ALL-PURPOSE TWO-COMPONENT EPOXY RESIN FOR BASE COATS SCRATCH COATS AND AS REPAIR MORTAR

DESCRIPTION

EP 50 is a high-quality, solvent-free, all-purpose usable, 2-component epoxy resin. EP 50 is suitable as base coat, for scratch coats, or as levelling mortar for new construction sites, as well as for reconstruction work. Due to its low viscosity and good wettability properties the resin penetrates in the substrate and results in a high-strength foundation for subsequent coatings. EP 50 is our first recommendation, already for years now, for substrate preparation. The material is very reliable under various construction site conditions.

RECOMMENDED FOR

Typical areas of application are:

- Primer and scratch coats
- Priming filler.
- Levelling coat and epoxy resin mortar.

ADVANTAGES

- "Total Solid" according to Giscode (test method of the Deutsche Bauchemie, German construction chemistry association)
- High-quality base coat
- Solvent free
- Safe and reliable
- Good interlayer adhesion
- All-purpose
- Resistant to hydrolysis and saponification
- Free of deleterious substances against varnish

TECHNICAL CHARACTERISTICS

Characteristic	Test Result	Test Method
Viscosit (Components A+B)	800 mPa s	EN ISO 3219 at 73.4 ºF (23 ºC)
Density (Components A+B)	1.10 kg/lt	EN ISO 2811-2 at 68 ºF (20 ºC)
Color	Clean - Yellowish	
Solid content	> 99 %	KLB - Method
Weight loss	0.3 % after 28 days	
Water absorption	< 0.2 %	DIN 53495
Bending tensile strength	35 N/mm^2	DIN EN 196/1
Compressive strength	80 N/mm^2	DIN EN 196/1
Shore-hardness D	80 after 7 days	DIN 53505
Adhesive tensile strength	> 1.5 N/mm^2	DIN EN ISO 1542
Processing time at 50 ºF (10 ºC)	60 minutes	
Processing time at 68 ºF (20 ºC)	30 minutes	
Processing time at 86 ºF (30 ºC)	15 minutes	
Processing temperature	50 ºF (10 ºC) minimum room and floor temperature	

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Characteristic	Test Result	Test Method
Curing time at 50 °F (10 °C)	12-14 hrs (Accessibility)	
Curing time at 68 °F (20 °C)	6-8 hrs (Accessibility)	
Curing time at 86 °F (30 °C)	5-6 hrs (Accessibility)	
Curing	2-3 days for mechanical load at 68 °F (20 °C) 7 days for chemical resistance at 68 °F (20 °C)	
Further coatings	After curing, but not longer than 48 hours at 68 °F (20 °C)	

The aforementioned results are related to average laboratory test results. In reality the climate changes, such as temperature, moisture and surface porosity may change these results.

DIRECTIONS FOR USE

Surface Preparation: The substrate to be coated has to be levelled, dry, free of dust, has to have adequate tensile and compressive strength, and be free from weakly-bonded components or surfaces. Materials impairing adhesion, such as grease, oil, and paint residues must be removed using suitable methods. Suitable surfaces are concrete C20/25 (B 25), cement screed CT-C35-F5 (ZE 30), as well as other adequately sound surfaces. The substrate has to have adequately high strength for the proposed occupational use. Coating of mastic asphalt with epoxy resin is not recommended. The surface to be coated should be prepared mechanically, preferably by shot-blasting. The surface strength must then be a minimum of 1.5 N/mm^2. For concrete, moisture content must not exceed 4.5 CM-%, remaining residual humidity. The possibility of moisture ingress from the rear must be permanently excluded. Please refer to the advice issued by the trade associations, e.g. the current edition of BEB-worksheets KH-0/U and KH- 0/S. Reconstructing floors may need special procedures. Obtain technical advice.

Mixing: Single packages of the components need to be measured in the precise mixing ratio. Combi-trading units will be sup- plied in the correctly measured mixing ratio. Component A has sufficient volume for the entire trading unit. Decant the hardener into the resin completely. Blend with a slow speed mixer (200 - 400 r/pm) for at least 2 - 3 minutes, for a material that is homogeneous and free of streaks. To avoid mixing errors it is recommended to empty the re-sin/hardener-mixture into a clean container and mix briefly once again („to repot“).

Producing scratch coats and mortar:

Scratch coats:
1.0 kg EP 50
0.5 - 0.8 kg KLB-Mischsand 2/1 (alternatively QUARTZ SAND MIX 0.10 – 0.45 MM)

Epoxy resin mortar:
1.0 kg EP 50
8.0 - 12.0 kg KLB-Mischsand 1

Before adding additives, premix the binding agent. Then add the additive. The amount of the sand blend to be added depends on the desired texture and consistency.

