

MasterBrace FIB

Unidirectional High Strength Fiber Fabrics for the MasterBrace Composite Strengthening System

MATERIAL 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 reprofiled with structural repair mortars from the MasterEmaco range. Before the **MasterBrace P 3500** 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 service department for advice on preparation.

Application method:

Kindly refer to the detailed method statement for **MasterBrace FIB** and the relevant 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 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

SYSTEM BUILD-UP

Surface Preparation:

MasterBrace ADH 4000 or
MasterEmaco S 488PM /
MasterBrace ADH 1414

Primer:

MasterBrace P 3500

Saturating / laminating resin:

MasterBrace ADH 4500

Structural strengthening fabric:

MasterBrace FIB

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.

MasterBrace FIB

Unidirectional High Strength Fiber Fabrics for the MasterBrace Composite Strengthening System

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

Technical support, where provided, does not constitute supervisory responsibility. For additional information contact your local MB Construction Chemicals Solutions South Africa (Pty) Ltd representative. MB Construction Chemicals Solutions South Africa (Pty) Ltd shall not be liable for technical advice provided. MB Construction Chemicals Solutions South Africa (Pty) Ltd reserves the right to have the true cause of any difficulty determined by accepted test methods. Undertaking such tests is not, and shall not be deemed to be, an admission of liability or an assumption of any risk, loss, damage or liability.

QUALITY AND RESPONSIBLE CARE

All products originating from MB Construction Chemicals Solutions South Africa (Pty) Ltd are manufactured under a management system independently certified to conform to the requirements of the quality standards ISO 9001, environmental and occupational health and safety standards.

* Properties listed are based on laboratory controlled tests.

TYPICAL PROPERTIES*

Dry Fabric 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)	3500	3500	3500	3500
Design Cross Section Thickness (mm)	0.131	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 3200N/mm² and Ultra high elasticity modulus of 640,000N/mm² with tensile strength of 1900N/mm²

DISCLAIMER

The technical information and application advice given in this MB Construction Chemicals Solutions South Africa (Pty) Ltd 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.