MAPEPOXY BI-IMP

Two-component low viscosity epoxy resin for injection

AREA OF USE

· Bonding delamination in floorslabs and screeds
· Sealing and bonding of cracks in concrete floors
· Sealing cracks

TECHNICAL CHARACTERISTICS

Mapepoxy BI-IMP is a two-component solvent free epoxy adhesive. The components A (Resin) and Component B (hardener) must me mixed before using the product.
Mapepoxy BI-IMP has a very high capillary activity due to its unique formulation, and adheres perfectly to concrete and steel.
Mapepoxy BI-IMP has high mechanical strength and has a very good ability to maintain adhesion to concrete also in damp condition.
Mapepoxy BI-IMP polymerizes without shrinkage and once hardened is waterproof.
Mapepoxy BI-IMP complies with the principles defined in EN 1504-9 standard (“*Products and systems for protecting and repairing concrete structures. Definitions, requirements, quality control and conformity assessment. General principles for the use and application of systems*”), and the requirements of EN 1504-5 “*Concrete injection*”.

CLASSIFICATION OF INJECTION PRODUCTS

Injection products are classified according to the products corresponding to the performance requirements using the UW classification system (U:intended use, W:workability):

· **F: Injection product for force transmitting filling of cracks**
F1: Adhesion by tensile bond strength > 2.5 N/mm²
F2: Adhesion by tensile bond strength > 1.5 N/mm²

· **D: Injection product for ductile filling of cracks**
D1: Watertight at 2x10^5 Pa

· **S: Injection product for swelling fitted filling of cracks**
S1: Watertight at 2x105 Pa

The letter W for workability is followed by 3 or 4 groups of numbers between brackets.
· First group: Allowed minimum thickness of crack measured in tenths of millimeter
· Second group: Moisture state of the crack
· 1 - dry
· 2 - damp
· 3 - wet
· 4 - water flowing

· Third group: Minimum and maximum use temperature
· Forth group: Applicable only to F
  · -1: Usable for cracks subject to daily movement higher than 10 % or 0.03 mm during curing
  · -0: Usable for cracks subject to daily movement lower than 10 % or 0.03 mm during curing

Mapepoxy BI-IMP is classified as U(F1) W(1) (1/2/3/4) (5/30)(0) Identifies that the product is:
· For force transmitting filling of cracks
· Injectable in cracks of 0.1 mm dry, damp, wet and waterflowing
· Fit for use from +5°C to +30°C
· Usable for cracks subject to daily movement lower than 10 % or 0.03 mm during curing

APPLICATION PROCEDURE

Preparation of the substrate

Mapepoxy BI-IMP is poured out on top of the crack and will penetrate into the concrete, repeat the operation until the crack is filled up. Sand 0.4 - 0.8 can be sprinkled on top of the crack. The sand will be transported into the crack with the epoxy and make a perfect body. When the crack is completely filled up remove excess material with a steel spatula. Repairing delamination in floors; drill several holes in the actual area and start filling **Mapepoxy BI-IMP** from one side. Soft knocking on the top gives a good control of the progress.

CLEANING

Tools and equipment must be cleaned immediately after use with **Spesialtynner**, ethanol or other cleaning agent suited for epoxy. Once hardened the product can only be removed mechanically.

CONSUMPTION

Approx. 1 kg/litre mixed material.

PACKAGING

1 kg set:
Component A = 0.7 kg
Component B = 0.3 kg

STORAGE

Properties for use are not changed for a period of 24 months when stored between +5°C and +30°C in unopened original packaging.

SAFETY INSTRUCTIONS FOR PREPARATION AND INSTALLATION

Instructions for the safe use of our products can be found on the latest version of the SDS available from our website **www.mapei.no**

PRODUCT FOR PROFESSIONAL USE.

TECHNICAL DATA (typical values)

Mapepoxy BI-IMP: two-component epoxy resin for injection. The product complies with specification in EN 1504-5 "Concrete injection"

PRODUCT DETAILS	Component A	Component B
Color:	transparent	transparent
Appearance:	liquid	liquid
Density (g/cm^3):	1.150	0.92

APPLICATION DATA (AT +23°C - 50 % R.H)	
Mixing ratio:	component A : component B = 7 : 3
Color of mixture:	transparent
Consistency of the mixture:	liquid / fluid
Density of the mixture (kg/m^3):	approx. 1 050
Brookfield viscosity of the mixture (mPa·s):	approx. 110
Application temperature range:	+5°C - 30°C (+21°C - 30°C for concrete injection)
Final hardening time:	7 days
Potlife at +20°C (EN ISO 9514-1000 ml):	30 min.

FINAL PROPERTIES (7 days at +23°C and 50 % R.H)	
Compressive Strength (EN 12190):	approx. 65 N/mm^2
Modulus of elasticity (EN 13412):	approx. 2.2 GPa

Performance characteristics for product	Test methods	Requirements according to EN 1504-5	Product performance
Classification according to EN 1504-5:2013	U(F1) W(1)(1/2/3/4) (5/30)(0)		
Adhesion by tensile bond strength:	EN 12618-2	F1: ≥ 3.0 N/mm^2 (2.5 N/mm^2) F2: ≥ 2.0 N/mm^2 (1.5 N/mm^2)	F1: > 3.0 N/mm^2 (cohesive failure in the substrate)
Non volatile matter:	EN ISO 3215	> 95 %	99.29 %
Injectability into dry medium - crack widths 0.1 mm – 0.2 mm – 0.3 mm:	EN 1771	Class 1: < 4 min, for crack width 0.1 mm Class 2: < 8 min, for crack width 0.2 mm Class 3: < 12 min, for crack width 0.3 mm Splitting test: > 7 N/mm^2	Crack width 0.1 mm Class 1: < 3 min. Splitting 12.3 N/mm^2
Injectability into non dry medium - crack widths 0,1 mm - 0,2 mm - 0,3 mm:	EN 1771	Class 1: < 4 min, for crack width 0.1 mm Class 2: < 8 min, for crack width 0.2 mm Class 3: < 12 min, for crack width 0.3 mm Splitting test: > 7 N/mm^2	Class 1: < 2 min. Splitting 10,1 N/mm^2
Tensile strength development for polymers:	EN 1543	Tensile strength > 3 N/mm^2 within 72 hours at the minimum use temperature, or within 10 h at the minimum use temperature by daily crack movements higher than 10 % or 0.03 mm (the lowest value has to be taken account)	9.3 N/mm^2 after 72 h at +5°C
Adhesion by tensile bond strength after thermal and wet-drying cycles:	EN12618-2	F1: ≥ 3.0 N/mm^2 (2.5 N/mm^2) F2: ≥ 2.0 N/mm^2 (1.5 N/mm^2)	Meets requirements F1: > 3.0 N/mm^2 (cohesive failure in concrete)
Compatibility with concrete:	EN12618-2	F1: ≥ 3.0 N/mm^2 (2.5 N/mm^2) F2: ≥ 2.0 N/mm^2 (1.5 N/mm^2)	Meets requirements F1: > 3.0 N/mm^2 (cohesive failure in concrete)

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 web site www.mapei.no

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