Mixing ratios:

A:B = 2:1 parts by weight
A:B = 100:54 parts by volume

Application:

Base coat: Processing the material as a base coat takes place immediately after mixing, using a coating knife, trowel, or nylon roller. Apply an evenly closed coat on the substrate. On highly absorbent surfaces a second coat or a saturated scratch coat is recommended to achieve a compact surface. For optimum adhesion scatter the fresh surface with approx. 0.8 kg/m² quartz sand (grain size 0.3/0.8 mm). This is mandatory, if the subsequent coatings will be applied later than 48 hours after base coat application.

Scratch coat: For smoothing the substrate, as well as pore sealing, apply a scratch coat. Use a trowel, metal-, or rubber coating knife. The consistency has to be adjusted according to the absorbency of the substrate, and set so the material may run true.

Priming filler: Base coat and the smoothing coat may be applied simultaneously. It just has to be assured that a sufficient sealing coat for subsequent coatings is achieved. Usually prime filling coats may be filled with 0.5 kg of KLB-Mischsand 2/1 (alternatively QUARTZ SAND MIX 0.10 – 0.45 MM) for 1 kg of binding agent. Apply with a rubber coating knife, with a consumption of 0.7 - 1.0 kg/m², depending on the depth of roughness of the substrate.

Epoxy resin mortar: EP 50 may be used as repair, underlayment, and levelling mortar. Use the special resin EP 150 for industrial mortar coatings. Process immediately after mixing. Pull off with a lath, compact, and smooth with a smoothing trowel.

Floor and air-temperature must not fall below 50 °F (10 °C) and/or humidity must not exceed 75 %. The difference in floor- and room-temperature must be less than 37.4 °F (3 °C) so the curing will not be disturbed. If a dew- point situation occurs, adhesion may malfunction, curing may be disturbed, and spotting may occur. Curing time applies to 68 °F (20 °C). Lower temperature may increase, higher temperature may decrease the curing and processing time.

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COVERAGE

Base coat: Approx. 0.3 – 0.4 kg/m^2
Scratch coat: Approx. 0.4 – 0.6 kg/m^2

SPECIAL CONSIDERATIONS

We advise against the „gumming“ of screed joints/flat joints with pure or with thixotropic agent filled epoxy resin. In the course of time, these areas will begin to show on the surface. For the application, use always the KLB-Primer resin in combination with quartz sand e.g. KLB-Mischsand 2/1 (alternatively QUARTZ SAND MIX 0.10 – 0.45 MM) or KLB-Mischsand 1. For this, we recommend to add at least 1 - 3 parts by weight of filler.

To remove fresh contamination and to clean tools, use thinners VR 24 or VR 33 immediately. Hardened material can only be removed mechanically.

The product is subject to the hazardous material-, operational safety-, and transport-regulations for hazardous goods. Refer to the DIN-Safety Data Sheet and the information on the labelled containers!

GISCODE: (05/2018 modification) RE 30

Indication of VOC-Content: (EG-Regulation 2004/42), Maximum Permissible Value 500 g/l (2010,II,j/lb): Ready-for-use product contains < 500 g/l VOC.

Contact PENETRON HELLAS S.A. for additional information, regarding your project.

PACKAGING

EP 50 is available in 6.6+3.4 kg and 20+10 kg containers.

STORAGE / SHELF LIFE

Store in dry and frost-free conditions. Ideal storage temperature is between 50 - 68 ^{o}F (10 - 20 ^{o}C). Bring to a suitable working temperature before application. Tightly re-seal opened containers and use the content as soon as possible. When properly stored in a dry place in unopened and undamaged original packaging, shelf life is 12 months.

SAFE HANDLING INFORMATION

Avoid skin and eye contact. If contact is made, flush areas with lots of water and seek medical advice. Protective gloves, mask and goggles should be worn. For further information please refer to Safety Data Sheet. PENETRON HELLAS S.A. has recently updated Safety Data Sheet on the safe use of PENETRON® products. Each Safety Data Sheet contains health and safety information for the protection of your employees and your customers. KEEP OUT OF REACH OF CHILDREN.

CERTIFICATION

CE

KLB Kötztal Lacke + Beschichtungen GmbH
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FRG-89335 Ichenhausen
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EP50-V1-022013
DIN EN 13813:2003-01
Synthetic resin screed mortar
DIN EN 13813: SR-B1.5-AR0.5-IR5
Fire behavior: B_{fl}-s1
Emission of corrosive substances: SR
Wear resistance BCA: AR 0.5
Adhesive tensile strength B 1.5
Impact resistance: IR 5

WARRANTY – DISCLAIMER

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