BASF

The Chemical Company

PRODUCT DATA

3 03 01 00 **Maintenance of Concrete**

MBRACE® PUTTY

High viscosity epoxy paste for the MBrace® Composite Strengthening System

Description

MBrace® Putty is a 100% solids non sag epoxy paste for use with the MBrace® Composite Strengthening System. It is used level small surface defects and to provide a smooth surface to which the MBrace® System will be applied.

Yield

100 to 250 ft²/gal (4.9 to 6.1 m²/L)
(Depending on surface roughness)

Packaging

Available in 1 gal (3.8 L) units. Each unit is packaged as follows:

	VOLUME	PACKAGING	WEIGHT
Part A	3 qts	2 gal pail	8 lbs
Part B	1 qt	1 qt can	2.5 lbs

Color

Part A: Light Gray

Part B: Charcoal

Mixed: Gray

Features

Features	Benefits
• 100% solids epoxy	Low odor, low VOC's
• Suitable for low-temperature application	Can be applied if temperature is 35 degrees F and rising; extends application window in cooler conditions
• High viscosity	Can be used in vertical and overhead applications

Shelf Life

18 months if properly stored in unopened containers (Part A and B)

Storage

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

Where to Use

APPLICATION

- Fill small voids or smooth small offsets on cementitious substrates.
- Sealing of cracks prior to epoxy-injection.

LOCATION

- Vertical
- Horizontal
- Exterior
- Interior

SUBSTRATE

- Concrete
- Masonry
- Steel

How to Apply

Surface Preparation

1. MBrace® Putty should be applied to a substrate primed with MBrace® Primer. The putty can be applied before or after the primer coat has achieved full cure. Surfaces with a tack-free primer coat must be lightly sanded and cleaned of any dust, oils, or other surface contaminants.

Protection and Repair

Technical Data

Composition

Two part, 100% solids, non-sag epoxy paste

Handling Properties

PROPERTY	VALUE
Mixed Weight	10.5 lb/gal (1259 g/L)
VOC Content	0.74 lb/gal (89 g/L) (EPA Method 24)
Flash Point	Part A: 210 °F (99 °C) Part B: >200 °F (93 °C) (Pensky-Martens Closed Cup)
Mixed Viscosity at 50 °F (10 °C) 74,000 cps at 77 °F (25 °C) 45,000 cps at 90 °F (32 °C) 33,000 cps	

Physical Properties

PROPERTY	REQUIREMENT
Density	75.8 pcf (1258 kg/m^3)

Tensile Properties (1)

PROPERTY	REQUIREMENT
Yield Strength	1800 psi (12 MPa)
Strain at Yeild	1.5%
Elastic Madulus	260 ksi (1800 MPa)
Ultimate Strength	2200 psi (15.2 MPa)
Rupture Strain	7%
Poisson's Ratio	0.48

Compressive Properties (2)

PROPERTY	REQUIREMENT
Yield Strength	3300 psi (22.8 MPa)
Strain at Yield	4.0%
Elastic Modulus	155 ksi (1076 MPa)
Ultimate Strength	3300 psi (22.8 MPa)
Rupture Strain	10%

Flexural Properties (3)

PROPERTY	REQUIREMENT
Yield Strength	3800 psi (26.2 MPa)
Strain at Yield	4.0%
Elastic Modulus	130 ksi (895 MPa)
Ultimate Strength	4000 psi (27.6 MPa)
Rupture Strain	7%

Functional Properties (4)

PROPERTY	REQUIREMENT
CTE	20·10^{-6}/°F (35·10^{-6}/°C)
Thermal Conductivity	1.32 Btu·in/hr·ft^2·°F (0.19 W/m·°K)
Glass Transition Temp, T_g	168 °F (75 °C)

NOTES:

1. Based on testing of cured samples per ASTM D 638 at 72 °F (20 °C) and 40% relative humidity.
2. Based on testing of cured samples per ASTM D 695 at 72 °F (20 °C) and 40% relative humidity.
3. Based on testing of cured samples per ASTM D 790 at 72 °F (20 °C) and 40% relative humidity.
4. Based on testing of cured samples at 72 °F (20 °C) and 40% relative humidity.

Mixing

1. The mix ratio is 3:1 (Part A to Part B) by volume or 100:30 (Part A to Part B) by weight. Mix only the amount of material that can be used within the working time of the material. Approximate working times for a 1 gal (3.8 L) unit are:

95 min	at 50°F (10°C)
40 min	at 77°F (25°C)
15 min	at 90°F (32°C)

2. Part A (resin) must be pre-mixed using a low speed drill (600 rpm) and mixing paddle (e.g., a Jiffy Mixer). Keep the paddle below the surface of the material to avoid entrapping air. Pre-mix for a minimum of 3 minutes.
3. Carefully measure (ratio) each component and then add Part B (hardener) to Part A (resin).
4. Mix Parts A and B using a low-speed drill (600 rpm) and mixing paddle (e.g., a Jiffy mixer). Carefully scrape the sides and bottom of the container while mixing. Keep the paddle below the surface of the material to avoid entrapping air. Proper mixing will take at least 3 – 5 minutes. Well-mixed material will be free of streaks or lumps.
5. If a thicker consistency is desired, silica flour (S-11 Powder) may be mixed into the material using a low-speed drill and mixing paddle. Add as much silica flour as is needed to achieve the desired consistency.

Application

1. Apply the MBrace® Putty to the primed substrate using a spring-steel trowel.
2. The material should be applied by pulling a “tight” trowel. That is the MBrace® Putty should only fill small voids and smooth small offsets in the substrate. High build or thick applications of the MBrace® Putty are not recommended.

Clean Up

Use T-471, methyl ethyl ketone or acetone. Observe fire and health precautions with solvents.

Maintenance

1. Periodically inspect the applied material and repair localized areas as needed. Consult a BASF representative for additional information.

2. Visit us on the web for the most current product information and news: www.BASFBuildingSystems.com.

For Best Performance

- Only apply MBrace® Putty when the ambient temperature is between 35° and 120°F (2° and 50°C).
- Subsequent components of the MBrace® System should be applied within 48 hours of applying MBrace® Putty to the substrate to assure proper adhesion.
- 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 versions.
- Proper application is the responsibility of the user. Field visits by personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.

Observe Working Time Limitations

1. Catalyze no more material than can be applied within the work time period.

2. Available work time, temperature and complexity of the application area will determine how much material should be catalyzed at one time.

3. Keep material cool and shaded from direct sunlight in warm weather. During hot weather, work time can be extended by keeping material cool before and after mixing or by immersing pot in ice water.

Health and Safety

MBRACE® PUTTY

Warning

Vapor may be harmful. Contains epoxy resins and curing agent. May cause skin sensitivity or other allergic responses. Keep away from heat, sparks or open flame. In enclosed areas or where ventilation is poor use an approved air mask and utilize adequate safety precautions to prevent fire or explosion. In case of skin contact, wash with soap and water. For eyes, flush immediately (seconds count) with water for 15 minutes and CALL A PHYSICIAN. If swallowed, CALL A PHYSICIAN IMMEDIATELY. 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 – Building Systems

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Form No. 1031104 8/07
Printed on recycled paper including 10% post-consumer fiber.