MAPEI

MapeWrap 31 SP



Medium viscosity epoxy resin for impregnation of MapeWrap with “dry system”

WHERE TO USE

MapeWrap 31 SP is used for the impregnation of **MapeWrap C** or **G UNI-AX, BI-AX** and **QUADRI-AX** fiber reinforcement sheet for use in external structural repair, strengthtening and upgrade applications.

TECHNICAL CHARACTERISTICS

MapeWrap 31 SP is a gelatinous solvent-free epoxy resin based adhesive specially developed in the MAPEI research laboratories for the impregnation of **MapeWrap** fabric.

MapeWrap 31 SP is made up of two pre-dosed components (Part A = resin and Part B = hardener) that must be mixed together before use. After having mixed the two parts together, **MapeWrap 31 SP** remains workable for approximately 60 minutes at +30°C.

Once hardened, **MapeWrap 31 SP** acquires excellent dielectric properties and high mechanical strength.

RECOMMENDATIONS

- **MapeWrap 31 SP** must not be used once the hardening reaction begins.

- Apply **MapeWrap 31 SP** over the still fresh **MapeWrap 11** or **MapeWrap 12**.

DIRECTIONS FOR USE

Preparing MapeWrap 31 SP

Mix the two components of **MapeWrap 31 SP** together.

Pour Part B into Part A and mix with a slow speed drill fitted with a stirrer until the resin is completely homogeneous.

Mix ratio: 75 parts by weight of Part A and 25 parts by weight of Part B. Do not use partial quantities. To avoid the risk of accidental ratio errors, use the whole package.

Applying MapeWrap 31 SP and placing the MapeWrap C or G UNI-AX, BI-AX or QUADRI-AX fiber reinforcement sheets

Apply a uniform first coat of **MapeWrap 31 SP** over the still fresh **MapeWrap 11** or **MapeWrap 12**, with a brush or with a short bristle roller. Immediately apply the fabric making sure it is laid without wrinkles.

After having flattened the fabric wearing protective rubber waterproof gloves, apply over the **MapeWrap C** or **G** fabrics a second coat of **MapeWrap 31 SP** by brush or roller. Press it several times using a stiff rubber roller so the adhesive can completely penetrate through the fibres of the fabric.

Pass over the impregnated fabric with an aluminium roller with a worm screw in order to completely

MapeWrap 31 SP



Application phase



Application phase

eliminate any air bubbles formed during the application.

Precautions to be observed before application
No special precautions need to be taken at temperatures between +5°C and +35°C. In hot weather do not expose the material to direct sunlight and bonding should be carried out during the cooler hours.

During the winter, if applications need to be carried out outdoors at temperatures below +5°C, it is recommended that before repairing or reinforcing with **MapeWrap** fabrics, warm the substrate 24 hours before bonding and arrange for having adequate insulation systems in order to avoid any danger of frost. The thermal insulation should be maintained for at least the next 24 hours. Before use, store the product in a heated area.

SAFETY MEASURES TO BE OBSERVED FOR THE PREPARATION AND APPLICATION OF THE PRODUCT
MapeWrap 31 SP, Part A is irritant in direct contact with the eyes and skin. Part B is a strongly caustic and corrosive substance. After repeated and prolonged contact, sensitivity of the skin could be caused.

Avoid contact with skin and eyes by always wearing protective gloves and goggles while mixing and applying the two components.

In case of contact with the skin, wash with plenty of water and soap and if there should be any sensitivity of the skin, consult a doctor. In case of contact with the eyes, wash with running water and consult a doctor. Use in ventilated areas.

Cleaning
Due to the strong adhesion of **MapeWrap 31 SP** also on metal, it is recommended to wash the working tools with solvents (ethyl, alcohol, toluol) before the product dries.

COVERAGE
Coverage depends on the type on fabric (unidirectional, bi-directional and quadri-directional) and the height:

estimated coverage is 950 g /m^2 based on presaturation of 900 g fiber sheet.

PACKAGING
5 kg units
(Part A = 3.75 kg, Part B = 1.75 kg);

20 kg units
(Part A = 15 kg, Part B = 5 kg).

STORAGE
The product must be stored in original sealed packaging in temperatures not lower than +5°C.

FOR PROFESSIONALS.

WARNING
N.B. - Although the technical details and recommendations contained in this product report correspond to the best of our knowledge and experience, all the above information must, in every case, be taken as merely indicative and subject to confirmation after long-term practical applications: for this reason, anyone who intends to use the product must ensure beforehand that it is suitable for the envisaged application: in every case, the user alone is fully responsible for any consequences deriving from the use of the product.

All relevant references of the product are available upon request

TECHNICAL DATA (typical values)

PRODUCT IDENTIFICATION		
	Part A	**Part B**
Consistency:	gel	liquid
Colour:	cloudy	amber
Specific gravity (kg/dm³):	1.16	1.0
Brookfield viscosity:	9,000 cPs (shaft 3 - rev. 5)	290 cPs (shaft 2 - rev. 5)
Storage:	18 months in original sealed packaging at temperatures between +10°C and +30°C	
Hazard classification according to EC 99/45:	irritant Before using the product, consult the "Safety measures to be observed for the preparation and application of the product" paragraph and the information described on the packaging and safety data sheet	corrosive
Customs class:	3907 30 00	

APPLICATION DATA	
Mix ratio:	Part A : Part B = 3 : 1 by weight
Mix consistency:	pasty
Colour of mix:	transparent yellow
Specific gravity of the mix (kg/dm³):	1.14
Brookfield viscosity:	2,800 cPs (shaft 3 - rev. 5)
Workability: **– at +10°C:** **– at +20°C:** **– at +30°C:**	 120 minutes 90 minutes 60 minutes
Application temperature:	from +10°C to +35°C
Complete curing:	28 days
Adhesion to concrete (MPa): **– after 7 days at +23°C:**	> 3 (concrete breaking point)
Tensile strength (ASTM D 638) (MPa):	28
Tensile strain (ASTM D 638) (%):	3.4
Compressive strength (ASTM C 579) (MPa):	60
Flexural strength (ISO 178) (MPa):	45
Modulus of elasticity under compression (ASTM C 579) (MPa):	1,000

MapeWrap 31 SP

(FAR EAST)

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1009-2-2003

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