

MAPEWRAP 11

MAPEWRAP 12

Thixotropic epoxy putties for levelling concrete surfaces and for structural bonding



WHERE TO USE

Levelling concrete, reinforced concrete or masonry surfaces before applying **MapeWrap** fabrics.

TECHNICAL CHARACTERISTICS

MapeWrap 11 and **MapeWrap 12** are two-component epoxy resin based products with selected fine graded aggregates and special additives developed in the MAPEI Research & Development Laboratories.

After mixing **MapeWrap 11** component A or **MapeWrap 12** component A with their relative hardener (component B), they become a thixotropic paste, easy to apply both on vertical surfaces and on soffits.

The two products differ from each other only for the workability time: **MapeWrap 11** is suitable for applications at temperatures between +5°C and +23°C, while **MapeWrap 12** is recommended in hot climates.

MapeWrap 11 and **MapeWrap 12** harden without shrinkage, becoming extremely tacky and mechanically strong.

MapeWrap 11 and **MapeWrap 12** respond to the principles defined in EN 1504-9 (*"Products and systems for protecting and repairing concrete structures: definitions, requirements, quality control and conformity evaluation. General principles for the use and application of systems"*), and the minimum requirements for EN 1504-4 (*"Structural bonding"*).

RECOMMENDATIONS

- **MapeWrap 11** and **MapeWrap 12** must not be used on wet surfaces.
- **MapeWrap 11** and **MapeWrap 12** must not be used on dirty or crumbling surfaces.

APPLICATION PROCEDURE

Preparing the substrate

Treat the substrate with **MapeWrap Primer 1** before applying **MapeWrap 11** or **MapeWrap 12**.

Preparing the mixes

The two components of **MapeWrap 11** and **MapeWrap 12** must be mixed together. Pour component B (white) into component A (grey) and mix with a slow speed drill fitted with a stirrer until the resin is completely homogeneous (completely grey). The products come already pre-dosed therefore do not use partial quantities to avoid the risk of accidental ratio errors that could prevent **MapeWrap 11** and **MapeWrap 12** from hardening. If only partial quantities are required, use a high-precision electronic scale.

Applying the mixes

MapeWrap 11 and **MapeWrap 12** can be applied on concrete, stone, brick or metal with a flat trowel after the substrate has been primed with **MapeWrap Primer 1**.

In order to obtain good levelling, it is recommended to let the product penetrate well into particularly uneven areas.

Apply, with a notched trowel, approximately a 1 mm layer of **MapeWrap 11** or **MapeWrap 12**, depending on the temperature, over the still fresh **MapeWrap Primer 1**. Use a flat trowel to completely level even the most uneven parts of the surface.

Use the same product to fill and round the corners in order to create a profile with a bending radius not less than 2 cm.

MapeWrap 11 or **MapeWrap 12** must be applied within their pot-life, therefore timing is vital in order to use the whole pack within the given time.

The **MapeWrap** fabrics must be applied over the still fresh **MapeWrap 11** or **MapeWrap 12**.



Preparing the substrate



Applying a coat of MapeWrap Primer 1



Levelling with MapeWrap 11 or MapeWrap 12

PRECAUTIONS TO BE TAKEN BEFORE APPLICATION

No special precautions need to be taken at temperatures between +5°C and +30°C. In hot weather do not expose the material to direct sunlight. Levelling should be carried out during the cooler hours.

CLEANING

Due to the strong adhesion of **MapeWrap 11** and **MapeWrap 12** also on metal, it is recommended to wash the working tools with solvents (ethyl alcohol, toluol, etc.) before the product dries.

CONSUMPTION

1.55 kg/m² per mm of thickness.

PACKAGING

6 kg units (component A = 4.5 kg, component B = 1.5 kg).

STORAGE

The products must be stored for 24 months in the original packaging and at temperatures not below +5°C.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Instructions for the safe use of our products can be found on the latest version of the Safety Data Sheet, available from our website www.mapei.com.

