

PHOTOSTABLE NON-PIGMENTED 2-COMPONENT POLYUREA RESIN FOR TOP SEALING OF SLIP RESISTANT COLOURED SAND SCATTERED COATINGS AND FOR TRANSPARENT CLEAR COATS ON RECOMMENDED COATINGS
DESCRIPTION

PU 484 is a high-quality, non-yellowing, non-pigmented and solvent-free, 2-component polyurea resin for transparent top and coverage sealing of decorative sand scattered coatings. PU 484 may also be applied as a decorative, glossy clear resin layer on recommended coatings. The product consists of a medium-viscous, transparent, pale resin and a high-quality, non-pigmented hardener. The final material is transparent, non-yellowing and results in optically appealing, even surfaces. This characteristic is advantageous, particularly at higher temperature. 484 is adjusted as transparent top sealer of colored sand scattered coatings in slip-resistant wet areas, like kitchens, slaughterhouses, butcheries, food industry and furthermore. Also, for all colored sand scattered coatings with special demands for consistent, non-yellowing surfaces. PU 484 offers good resistance to chemicals and mechanical load. The surface is to a large extent resistant to wear and tear, hygienic and very well cleanable. Chemical resistance to water, salt, grease, aqueous solutions, diluted acids and bases, as well as oxidizing chemicals. As the processing time of the mixed reactive resin is short, the material cures rapidly to a non-pigmented, hard and tough surface. During processing the resin is odorless.

RECOMMENDED FOR

- ▶ Color-Quartz is used for non-pigmented scattered coatings in different slip areas R10, R11, R12 (exhibition area, showroom, etc.).
- ▶ Slip resistant coatings in wet areas in the food industry (kitchens, butchers, etc.).
- ▶ Outdoor coatings (terraces, balconies).
- ▶ Decorative coatings with a shiny, transparent resin mirror on plain polyurethane or epoxy resin coating, with marbles using wiping technique or chip entry.
- ▶ Coverings with the insertion of textile materials / textile printing for non-ceramic coatings and metal effect toppings, for example with partiColor-Glitter.

ADVANTAGES

- ▶ Low emission
- ▶ Transparent
- ▶ Glossy surface
- ▶ Largely stable in color
- ▶ Resistant to water and chemicals
- ▶ Suitable for wet areas
- ▶ Resistant to softener
- ▶ For indoor and outdoor
- ▶ Early water resistance
- ▶ Low stain sensitivity

TECHNICAL CHARACTERISTICS

Characteristic	Test Result	Test Method
Viscosity (Components A+B)	400 - 900 mPa s	EN ISO 3219 at 23 °C (73,4 °F)
Density (Components A+B)	1,2 kg/L	EN ISO 2811-2 at 20 °C (68 °F)
Color	Non-pigmented	
Solid content	> 99,9 %	KLB-Method

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Characteristic	Test Result	Test Method
Shore-hardness D	78	DIN 53505 (28 days)
Processing time at 10 °C (50 °F)	30 min. (30 % RH) / 20-25 min. (60 % RH)	
Processing time at 20 °C (68 °F)	20 min. (30 % RH) / 15-20 min. (60 % RH)	
Processing time at 30 °C (86 °F)	10 min. (30 % RH) / 10-15 min. (60 % RH)	
Processing temperature	Minimum 10 °C (50 °F) room and floor temperature	
Curing time at 10 °C (50 °F)	16-20 hrs (Accessibility)	
Curing time at 20 °C (68 °F)	10-12 hrs (Accessibility)	
Curing time at 30 °C (86 °F)	6-8 hrs (Accessibility)	
Curing	2-3 days for mechanical load at 20 °C (68 °F) 1-2 days for resistance to water at 20 °C (68 °F) 7 days for chemical resistance at 20 °C (68 °F)	
Further coatings	After curing, but no longer than 24 hours, at 20 °C (68 °F)	

