

MBRACE® LAMINATE ADHESIVE

Epoxy resin adhesive for MBRACE (Fibre Reinforced Polymer) Laminate System

DESCRIPTION

MBRACE Laminate Adhesive is the adhesive for the **MBRACE Laminate System** and a filling compound for irregular surfaces.

The **MBRACE Laminate System** is based on ready to use carbon fibre laminate strips that provide high tensile strength and are suitable for supplemental, externally bonded reinforcement of concrete, timber and masonry elements.

FEATURES AND BENEFITS

- Ready-to-use (no need to add filler)
- Convenient pot-life
- High adhesive and bond strength
- Thixotropic, does not run or drip
- Bonds to damp surfaces (saturated surface dry)
- High mechanical strength
- Solvent-free

PERFORMANCE DATA

(Typical physical properties)

Compressive strength	>60 MPa
Flexural strength	>30 MPa
Bonding, ASTM D 4541	
Concrete	>3.5 MPa (concrete failure)
Steel	>5 MPa
Electrical resistivity	10 ¹⁴ Ω m
Composition	Two component epoxy based adhesive
Mix ratio	3A : 2B by weight
Colour	Red
Specific Gravity @ 23°C	1.5
Full Cure @ 23°C	7 days
Pot Life @	
- 23°C	40 mins
- 40°C	20 mins
Cure Rate @	
- 23°C	5 hours
- 40°C	2 hours

The performance data is typical and based upon controlled laboratory conditions. Actual performance on the job site may vary from these values based on actual site conditions.

ESTIMATING DATA

Full cure in 7 days at 23°C a 5kg kit yields approx 3.3 litres. This is sufficient for approx 1m² of laminate or a 10-12 m length of 80 mm wide laminate.

APPLICATION

- Application of external reinforcement may only take place if the substrate has an inherent tensile strength of at least 1.5 MPa.
- 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 a suitable mortar eg. **EMACO NANOCRETE R4** or **CONCRECIVE 1446**.
- Angle grind, grit blast, or needle gun repair surfaces, to remove smooth, cement paste rich surface layers (laitance) and ensure aggregate is exposed and substrate surface has a sufficient profile.
- Remove oils, grease, dust or any other loose material from the surface that may impair adhesion.
- Ensure a maximum substrate humidity of 4%.
- Ensure substrate temperature is at least 3°C above dewpoint temperature.
- Ensure surfaces are within allowable levelness and flatness tolerances.
- Apply a layer of **MBRACE Primer** by roller or brush, and apply the **MBRACE Laminate Adhesive** while the primer is still tacky.
- If necessary, apply a levelling coat of **MBRACE Laminate Adhesive** or **CONCRECIVE 1444** using a putty knife, to fill any bug holes or imperfections. Recheck surface tolerances. Maximum layer thickness of **MBRACE Laminate Adhesive** for reprofiling is 20 mm.
- Clean any carbon dust or grease from the laminate surface with a white cloth and **THINNER No. 1**.
- Mechanically pre-mix component A before adding component B (mixing ratio 3A : 2B by weight), using a slow speed drill and mixing paddle.
- When component B has been added, mix slowly to minimise air inclusions, for approximately two minutes until a homogeneous mix has been obtained.
- Apply one layer of **MBRACE Laminate Adhesive**, of 1-1.5 mm thick, to both substrate and laminate surfaces.
- Place the **MBRACE Laminate** on the substrate surface and using a hard roller, exert a constant pressure by moving the tool both ways in the direction of the fibres to expel air.
- Aim for a final layer thickness of 1-3 mm of **MBRACE Laminate Adhesive**.
- Clean up excess adhesive with **THINNER No 1** prior to hardening.

For further information about application, please obtain a copy of the BASF "Application Guide for MBRACE Laminates" from your local representative.



The Chemical Company

MBRACE® LAMINATE ADHESIVE

CURING

Full cure in 7 days at 23°C

PACKAGING

5 kg kits.

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 laminates or they may break and become unusable. MBRACE Laminates contain carbon fibres. 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.

For applications to substrate surfaces, extreme climatic conditions or use other than those indicated in the product sheet, please contact your local BASF Construction Chemicals MBRACE representative or our Technical Department for further information.

PRECAUTIONS

Only mix sufficient 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 adhesive and the curing phase.

After the adhesive has hardened, check for bonding over the entire area by tapping.

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

The surface of the laminates may be painted over with **MASTERSEAL 160**, to ensure visual uniformity and UV protection.

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 Construction Chemicals **Material Safety Data Sheet (MSDS)** from our office or our website.

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STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this **BASF** 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.

NOTE

Field service where provided does not constitute supervisory responsibility. Suggestions made by **BASF** either orally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they, and not **BASF**, are responsible for carrying out procedures appropriate to a specific application.

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