When the product reacts it generates heat.

After mixing components A and B, we recommend applying the product as soon as possible and never leaving the container unattended until it is completely empty.

PRODUCT FOR PROFESSIONAL USE

TECHNICAL DATA (typical values)

PRODUCT IDENTITY

component A

component B

Consistency:	thick paste	thick paste		
Colour:	grey	white		
Density (kg/l):	1.72	1.55		
Brookfield viscosity (Pa·s):	900 (rotor F - 5 revs)	600 (rotor D - 2.5 revs)		
APPLICATION DATA OF PRODUCT (at +23°C - 50% R.H.)				
	MapeWrap 11	MapeWrap 12		
Mixing ratio:	component A : component B = 3 : 1			
Consistency of mix:	thixotropic paste	thixotropic paste		
Colour of mix:	grey	grey		
Density of mix (kg/l):	1.70	1.70		
Brookfield viscosity (Pa·s):	800 (rotor F - 5 revs)			
Workability time (EN ISO 9514): – at +10°C: – at +23°C: – at +30°C:	60 minutes 35 minutes 25 minutes	150 minutes 50 minutes 35 minutes		
Setting time: – at +10°C: – at +23°C: – at +30°C:	7-8 hours 3 hours-3 hours 30 minutes 1 hour 30 minutes-2 hours	14-16 hours 4-5 hours 2 hours 30 minutes-3 hours		
Application temperature range:	from +5°C to +30°C	from +10°C to +30°C		
Complete hardening time:	7 days			
FINAL PERFORMANCE				
Performance characteristic	Test method	Requirements according to EN 1504-4	Performance of product	
			MapeWrap 11	MapeWrap 12
Linear shrinkage (%):	EN 12617-1	≤ 0.1	0 (at +23°C) 0.05 (at +70°C)	0 (at +23°C) 0.03 (at +70°C)
Compressive modulus of elasticity (N/mm²):	EN 13412	≥ 2,000	6,000	6,000
Coefficient of thermal expansion:	EN 1770	≤ 100 x 10 ⁻⁶ K ⁻¹ (measured between -25°C and +60°C)	43 x 10 ⁻⁶ K ⁻¹	46 x 10 ⁻⁶ K ⁻¹
Glass transition temperature:	EN 12614	≥ +40°C	> +40°C	> +40°C
Durability (freeze/thaw and hot, damp cycles):	EN 13733	compressive shear load > tensile strength of concrete	meets specifications	meets specifications
		no failure of steel test sample		

Reaction to fire:	Euroclass	according to value declared by manufacturer	B-s1, d0	C-s1, d0
Concrete-steel bond strength (N/mm²):	EN 1542	not required	> 3 (failure of concrete)	
Concrete-Carboplate bond strength (N/mm²):	EN 1542	not required	> 3 (failure of concrete)	
BONDED MORTAR OR CONCRETE				
Bond strength to concrete:	EN 12636	failure of concrete	meets specifications	meets specifications
Sensitivity to water:	EN 12636	failure of concrete	meets specifications	meets specifications
Shear strength (N/mm²):	EN 12615	≥ 6	> 10	> 10
Compressive strength (N/mm²):	EN 12190	≥ 30	> 70	> 70
STRENGTHENING USING BONDED PLATE				
Shear strength (N/mm²):	EN 12188	≥ 12	50° > 35 60° > 29 70° > 25	50° > 28 60° > 25 70° > 22
Bond strength: – pull out (N/mm²):	EN 12188	≥ 14	> 18	> 18
Bond strength: – inclined shear strength (N/mm²):	EN 12188	50° ≥ 50 60° ≥ 60 70° ≥ 70	50° > 73 60° > 69 70° > 80	50° > 58 60° > 60 70° > 70

WARNING

Although the technical details and recommendations contained in this product data sheet 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 application; 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.

Please refer to the current version of the Technical Data Sheet, available from our website www.mapei.com

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