders Solutions reserves the right to have the true cause of any difficulty determined by accepted test methods.

QUALITY AND CARE

All products originating from Master Builders Solutions's Dubai, UAE facility are manufactured under a management system independently certified to conform to the requirements of the quality, environmental and occupational health & safety standards ISO 9001:2015, ISO 14001:2015 & OHSAS 18001:2007 standards.

* Properties listed are based on laboratory controlled tests.

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The technical information and application advice given in this Master Builders Solutions publication are based on the present state of **STATEMENT OF** our best scientific and practical knowledge. As the information herein is of a general nature, no assumption can be **RESPONSIBILITY** 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 Master Builders Solutions either orally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they, and not Master Builders Solutions, are responsible for carrying out procedures appropriate to a specific application.

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