

# MasterBrace P<sup>®</sup> 3500

Two-component epoxy primer for MBRACE Composite Strengthening System

## DESCRIPTION OF PRODUCT

**MasterBrace P 3500** is 100% solids, low viscosity epoxy resin. When applied to sound concrete, **MasterBrace P 3500** gives a high tensile bond strength to the **MasterBrace** Composite Strengthening System.

**MasterBrace** Composite Strengthening System is a comprehensive approach, bringing innovative strengthening techniques to the construction industry. **MasterBrace** Composite Strengthening Systems include high strength and high modulus carbon fibre, carbon fibre laminate, glass and aramid fibre.

Both carbon glass and aramid fibre have been used in the construction industry for many years for strengthening of all types of structures including concrete, masonry, timber and steel.

## FEATURES AND BENEFITS

- Ready to use (no need to add filler)
- Convenient pot-life
- High adhesive and bond strength
- Low viscosity, good for poor substrates
- High mechanical strength
- Solvent-free

## TECHNICAL PHYSICAL PROPERTIES

Bonding to concrete, pr EN 1542 (direct):	>3.5 MPa (concrete failure)
Ultimate elongation, ASTM D638:	3%
Tensile strength:	
• direct, ASTM D638	• 12 MPa
• by flexing, ASTM D790	• 24 MPa
Modulus of elasticity:	
• tensile, ASTM D638	• 700 MPa
• flexural, ASTM D790	• 580 MPa

## SPECIFICATIONS

Composition:	Two part
Type of resin:	Epoxy
Solids by volume:	100%
Specific gravity at 20°C:	1.10 ± 0.024kg/ltr
Colour	Transparent; amber
Overall coverage	6-7m <sup>2</sup> /kg
Recommended layers:	1
Pot life:	7°C; 2 hours 21°C; 45 minutes 32°C; 25 minutes
Tack-free:	7°C; 9 hours 21°C; 7 hours 32°C; 3 hours

## PACKAGING

**MasterBrace P 3500** is available in 3kg packs.

## APPLICATION DIRECTIONS (BRIEF INSTRUCTIONS)

- For detailed instructions, refer to the "MasterBrace Application Guidelines" document.
- Application of external reinforcement may only take place if the substrate has an inherent tensile strength of at least
- 1.5 MPa for laminates and 1.0 MPa for sheet materials.
- The surfaces of elements that are still in good condition or restored with repair mortar should be roughened sufficiently with grit blasting or similar. With degraded substrates, the whole damaged layer should be removed by scarifying, hydro-demolition or similar and then structural restoration carried out with suitable mortar, e.g. **MasterEmaco S488** or **MasterProtect 2020**.
- Angle grind, grit blast or needle gun to remove smooth cement paste rich surface (laitance) and ensure aggregate is exposed and surface has sufficient profile.
- Remove oils, grease, dust or any other loose material from the surface that may impair adhesion.

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- Ensure a maximum substrate humidity of 4%.
- Ensure substrate temperature is at least 3oC above dewpoint temperature.
- Ensure surfaces are within allowable levelness and flatness tolerances.
- Mechanically, pre-mix component A before adding component B, using a slow speed drill and mixing paddle.
- When component B has been added, mix slowly for approximately two minutes until a homogenous mix has been obtained, to minimise air inclusions.
- **MasterBrace P 3500** may be applied by brush or by roller. (As a guide, surfaces restored with mortars should be cured for a minimum of 7 days, prior to primer application).

### PRECAUTIONS

Only mix the material that may be applied within its workability time.

The climatic and operating conditions of the site and the complexity of the area to be treated should give an indication as to the quantities of product to be mixed.

Excessive vibration and oscillation of the structural component should be avoided during application of the FRP materials and and the curing phase of the epoxy resins.

Fire protection requirements must be complied with, as epoxy adhesives generally have limited fire resistance.

### SAFETY

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

Store in cool, dry area 10 to 32°C away from direct sunlight, flame or other hazards.

Do not bend FRP fibre materials or laminates as they may break and become unusable. **MasterBrace FRP** Systems contain carbon, aramid and glass fibre . During application of these materials, wear appropriate work clothing to minimise contact.

In particular:

- Always wear gloves, goggles and suitable work clothes during mixing of epoxy resins and working with fibre materials, in order to avoid contact with the skin and eyes.
- In the event of accidental contact, thoroughly wash the affected parts with water and soap or an appropriate detergent.
- Do not add solvents or thinners to the epoxy resins.
- Do not inhale vapours, sprays or fibre dust; a continual change of air should be ensured for application in a closed environment.
- Under no circumstances drink, eat or smoke during use.
- Comply with safety regulations on the use of products that are inflammable or contain solvents.
- Use caution when handling flammable liquids and eliminate all sources of ignition from work area.

### 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.

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### QUALITY STATEMENT

All products manufactured by Master Builders Solutions Egypt, Or imported from Master Builders Solutions affiliate companies world-wide, are manufactured to procedures certified to conform to the quality, environment, health & safety management systems described in the ISO 9001:2015, ISO 14001:2015 & OHSAS 18001:2007 standards.

\* Properties listed are based on laboratory controlled tests.

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