

3-COMPONENT POLYURETHANE MORTAR COATING FOR WET AREA COATINGS

DESCRIPTION

PU-BETON 4006 is a high-quality, 3-component polyurethane mortar coating, applicable with a coating knife. The material is suitable for heavy-duty coatings, exposed to water and chemicals. PU-BETON 4006 is therefore primarily used in the food processing industry, as well as in areas where resistance to chemicals is required. PU-BETON 4006 consists of reactive resin components and a mineral component, which are carefully aligned, resulting in a durable, robust, and consistent coating. The coating is available in 4 standard colours and consists of the binding agent PU-BETON 4000, Components A and B, and the pigmenting additive mixture PU-BETON 4006 Component C. The mortar mixture is free-flowing, offers sufficient processing time, and may be applied with a coating knife. The material will be applied on the prepared, adequate durable substrate in layers of 6 mm (5 - 7 mm). For an increased degree of thermal and mechanical stability, PU-BETON 4009 is available with layers of 9 mm. PU-BETON 4006 may be used as a scratch coat on very uneven surfaces. The coating offers good mechanical and thermal resistance, and very good resistance to many chemicals, especially to aqueous salt solutions, acids and alkalis, as well as solvents. Compared to the classic synthetic resin coatings, PU-BETON 4006 offers an increased glass transition temperature. That is why the material provides a good temperature resistance up to 194 °F (90 °C). As far as a slip resistant surface is required, scatter the surface (e.g. with fire-dried quartz sand 0.7/1.2 mm). Seal with PU-BETON 4080 Kopsiegel. PU-BETON 4006 may only be applied on suitable substrate, like e.g. concrete at least C25/30 because the material shrinks slightly when curing. Closing-off edges must be fastened with a groove to absorb any tension on the coating. Yellowing may occur when exposed to UV-rays because of the consistency. This will not affect any technical properties of the material though. Polyurethane mortar coatings are functional coatings. The optical appearance may not always be consistent. Differences in texture, shoulders, and fastening grooves may be visible especially on smooth coatings (R9).

RECOMMENDED FOR

- ▶ Highly resistant, free flow mortar coating. Apply with a coating knife. For layers of approx. 6 mm. The material offers good resistance to thermal and mechanical load, and chemicals. Suitable even for fork-lift traffic.
- ▶ Slip resistant, durable coatings with frequent exposure to water. Finish with scattering and sealing. Suitable for areas with increased cleaning efforts, like e.g. food production and processing areas (wet coatings), like e.g. dairy farms, slaughterhouses, breweries, and others.
- ▶ For highly resistant coatings with exposure to chemicals.
- ▶ As levelling coat underneath PU-BETON 4006/ PU-BETON 4009 on uneven floors.

ADVANTAGES

- ▶ Apply with a coating knife
- ▶ Rapid setting
- ▶ Highly impact resistant
- ▶ Resistant to chemicals
- ▶ Hygienic
- ▶ Free flow
- ▶ Jointless
- ▶ Hot water resistant
- ▶ Highly claimable

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TECHNICAL CHARACTERISTICS

Characteristic	Test Result	Test Method
Density (Components A+B+C)	1.96 kg/lit	EN ISO 2811-2 at 68 °F (20 °C)
Color	Beige, red, green, grey	
Weight loss	< 1.0 % after 28 days	
Water absorption	< 0.2 weight %	DIN 53495
Tensile bending strength	15 N/mm ²	DIN EN 196/1
Compressive strength	43 N/mm ²	DIN EN 196/1
Shore hardness D	82	DIN 53505 (after 7 days)
Processing time at 59 °F (15 °C)	35 minutes	
Processing time at 68 °F (20 °C)	25 minutes	
Processing time at 77 °F (25 °C)	20 minutes	
Processing temperature	Minimum 59 °F (15 °C) – Maximum 25 °F (77 °C) room and floor temperature	
Curing time at 50 °F (10 °C)	12-16 hrs (Accessibility)	
Curing time at 68 °F (20 °C)	8-10 hrs (Accessibility)	
Curing time at 77 °F (25 °C))	6-8 hrs (Accessibility)	
Curing	1-2 days for mechanical load at 68 °F (20 °C) 2 days for chemical resistance at 68 °F (20 °C)	
Further coatings	After 8-10 hours , but not longer than 36 hours at 68 °F (20 °C)	
Layer thickness	5-7 mm	

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 surface to be coated has to be levelled, with grip, has to have adequate tensile and compressive strength, has to be clean, free from laitance and dusting parts, as well as any contamination. Materials impairing adhesion, such as e.g. grease, oil, or paint residues must be removed using suitable methods. The substrate must have a sufficiently high strength for the intended use as well as for the coating. Suitable is concrete, minimum quality of C25/30 according to DIN EN 206 cement screed, and polymer-modified cement screeds, CT-C30-F5 at least, bonded, in a layer thickness of 60 and 30 mm respectively, according to DIN 18560 part 3. Screeds as separating layer or insulation, polymer-modified, CT-C40-F5 at least, with a layer thickness > 65 mm, according to DIN 18560 part 4. Other substrate is not, or is generally not suitable. The surface to be coated must be prepared mechanically, preferably by shot-blasting. The surface strength must then be at least 1.5 N/mm². Apply fastening grooves at closing-off edges, passageways, and so on, 6 - 10 mm deep and wide. For concrete, the moisture content must not exceed 6 CM-%. 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, as well as the product information of the recommended KLB-Base Coat PU-BETON 4050 Grundierung. On areas with increased thermal exposure use only PU-BETON 4050. The prepared area has to be primed accurately, saturated, and free of pores. If the substrate hasn't been sealed completely, bubbles and pores may appear due to rising air. Conduct a trial if in doubt. If necessary ask for a consultancy.

