

MasterBrace ADH 4000

Adhesive for MasterBrace LAM Fibre Reinforced Polymer Strengthening Systems

MATERIAL DESCRIPTION

MasterBrace ADH 4000 is the adhesive for the MasterBrace LAM system. The MasterBrace LAM system is based on ready to use carbon fibre laminate (pultruded plate) that provides high tensile strength combined with lightweight and is used for flexural reinforcement of concrete and other building materials.

FIELDS OF APPLICATION

For use as a structural adhesive when used in conjunction with MasterBrace LAM system.

FEATURES AND BENEFITS

- High Strength
- Non-Slump
- Strong Adhesion
- Chemical Resistant
- Easy to use

Supplied in pre-weighed units.

PACKAGING

MasterBrace ADH 4000 is available in 6kg units.

TYPICAL PROPERTIES*

Composition	Two component epoxy-based adhesive
Colour	Grey
Specific gravity @ 25°C	1.75
Compressive strength BS 6319 / ASTM C579	>80N/mm ²
Flexural strength ASTM C580	>30N/mm ²
Tensile strength ASTM C307	>13N/mm ²
Bond strength to Concrete	>3N/mm ² (failure in concrete)
Pot life @ 40°C	45 Minutes

APPLICATION PROCEDURE

Preparation of Substrate:

The surfaces of the elements to be strengthened should be ground or treated by abrasive blasting to remove any existing coatings, laitance and other loose material.

The prepared substrates should be free of all oils, grease, dust or any curing membranes. Following preparation, the elements to be strengthened should be vacuumed to ensure the removal of all dirt and dust before application of the **MasterBrace ADH 4000**. Clean the surface of the **MasterBrace LAM** with suitable solvent (**MasterTop THN 2**, MEK or Acetone) to ensure all carbon dust, and any oil or grease is removed.

Note: The minimum adhesive tensile strength of the substrate should be 1.5 N/mm².

Mixing:

Mechanically mix component A and Component B for approximately 3 minutes until a smooth mix has been obtained and no streaks are visible in the material.

Application:

Apply one layer of **MasterBrace ADH 4000** a minimum of 1.5 mm thick onto both the surface of the substrate and **MasterBrace LAM**. Immediately install the **MasterBrace LAM** by hand onto the substrate. Using a roller, exert a constant pressure onto the installed by moving the tool both ways in the direction of the fibres so that the adhesive squeezes out of the sides of the laminate.

Remove excess adhesive.

CLEANING

Tools must be cleaned immediately after use with **MasterTop THN 2**.

CURING

MasterBrace ADH 4000 will cure at temperatures as low as 5°C although at lower temperatures cure is retarded.

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COVERAGE

A 6 kg pack will be sufficient to bond @ 3mm thickness approximately 14 Lm of 80mm wide MasterBrace LAM (excluding wastage).

STORAGE

Store at ambient temperatures in cool, dry warehouse conditions in manufacturer's sealed containers.

SHELF LIFE

Up to 12 months if stored according to manufacturer's instructions.

WATCHPOINTS

Surfaces exposed to U.V. rays should be protected within two days (maximum seven days) with the special product from the MasterSeal range to ensure perfect bonding between the protective layer and FRP.

HEALTH AND SAFETY

For full information on Health and Safety matters regarding this product the relevant Health and Safety Data Sheet should be consulted.

The following general comments apply to all products. As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs, (which may also be tainted with vapour until the product is fully cured and dried). Treat splashes to eyes and skin immediately. If accidentally ingested, seek medical attention. Keep away from children and animals. Reseal containers after use.

SOLVENT BASED PRODUCTS

Use in well ventilated areas; avoid inhaling. Suitable respiratory equipment may be needed, e.g. when spraying. Can cause skin, eye irritation. Wear protective eye shields and gloves during use. Do not smoke or allow sparks or naked lights when stored or in use.

DISCLAIMER

The technical information and application advice given in this Master Builders Solutions 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.

POWDER PRODUCTS

Should be handled to minimise dust formation; use light mask if excessive dust unavoidable. Cement powders when wet or moistened can cause burns to skin and eyes which should be protected during use.

RESIN PRODUCTS

Can cause irritation, dermatitis, or allergic reaction. Use protective equipment particularly for skin and eyes. Use only in well ventilated areas.

SPILLAGE

Chemical products can cause damage, clean spillage immediately.

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.