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 has to be free from weakly-bonded components or surfaces. Materials impairing adhesion, such as grease, oil and paint residues, must be removed using suitable methods. Please refer to the advice issued by the trade association, e.g., the current edition of BEB-worksheets KH-O/U and KH-O/S, as well as the product information for the recommended KLB-Base Coats, like e.g., EP 30, EP 50, EP 51 RAPID S and EP 52 Spezialgrund. The substrate to be coated should be prepared mechanically, preferably by shot-blasting. The surface has to be prepared accurately, saturated and free of pores. To increase the adhesion, the surface has to be scattered with approx. 0,5 – 1,0 kg/m² quartz sand, grain size 0,3/0,8 mm. If the material is used as a resin of mortar surfaces or as top sealer for colored sand, scattered coatings, the surface has to be clean and free from contamination. On scattered coatings, the excess sand will be removed. Remove by sweeping, chipping off and vacuuming. For smoother coatings, grind slightly. This method requires accurate proceedings, so as the sand bed will not be soiled or irregularly removed. The resin shall be used after all loose sand has been vacuumed thoroughly. It is very important that the area is not soiled or contaminated with any substances impairing adhesion. Surfaces should only be accessed with clean, pale shoes and clean clothes.

Mixing: Combi-trading will be supplied in the correctly measured mixing ratio. Component A has sufficient volume for the entire trading unit. Decant the hardener component B into the resin completely. Blend with a slow speed mixer (200 - 400 r/pm) for at least 2-3 minutes, for a homogeneous mixture, free of streaks. To avoid mixing errors, it is recommended to principally empty the resin/hardener-mixture into a clean container and mix briefly once again.

Mixing ratios:

A: B = 100:150 parts by weight
A: B = 100:166 parts by volume

Application of scattered coatings:

Base coat should be hardened after applied as scattered coating. Remove any excess sand by sweeping, chipping off and vacuuming. For smoother coatings grind slightly. This method requires accurate proceedings so the sand bed will not be soiled or irregularly removed. It is very important that the area is not soiled or contaminated with any substances impairing adhesion. Surfaces should only be accessed with clean, pale shoes and clean clothes. Resination may be carried out after all loose sand has been vacuumed thoroughly.

Application as a clear resin layer:

The application of a transparent, glossy resin layer requires considerable care, since any form of contamination is visible. Before PU 484 is applied, the surface must not be soiled. Sealing can be used as a top coat within the recommended amount of time for coating the recommended products. Surfaces should only be accessed with clean, pale shoes and clean clothes.

Processing/Handling:

Scattered coatings: Apply the mixed material on the scattered, prepared surface and pull off evenly with a pale rubber coating knife, without ponding. Afterwards, roll respectively with a lint-free nylon roller. Work the area thoroughly with a roller for an even and free of pore structure. The amount of application depends on the required slip resistance and the displacement. Seek advice for the exact amount of application. The material may also be applied with a roller using crisscross strokes, resulting in an increased roughness of coating.

- Scatter with coloured or natural quartz sand, grain size 0,3/0,8 mm, consumption approx. 0,5 – 1,0 kg/m².

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Important note: At high humidity levels, curing can be particularly rapid. This requires a fast material processing, in order not to reach the limit values too soon. The work rhythm has to be rapid and orderly. The following work steps, such as catching-up or rolling with a spiked/loop roller, should be carried out in a short time delay, after few minutes.

Floor and air temperature must not fall below 50 °F (10 °C) and/or humidity must not exceed 75 %. The difference between floor and room temperature must be less than 37.4 °F (3 °C), so as the curing will not be disturbed. If a dew-point situation occurs, adhesion may malfunction, curing may be disturbed and spotting may occur. Exposure to water should be avoided within the first 7 days. Curing time applies to 68 °F (20 °C). Lower temperature may increase and higher temperature may decrease the curing and processing time. If working conditions are not complied with, deviations in the described technical properties may occur in the end product.

Build-up of Coats:

Note: An overcoating of the completely hardened surface is not possible.

Slip resistant RX Color Sand scattered coating (R11)

- Prepare the substrate, e.g., preferably by shot blasting.
- Base coat application with the recommended KLB- Base Coats, e.g., EP 50, EP 52 SPEZIAL, or EP 51 RAPID S, consumption approx. 0,3 – 0,4 kg/m². Open approach with Quarzsand 0,3/0,8 mm, consumption approx. 0,5 – 1,0 kg/m².
- Apply a primary layer using EP 99 to scatter with Colorsand: 1 part by weight EP 99 filled with 1.5 parts by weight KLB-Mischsand 3/1, consumption approx. 1,3 – 1,6 kg/m² (mixture).
- The order is carried out with a trowel or with a scraper and it is subtracted by grain.
- Scatter over the entire surface with KLB-Colorsand CQS-46xx for the slip resistance level R11, consumption approx. 2,5 – 3,5 kg/m².
- After hardening, remove excess sand, repel or carefully vacuum until no grains of sand become detached. The surface smoothness can be increased with a light intermediate closure and the slipping inhibition may be reduced if necessary.
- Important note: Work carefully, in particular the excess of sand as well as dust should be carefully removed and vacuumed.
- Light shoes should be worn on the surface. Work clothes must be clean. Optically appealing areas can only be created with great care.
- Application of PU 484 with a rubber thread, rubber spatula or a rubber filler and for distribution with a roller immediately. Consumption, depending on the grain size and the slip resistance, approx. 0,45 – 0,7 kg/m². To control consumption in order to achieve the required level of slip resistance.

