

MapeWrap 21

Low-Viscosity, 100%-Solids, Epoxy Resin for
Impregnation of MapeWrap® Fabrics



DESCRIPTION

MapeWrap 21 is a 100%-solids, moisture-tolerant, low-viscosity, epoxy resin used to encapsulate the MapeWrap composite system fabrics. MapeWrap 21 was specially developed to saturate and encapsulate carbon and glass fiber fabrics and to cure to a high-performance laminate. Once cured, the laminate provides additional strength to appropriate structural elements.

FEATURES AND BENEFITS

- 100%-solids epoxy
- Low-viscosity, epoxy resin for encapsulation of all MapeWrap fabrics
- Moisture-tolerant
- Solvent-free and VOC-compliant
- Developed specifically for the MapeWrap composite system

WHERE TO USE

- Use for saturation of all MapeWrap fabrics.
- Use on interior/exterior horizontal, vertical and overhead surfaces.
- Use when additional structural strengthening is required on concrete, masonry, steel and wood elements.

SUITABLE SUBSTRATES

- Use on properly prepared, structurally sound, fully cured concrete substrates (at least 28 days old), as well as masonry, steel and wood.

Consult MAPEI's Technical Services Department for installation recommendations regarding substrates and conditions not listed.

SURFACE PREPARATION

- Apply *MapeWrap 21* to a properly prepared substrate following application of *MapeWrap Primer 1* and *MapeWrap 11* or *MapeWrap 12*. For additional surface preparation requirements, refer to the Technical Data Sheet for *MapeWrap Primer 1*.

MIXING

Before product use, take appropriate safety precautions. Refer to the Safety Data Sheet for details.

1. Combine the two components together that make up *MapeWrap 21* by pouring Part B into Part A.
2. Mix with a low-speed mixer (at 400 to 600 rpm) and a standard Jiffy paint-mixing paddle for about 3 minutes, until the mixture has a smooth, homogenous consistency.
3. Part A and Part B components are pre-proportioned (mix ratio: 4 parts by weight of Part A and 1 part by weight of Part B) and should be mixed as full units. Partial mixing of Part A and Part B is prohibited.

PRODUCT APPLICATION

Read all installation instructions thoroughly before installation.

1. Automated saturation: Cut the *MapeWrap* fabric to the desired length and begin the impregnation process with an automated, mechanically driven saturation device and *MapeWrap 21*. The saturation process may vary depending on the device manufacturer.
2. When applying the products in a closed environment, provide good ventilation. For further information, carefully read the SDS of each product.

CLEANUP

- Due to the high bond strength of *MapeWrap 21* on metal, clean tools with approved solvents (ethyl alcohol, toluene, etc.) before the product dries. Cured material can only be removed mechanically. Dispose of cured material in accordance with local disposal regulations.

LIMITATIONS

- Do not thin *MapeWrap 21* with solvents.
- Apply *MapeWrap 21* when the substrate and ambient temperature are between 50°F and 90°F (10°C and 32°C). Contact MAPEI's Technical Services Department regarding applications below and above this range.
- Do not use *MapeWrap 21* if its mixed components have begun to harden before application.
- Do not mix partial units of *MapeWrap 21*.

Product Performance Properties

Laboratory Tests	Results
Specific gravity	0.04 lb. per cu. in. (1.1 g per cm ³)
VOC content (SCAQMD Rule 1168)	< 70 g per L
Typical VOC content per SCAQMD Rule 1168 testing methods	9 g per L
Adhesion to concrete At 7 days and 73°F (23°C)	> 435 psi (3 MPa)
Tensile strength* – ASTM D638, Type 1	5,600 psi (38.6 MPa)
Tensile strain* – ASTM D638, Type 1	3.6%
Compressive strength – ASTM C579 At 7 days	12,659 psi (87.3 MPa)
Flexural strength – ISO 178	7,975 psi (55 MPa)
Modulus of elasticity under compression – ASTM C579	290,000 psi (2 000 MPa)
Modulus of elasticity in flexion – ISO 178	362,500 psi (2 500 MPa)

* Based on 5 sample coupons per test series at 73°F (23°C) and 50% relative humidity

Shelf Life and Application Properties

Shelf life	2 years in original, unopened container in a covered area
Storage conditions	Store at 50°F to 90°F (10°C to 32°C). Protect from freezing in shipment and storage.
Mixing ratio (by weight)	Part A : Part B = 4 : 1
Consistency (mixed)	Liquid
Color (mixed)	Transparent yellow
Working time At 50°F (10°C) At 73°F (23°C) At 90°F (32°C)	60 minutes 40 minutes 20 minutes
Setting time At 50°F (10°C) At 73°F (23°C) At 90°F (32°C)	90 minutes 50 minutes 30 minutes
Complete curing	7 days

Approximate Coverage

for a 2-coat application

When used with	Amount of fabric that can be applied
MapeWrap C Uni-Ax 300	55 sq. ft. per U.S. gal. (1.35 m ² per L)
MapeWrap C Uni-Ax 600	50 sq. ft. per U.S. gal. (1.23 m ² per L)
MapeWrap C Bi-Ax	34 to 37 sq. ft. per U.S. gal. (0.83 to 0.91 m ² per L)
MapeWrap G Uni-Ax 900	50 sq. ft. per U.S. gal. (1.23 m ² per L)
MapeWrap G Bi-Ax	34 to 37 sq. ft. per U.S. gal. (0.83 to 0.91 m ² per L)

Packaging

Size
Kit (Parts A and B): 1 U.S. gal. (3.79 L)

ADDITIONAL INFORMATION

Refer to the SDS for specific data related to health and safety as well as product handling.

For information on MAPEI's commitment to sustainability and transparency, as well as how MAPEI products may contribute to green building standards and certification systems, contact sustainability_USA@mapei.com (USA) or sustainability-durabilite@mapei.com (Canada).

WARNING

The test results shown in the TECHNICAL DATA table were obtained in compliance with test methods and curing cycles, if applicable, defined in the industry standards referenced on the Technical Data Sheet. Please note that the use of test procedures or methods other than those indicated in the table could lead to different values and that, in such cases, any liability of our company is excluded.

LEGAL NOTICE

The contents of this Technical Data Sheet ("TDS") may be copied into another project-related document, but the resulting document shall not supplement nor replace requirements per the TDS in effect at the time of the MAPEI product installation. For the most up-to-date TDS and warranty information, please visit our website at www.mapei.com. **ANY ALTERATIONS TO THE WORDING OR REQUIREMENTS CONTAINED IN OR DERIVED FROM THIS TDS SHALL VOID ALL RELATED MAPEI WARRANTIES.**

Before using, the user must determine the suitability of our products for the intended use, and the user alone assumes all risks and liability. **ANY CLAIM SHALL BE DEEMED WAIVED UNLESS MADE IN WRITING TO US WITHIN FIFTEEN (15) DAYS FROM DATE IT WAS, OR REASONABLY SHOULD HAVE BEEN, DISCOVERED.**

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Edition Date: September 23, 2024 MK 3001007 (24-2729)

For the most current product data and BEST-BACKEDSM warranty information,
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