

ALL-PURPOSE TWO COMPONENT EPOXY RESIN FOR BASE AND SCRATCH COATS, SUITABLE FOR THE WHG (WATER HOUSHOLD ACT) SYSTEMS EP 280 WHG AND EP 282 WHG, AS WELL AS FOR SYSTEM-TESTED LOW-EMISSION COATINGS

## DESCRIPTION

EP 55 is an all-purpose, high- quality, solvent-free, 2-component epoxy resin. EP 55 is used as a base coat, scratch coat and as levelling mortar. Due to its low-viscosity and good wettability features the resin penetrates into the substrate very well and results in a high-strength base for subsequent coatings. EP 55 is used as a DIBt® (German Institute for Structural Engineering) accredited primer, tested within the system in combination with the water-protecting WHG coatings EP 280 WHG and EP 282 WHG. Its application is especially suitable in installations handling (filling, transferring or storing) materials hazardous to water. EP 55 is tested in combination with the low-emission coating EP 202 and the photo-stable polyurethane coatings PU 410 and PU 420, according to the AgBB procedure.

## RECOMMENDED FOR

Typical areas of application are:

- ▶ Primer and scratch coats
- ▶ Ffilling.
- ▶ Levelling coatings and epoxy resin mortar.

## ADVANTAGES

- ▶ High-quality epoxy resin
- ▶ Solvent free
- ▶ Tested, low-emission quality
- ▶ 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                    |
|---|--|--------------------------------|
| <i>Viscosit (Components A+B)</i>        | 850 mPa s  | EN ISO 3219 at 73.4 °F (23 °C) |
| <i>Density (Components A+B)</i>         | 1.07 kg/lit                                      | EN ISO 2811-2 at 68 °F (20 °C) |
| <i>Color</i>                            | Transparent                                      |                                |
| <i>Solid content</i>                    | 100 %  | KLB - Method                   |
| <i>Weight loss</i>                      | 0.3 % after 28 days                              |                                |
| <i>Water absorption</i>                 | < 0.2 %  | DIN 53495                      |
| <i>Bending tensile strength</i>         | 35 N/mm <sup>2</sup>                             | DIN EN 196/1                   |
| <i>Compressive strength</i>             | 80 N/mm <sup>2</sup>                             | DIN EN 196/1                   |
| <i>Shore-hardness D</i>                 | 80 after 7 days                                  | DIN 53505                      |
| <i>Adhesive tensile strength</i>        | > 1.5 N/mm <sup>2</sup>                          | DIN EN ISO 1542                |
| <i>Processing time at 50 °F (10 °C)</i> | 55 minutes                                       |                                |
| <i>Processing time at 68 °F (20 °C)</i> | 25 minutes                                       |                                |
| <i>Processing time at 86 °F (30 °C)</i> | 15 minutes                                       |                                |
| <i>Processing temperature</i>           | 50 °F (10 °C) 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)<br>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<sup>2</sup>. 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 supplied 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 resin/hardener-mixture into a clean container and mix briefly once again („to repot“).

### Producing scratch coats and mortar:

#### Scratch coats:

1.0 kg EP 55  
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 55  
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 = 100:55 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/m<sup>2</sup> 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/m<sup>2</sup>, depending on the depth of roughness of the substrate.

**Epoxy resin mortar:** EP 55 may be used as repair, underlayment, and levelling mortar. Process immediately after mixing. Pull off with a lath, compact, and smooth with a smoothing trowel.

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**Remarks:** When the product is used as a primer for EP 280 WHG and EP 282 WHG systems, please follow the application advice you find in the relative technical data sheet!

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.

### COVERAGE

Base coat: Approx. 0.3 – 0.4 kg/m<sup>2</sup>  
Scratch coat: Approx. 0.4 – 0.6 kg/m<sup>2</sup>

### 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: RE 1

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 55 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 °F (10 - 20 °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

External test certificates are available:

AgBB-tested and DIBt®-accredited in combination with different coatings.

Tested within system as primer for DIBt®-accredited water-protecting coatings (WHG).

Please ask for the tested system structure!



KLB Kötztal Lacke + Beschichtungen GmbH  
Günstalstraße 25  
FRG-89335 Ichenhausen  
13  
EP55-V1-022013  
DIN EN 13813:2003-01  
Synthetic resin screed mortar  
DIN EN 13813: SR-B1.5-AR0.5-IR5  
Fire behavior: E<sub>fl</sub>-s1  
Emission of corrosive substances: SR  
Wear resistance BCA: AR 0.5  
Adhesive tensile strength B 1.5  
Impact resistance: IR 5

### WARRANTY – DISCLAIMER

PENETRON HELLAS S.A. warrants that its products are manufactured under certified ISO Standard procedures, are of excellent quality and shall be free from material defects and contain all components in their proper proportion. Should any of the products be proven defective, the liability to PENETRON HELLAS S.A. shall be limited to replacement of the material proven to be defective, since the standard application procedures have been met and the suitability of the product for the particular application have been proven. PENETRON HELLAS S.A. makes no warranty as to merchantability of fitness for a particular purpose. User, after contacting the distributor of the product, shall determine the suitability of the product for his intended use and assume all risks and liability in connection therewith. While every care has been taken, the information provided in this product's data sheet make no part of any contract. All recommendations, technical data and test data contained in this product's data sheet are based upon the results of control laboratory tests or in actual field tests. However, PENETRON HELLAS S.A. makes no warranty of any kind, concerning this data. In any case, this data are given in good faith based in the PENETRON HELLAS S.A. experience, till the publication of this sheet. Due to variance in storage, handling and applications of the materials, PENETRON HELLAS S.A. accepts no liability for the results obtained. It is suggested that potential users try small applications to determine the suitability of each individual product for their specific requirements. The users should always refer to the most recent edition of the product's data sheet. PENETRON HELLAS S.A. may particularly differentiate its versions of the product's data sheet compared with those of PENETRON INTERNATIONAL LTD or respective PENETRON companies worldwide. These changes are due to text formatting, different application weathering and procedures or different product names and aim at the optimal consumer information.

PENETRON HELLAS S.A.  
G.E.MH. No: 07278001000  
Athens Headquarters - Greece  
50 - 52, Thrakomakedonon Av.  
136 79 Acharnes, Greece  
T: +30 210 2448250  
F: +30 210 2476803  
info@penetron.gr, www.penetron.gr