Decorative coverings with shiny, smooth, clear-resin layers

- Prepare the substrate, e.g., preferably by shot blasting.
- Base coat application with the recommended KLB-
- Base coats for low- emission coatings, e.g., EP 53 Spezialgrund-
- AgBB, EP 57 or EP 58, consumption approx. 0,3 – 0,4 kg/m².
- Apply a scratch coat with e.g., EP 53 Spezialgrund-AgBB, EP 57 or EP 58 and KLB-Mischsand 2/1, mixing ratio 1,0: 0,8 parts by weight, consumption approx. 0,8 – 1,2 kg/m².
- Open approach with quartz sand 0,3 / 0,8 mm, consumption approx. 0,5 – 1,0 kg / m².
- PU 410, PU 405, EP 200 VF are suitable for a subsequent clear-resin layer in the recommended quantities. The products can be recommended, as plain coatings, scattered with partiColor-Chips, and as well as marbled coatings can be designed in wiping technique. In order to be almost non-yellowing, PU 405 or PU 410 must be used in bright colors.
- After curing (usually 24 – 48 hours), apply a clear resin coat of PU 484 with a toothed trowel (S6), consumption 1,4 – 1,6 kg/m².
- Optional: Apply a matt sealer PU 805 E, consumption approx. 0,120- 0,160 kg/m². Alternatively, it is also possible to apply sealer PU 811 E, consumption 0,160 – 0,200 kg/m².

Resination of coated surfaces

- Prepare the substrate, e.g., preferably by diamond cutting or shot blasting with subsequent diamond grinding and vacuum out.
- Suitable substrates are cement coatings of quality CT-25 – CT-30 and concrete of minimum quality C25/30.
- In case of unclear substrate, please contact PENETRON HELLAS S.A.
- Primer with PU 484 by adding 5% VR 28, consumption mixture approx. 0,4 – 0,6 kg/m².
- Within the period of max. 24 hours with a mixture of PU 484 and a mixture of glass beads 0 – 50 µm and glass beads 200 – 400 µm, mixing ratio of glass beads 0 – 50 µm and 200 – 400 µm = 3: 2 parts by weight, mixing ratio PU 484 to glass beads 1: 0,6 parts by weight. Apply with a smoothing trowel over grain and re-roll with a textured and yellow structural roller, consumption mixture approx. 0,9 – 1,2 kg/m².
- Apply a clear resin layer within the recommended period of max. 24 hours, PU 484 with a toothed trowel S3 or a finishing trowel (parajito 95), consumption approx. 1,6 – 2,0 kg/m².
- Optional: Apply a matt sealer PU 805 E or PU 811 E.

COVERAGE

Resination for scattered coatings: Approx. 0,45-0,7 kg/m²
Clear and smooth resin coatings: Approx.: 1,2-2,0 kg/m²

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SPECIAL CONSIDERATIONS

To remove fresh contamination and to clean tools, use thinner 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: PU 4

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

PU 484 is available in 4+6 kg.

STORAGE / SHELF LIFE

Store in dry and frost-free conditions. Ideal storage temperature is between 10 - 20 °C (50 - 68 °F). 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 6 months.

SAFE HANDLING INFORMATION

Avoid skin and eye contact. If contact is made, flush areas with plenty 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



KLB Kötztal Lacke + Beschichtungen GmbH
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FRG-89335 Ichenhausen
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PU484-V1-012020
DIN EN 13813:2003-01
Synthetic resin screed mortar
DIN EN 13813: SR-B2.0-AR0.5-IR10
Fire behavior: E_i-s1
Emission of corrosive substances: SR
Wear resistance BCA: AR 0,5
Adhesive tensile strength B 2,0
Impact resistance: IR 10

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