

PRODUCT DATA

3 03 01 00 Maintenance of Concrete

MBRACE® EG 900

Unidirectional E-glass fiber fabric for the MBrace® Composite Strengthening System

Description

MBrace® EG 900 is a dry fabric constructed of high quality E-glass fibers. These fabrics are applied onto the surface of existing structural members in buildings, bridges, and other structures using the MBrace® family of performance polymers. The result is an externally bonded FRP (fiber reinforced polymer) reinforcement system that is engineered to increase the structural performance of these members. Once installed, the MBrace® System delivers externally bonded reinforcement with outstanding long-term physical and mechanical properties.

Yield

250 ft² per box

Packaging

Available in rolls 24 in (600 mm) wide by 125 ft (37.5 m) long. 250 ft² (22.5 m²) per roll

ROLL	WIDTH	LENGTH
250 ft ² (22.5 m ²)	24 in (610 mm)	125 ft (37.5 m)

Color

White

Features

- High strength to weight ratio
- Easy installation
- Low aesthetic impact

Benefits

- Can add significant strength to a structure without adding significant dead load
- Can be installed quickly, even in areas of limited access;
- Easy to conceal, will not significantly change existing member dimensions, will form around complex surfaces

Shelf Life

3 years when stored in unopened containers

Storage

Store in a cool, dry area (50 to 90° F [10 to 32° C]) away from direct sunlight, flame, or other hazards.

Where to Use

APPLICATION

- Improve the seismic ductility of concrete columns
- Improve the seismic response of concrete beam-column connections, shear walls and collector elements
- Improve the seismic performance of masonry shear walls and in-fill walls

LOCATION

- Vertical
- Horizontal
- Exterior
- Interior

SUBSTRATE

- Concrete
- Masonry
- Timber
- Steel

How to Apply

Surface Preparation

MBrace® EG 900 is applied to surfaces treated with MBrace® Primer, MBrace® Putty, and MBrace® Saturant. Consult the datasheets for these materials for additional details.

Technical Data

Composition

MBrace® EG 900 is composed of a dense network of E-glass fibers held in a unidirectional alignment of a light glass fiber cross weave yarn

Physical Properties

PROPERTY	VALUE
Fiber Material	E-Glass
Areal Weight	0.186 lb/ft ² [900 g/m ²]
Fabric Width	24 in 610 mm
Nominal Thickness, t_f (1)	0.0147in/ply 0.373 mm/ply]

Functional Properties

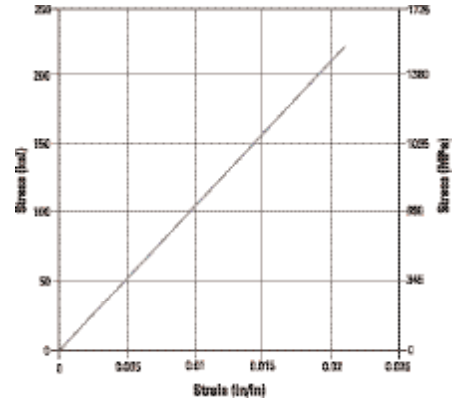
PROPERTY	VALUE
CTE	5.9·10 ⁻⁶ /°F (3.27·10 ⁻⁶ /°C)

0° Tensile Properties^(2,3)

PROPERTY	VALUE
Ultimate Tensile Strength, f_{tu}^*	220 ksi [1517 MPa]
Tensile Modulus, E_f	10500 ksi [72.4 GPa]
Ultimate Tensile Strength per Unit Width, $f_{tu}^* t_f$	3.06 kips/in/ply [0.536 kN/mm/ply]
Tensile Modulus per Unit Width, $E_f t_f$	146 kips/in/ply [25.6 kN/mm/ply]
Ultimate Rupture Strain, ϵ_{fu}^*	2.10%

90° Tensile Properties^(2,4)

PROPERTY	REQUIREMENT
Ultimate Tensile Strength	0
Tensile Modulus	0
Ultimate Rupture Strain	n/a



NOTES:

1. The nominal fabric thickness is based on the total area of fibers (only) in a unit width. From experience, the actual cured thickness of a single ply laminate (fibers plus saturating resins) is 0.050-in to 0.070-in [1.25-mm to 1.75-mm].
2. The tensile properties given are those to be used for design. These values are derived by testing cured laminates (per ASTM D3039) and dividing the resulting strength and modulus per unit width by the nominal fabric thickness.
3. The 0° direction denotes the direction along the length of the fabric.
4. The 90° direction denotes the direction along the width of the fabric.

Application

MBrace® EG 900 is only applied as a component of the MBrace® System.

1. The MBrace® EG 900 material should be cut to the proper dimensions (dimensions will vary based on project requirements) using heavy duty shears or a utility knife.
2. Cut sections of MBrace® EG 900 can be temporarily stored by carefully rolling fabric into a 12 in [600 mm] (approximate) roll. Do not fold or crease the fabric. Fabric should be kept free of dust, oils, moisture, and other contaminants at all times.
3. Apply the MBrace EG 900 fabric directly into uncured MBrace Saturant applied on the substrate.
4. Using a rib roller or squeegee, press the fabric against the substrate until visual signs of MBrace® Saturant are observed bleeding through the fabric. The rib roller or squeegee should only be run along the direction of the primary fibers in the fabric.
5. Apply a layer of MBrace® Saturant over the top of the MBrace® EG 900 fabric to completely encapsulate the fabric. Consult with the MBrace® Saturant datasheet on details for applying MBrace® Saturant.

Maintenance

Periodically inspect the applied material and repair

localized areas as needed. Consult a BASF representative for additional information. Visit us on the web for the most current product information and news: www.BuildingSystems.BASF.com.

For Best Performance

- Make certain the most current versions of product data sheet and MSDS are being used; call Customer Service (1-800-433-9517) to verify the most current version.
- Proper application is the responsibility of the user. Field visits by BASF personnel are for the purpose of making technical recommendations only and are not for supervising or providing quality control on the jobsite.

Health and Safety

MBRACE® EG 900

Warning

MBrace® EG 900 contains glass fibers, While handling MBrace® EG 900 wear appropriate work clothing to minimize contact.

Product Material Safety Data Sheets (MSDS) are available and should be consulted and on hand whenever handling these products. These products are for professional and industrial use only and are only installed by trained and qualified applicators. Trained applicators must follow installation instructions.

**BASF Construction Chemicals, LLC –
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