

MapeWrap 31 T [NA]

Medium-Viscosity, 100%-Solids Epoxy Resin for Dry-Layup Impregnation of MapeWrap® Fabrics



NORTH AMERICA [NA]

DESCRIPTION

MapeWrap 31 T [NA] is a 100%-solids, moisture-tolerant, medium-viscosity epoxy resin used to encapsulate the *MapeWrap* composite system fabrics using the dry layup method. *MapeWrap 31 T [NA]* was specially developed to saturate and encapsulate both carbon and glass fiber fabrics and to cure to a high-performance FRP laminate. Once cured, the laminate provides additional strength to appropriate structural elements.

FEATURES AND BENEFITS

- 100%-solids epoxy
- Medium-viscosity epoxy resin for encapsulation of light and medium-weight *MapeWrap* fabrics
- Moisture-tolerant
- Solvent-free and VOC-compliant
- Developed specifically for the *MapeWrap* composite system

WHERE TO USE

- Saturation of light and medium-weight *MapeWrap* fabrics by way of the dry layup method
- Interior or exterior horizontal, vertical and overhead surfaces
- Higher viscosity makes *MapeWrap 31 T [NA]* ideal for overhead applications.
- When additional structural strengthening is required on concrete, masonry, steel and wood elements

SUITABLE SUBSTRATES

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

SURFACE PREPARATION

1. Apply *MapeWrap 31 T* [NA] 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 31 T* [NA] 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. After the *MapeWrap* fabric is cut to the desired length, use a spring-steel trowel (or similar) to apply a wet film thickness of approximately 20 mils of *MapeWrap 31 T* [NA] to the properly prepared substrate. Coverage rates vary with fabric type (see coverage rates by fabric type in the "Approximate Coverage" chart below).
2. Place the *MapeWrap* fabric into the still-wet *MapeWrap 31 T* [NA] using gloved hands (refer to the SDS for proper personal protection equipment) to thoroughly flatten out the fabric. Then use a ribbed roller tool to work the *MapeWrap 31 T* [NA] into the *MapeWrap* fabric while smoothing out any wrinkles or air pockets. The roller should be run only in the direction of the primary fibers in the fabric.
3. Using a spring-steel trowel (or similar), apply a wet film thickness of about 15 mils of *MapeWrap 31 T* [NA] over the saturated *MapeWrap* fabric.
4. When applying the products in a closed environment, provide good ventilation. For further information, carefully read the SDS of each product.
5. Repeat Steps 1 through 3 for additional layers of *MapeWrap* fabric as required.
6. When a coating is to be applied over the installed *MapeWrap* system, a light broadcast of oven-dried silica sand meeting ASTM C33 (or similar) must be added to the final coat of *MapeWrap 31 T* [NA] to promote coating adhesion. Coatings, such as from the *Elastocolor*® product family, are required for all exterior applications and, though not required, are often used on interior applications for aesthetic purposes. Refer to the "*MapeWrap* and *Carboplate*® Installation/Maintenance Guide" for additional information.

CLEANUP

- Due to the high bond strength of *MapeWrap 31 T* [NA] on metal, be sure to 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 31 T* [NA] with solvents.
- Apply *MapeWrap 31 T* [NA] when the substrate and ambient temperatures are between 40°F and 90°F (4°C and 32°C). Contact MAPEI's Technical Services Department regarding applications below and above this range.
- Do not use *MapeWrap 31 T* [NA] with an automatic saturation device. Fabrics must be impregnated manually.
- Do not use *MapeWrap 31 T* [NA] if its mixed components have begun to harden before application.

Product Performance Properties

Laboratory Tests	Results
Specific gravity	0.047 lb. per cu. in. (1.30 g per cm ³)
VOC content (SCAQMD Rule 1168)	< 70 g per L
Typical VOC content per SCAQMD Rule 1168 testing methods	6 g per L
Adhesion to concrete at 7 days and 73°F (23°C) – ASTM C1583	> 435 psi (3 MPa)
Tensile strength – ASTM D638*	≥ 2,901 psi (20.0 MPa)
Tensile modulus of elasticity – ASTM D638*	≥ 290,100 psi (2 001 MPa)
Tensile strain – ASTM D638*	≥ 1.0%
Compressive strength – ASTM D695	≥ 10,153 psi (70.0 MPa)
Flexural strength – ISO 178	≥ 3,626 psi (25.0 MPa)
Modulus of elasticity under compression – ASTM D695	≥ 149,944 psi (1 034 MPa)
Modulus of elasticity in flexion – ISO 178	≥ 362,600 psi (2 501 MPa)

* Based on testing of cured samples at 73°F (23°C) and 50% relative humidity for 7 days

Shelf Life and Application Properties

Shelf life	2 years in original, unopened container in a covered area
Storage conditions	Store at between 50°F and 90°F (10°C and 32°C). Protect from freezing in shipment.
Mixing ratio (by weight)	Part A : Part B = 4 : 1
Consistency (mixed)	Gelatin paste
Color (mixed)	Yellow
Working time	

At 50°F (10°C)	4 hours
At 73°F (23°C)	2 hours
At 90°F (32°C)	35 minutes
Setting time	
At 50°F (10°C)	7 hours
At 73°F (23°C)	4 hours
At 90°F (32°C)	1 hour
Complete curing	7 days

Packaging

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

Approximate Coverage

When used with	Amount of fabric that can be applied
<i>MapeWrap C Uni-Ax 300</i>	70 sq. ft. per U.S. gal. (1.72 m ² per L)
<i>MapeWrap C Uni-Ax 600</i>	40 sq. ft. per U.S. gal. (0.98 m ² per L)
<i>MapeWrap C Bi-Ax 230</i>	29 to 34 sq. ft. per U.S. gal. (0.71 to 0.83 m ² per L)
<i>MapeWrap C Bi-Ax 360</i>	31 to 36 sq. ft. per U.S. gal. (0.76 to 0.88 m ² per 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.**

CONTACT INFORMATION

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