We create chemistry

MasterBrace® SAT 4501

Resin for MasterBrace FIB Fibre Reinforced Polymer Strengthening Systems

DESCRIPTION

MasterBrace 4501 is an epoxy resin for use in conjunction with **MasterBrace FIB** sheets. With the chosen **MasterBrace FIB** sheet the **MasterBrace SAT 4501** resin produces a high performance composite system for use in structural strengthening, upgrade, repair or blast mitigation applications

FEATURES AND BENEFITS

- Increased flexural strength
- Increased shear strength
- Increased Impact resistance
- Confinement
- Blast resistance
- Fatigue enhancement
- Lightweight
- Durable
- Assists in the control of crack propagation
- Excellent strength to thickness ratio

PROPERTIES

Composition	Two Parts A + B
Mixed Density (kg/litre)	1.16 Kg/Lt @ 23°C
Colour	Blue
Bond Strength	> 1.5 MPA (failure in concrete
Full Cure	7 days @ 20°C

APPLICATION PROCEDURE

Surface preparation

Preparation shall be by grinding or abrasive blasting to remove loose material, laitence and surface contamination. The concrete must be free of oils, curing compounds or mould release agent and sand, and be thoroughly dry and free of dust at time of application.

Substrates must be repaired using epoxy resin or polymer modified cementitious mortars from the **MasterBrace** or **MasterEmaco** range of products. Small surface defects in the concrete shall be made good using **MasterBrace ADH 2200.**

Concrete surface protrusions such as small projections or grout lines etc. must be ground flat. Depressions in the concrete such as concrete joint lines must be filled with **MasterBrace ADH 2200.**

Sharp corners on beams and columns must be rounded with a radius of at least 30mm.

Mixing

Mechanically premix with a drill and paddle **MasterBrace SAT 4501** Pt A resin individually prior to adding Part B.

Mechanically mix The **MasterBrace SAT 4501** Part A with **MasterBrace SAT 4501** Part B for 3 minutes or until homegenous.

MasterBrace FIB sheet installation

The chosen **MasterBrace FIB** sheet must be pre-cut to the correct length and prescribed sizes using scissors or cutters before application of the **MasterBrace SAT 4501**. The number of sheets cut shall be limited to those that can be used within a day.

The mixed **MasterBrace SAT 4501** shall be applied to the **MasterBrace FIB** sheet using a short haired roller ensuring that the fibres are completely impregnated with the resin

At the same time apply a coat of the **MasterBrace SAT 4501** resin by roller to the prepared and repaired substrate to 'wet' out the surface.

The resin saturated **MasterBrace FIB** sheet should be placed immediately onto the concrete surface onto which the **MasterBrace SAT 4501** has been applied.

The applied sheet should be squeezed only in the longitudinal direction of the fibres using a defoaming roller, rubber spatula or by hand in order to ensure that the fibres are fully impregnated with resin, that all air bubbles are removed and that the fibres are 'stretched' and aligned in the direction of the strengthening.

Where the sheets are to completely encapsulate a structural element the strips of fibre sheet should form a minimum 100mm overlap in the horizontal direction and 20mm overlap in the vertical direction.

Additional resin must be applied at the overlap location on top of the outer layer of fibre sheet to be overlapped.

MASTER® BUILDERS SOLUTIONS

We create chemistry

MasterBrace® SAT 4501

The plastic backing sheet shall be removed from applied **MasterBrace FIB** sheet before continuing and the installed **MasterBrace FIB** should be allowed to stand for at least 30 minutes before continuing. Any lifting or dislocation that occurs during this period must be corrected using the roller and spatula.

Where a second layer of **MasterBrace FIB** sheet is required the mixed **MasterBrace SAT 4501** should then be applied onto the cut fibre sheet then the resin impregnated second layer laid onto the initial application of fibre sheet. The applied **MasterBrace FIB** sheet should be squeezed in the fibre longitudinal direction with a roller, spatula or by hand in order to impregnate the fibre sheet in the same manner as above. In cases where multiple layers of fibre sheet are to be applied, the above to application method should be repeated.

MasterBrace System - Overcoating

The MasterBrace system should be overcoated where the installed system is directly exposed to sunlight or chemicals. The chosen coating system or finish should be determined by the type of exposure anticipated and should be from the BASF range of available coatings. Where an Architectural plaster or render is required clean dry quartz sand can be cast into the wet resin to act as a key for the subsequent finish.

ESTIMATING DATA

Typical consumption of **MatserBrace SAT 4501** is 0.7-1.6 Lt /m² per layer of **MasterBrace FIB** sheet depending upon the type, grade and weight of sheet chosen for the particular application.

PACKAGING

MasterBrace SAT 4501 Part A	10kg
MasterBrace SAT 4501 Part B	5kg
Total:	15kg

YEILD

A 15 Kg package will yeild approx. 12.9 Litres of **MasterBrace SAT 4501**

CURING

Cure time will vary depending on the ambient temperature, quantity mixed and placed. **MasterBrace SAT 4501** will have fully cured after 7 days at 20º C

SHELF LIFE

MasterBrace SAT 4501 can be stored in tightly closed original containers for 12 months at moderate temperatures.

PRECAUTIONS

For the full health and safety hazard information and how to safely handle and use this product, please make sure that you obtain a copy of the BASF Material Safety Data Sheet (MSDS) from our office or our website.

PH#MasterBrace 4501 AN v1-0218

BASF Construction Chemicals offices

Singapore	Malaysia	Indonesia	Thailand	Vietnam	Philippines	Hong Kong
Tel: +65-6861-6766	Tel: +60-3-5628-3888	Tel: +62- 21-2988-6000	Tel: +66-2-664-9222	Tel: +84-650-374-3100	Tel: +63-2-889-4321	Tel:+852-2408-4400
Fax: +65-6861-3186	Fax: +60-3-5628-3776	Fax: +62-21-2988-5935	Fax: +66-2-664-9267	Fax: +84-650-374-3200	Fax: +63-2-889-4361	Fax:+852-2408-4401

Website: www.master-builders-solutions.asiapacific.basf.com