Mixing: Combi-trading units will be supplied in the correctly measured mixing ratio. Processing and material properties can only be granted when using the provided blend of the 3 components. First of all empty the binding agent components (Components A + B) completely in a clean container and blend with a slow speed mixer (200 - 400 r/pm) thoroughly. Blend for approx. 1 minute for a material that is homogeneous and free of streaks. Blending in Component C should be carried out with a compulsory mixer for a consistent mortar quality. Add the premixed binding agent into the compulsory mixer, then add Component C. Mix for a material that is homogeneous for approx. 3 minutes at 68 °F (20 °C). Lower temperature may increase, higher temperature may decrease the blending times.

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Note: Pay attention to consistent blending times. Process complete units only! Inaccurate mixing ratios will lead to useless results. Note the mixing ratio when using double units (see "Composition")!

Mixing ratios:

A:B:C= 16.25:16.25:100 parts by weight

Processing/Handling:

Distribute the mortar-mixture on the area evenly right away without any delay and pull off with a spiked coating knife. Adjust the length of spikes according to the material before starting to work. Subsequently, after a short waiting period of about 3 - 5 minutes, vent with a spiked roller using criss- cross strokes. Due to the short processing time observing the operational speed is especially important for the final result. For slip resistant surfaces scatter completely with fire-dried quartz sand 0.3/0.8 mm, or 0.7/1.2 mm, or with white corundum 0.5/1.0 mm. Seal with PU-BETON 4080 after the flow mortar has cured. Always work "fresh-in-fresh" to avoid any shoulders. Divide working areas before starting to work. Do not choose any areas that are too large. Avoid draught for surfaces free of pores. Working with mortar demands an experienced and trained staff. Floor and air-temperature must not fall below 59 °F (15 °C) and/or humidity must not exceed 40-85 %. 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. If working conditions are not complied with, deviations in the described technical properties may occur in the end product.

Build-up of Coats:Slightly non-slip, smooth coating R9

- Saturated base coat with the system based PU-BETON 4050, consumption 0.4 - 0.5 kg/m².
- Use PU-BETON 4012 for triangular or concave coverings. For a side length or radius of 5 cm consumption of approx. 2.2 - 2.8 kg per running meter. Also suitable for filling larger holes or local separations.
- If necessary: Larger uneven areas may be filled respectively levelled with PU-BETON 4006. If the application of the mortar coating will exceed the time frame, another prime coat is mandatory.
- Apply the PU-BETON 4006 with a spiked coating knife in layers of 6 mm. Consumption approx. 10 - 14 kg/m². Work fast and seamless. Vent with a spiked roller.

Coating with slip resistant grade R11/12/13

- Saturated base coat with the system based PU-BETON 4050, consumption 0.4 - 0.5 kg/m².
- Use PU-BETON 4012 for triangular or concave coverings. For a side length or radius of 5 cm consumption approx. 2.2 - 2.8 kg per running meter. Also suitable for filling larger holes or local separations.

- If necessary: Larger uneven areas may be filled respectively levelled with PU-BETON 4006. If the application of the mortar coating will exceed the time frame, another prime coat is mandatory.
- Apply the PU-BETON 4006 with a spiked coating knife in layers of 6 mm. Consumption approx. 10 - 14 kg/m². Vent with a spiked roller and scatter with fire-dried sand grain size 0.3/0.8 mm or 0.7/1.2 mm or white corundum 0.5/1.0 mm, consumption approx. 2.0 - 2.5 kg/m².
- After curing sweep off and vacuum thoroughly until no more sand is released.
- Apply PU-BETON 4080 with a rubber squeegee and roll with a velour roller, using criss- cross strokes. Consumption approx. 0.650 - 0.900 kg/m². Work fast and seamless.

It is mandatory to stay within the recommended consumption for the slip resistance grade.

COVERAGE

Approx. 10-14 kg/m² at 5-7 mm.

SPECIAL CONSIDERATIONS

To remove fresh contamination and to clean tools, use thinner VR 28 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 40

Indication of VOC-Content: (EG-Regulation 2004/42), Maximum Permissible Value 140 g/l (2010,II,j/wb): Ready-for-use product contains < 140 g/l VOC.

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

PACKAGING

PU-BETON 4006 consists of the following components:

Standard-Unit

1 Sale-Unit	PU 4000	Component A	3.25 kg
1 Sale-Unit	PU 4000	Component B	3.25 kg
1 Bag	PU 4006	Component C	20.00 kg
Total quantity			26.50 kg

Double-Unit

1 Sale-Unit	PU 4000 DB	Component A	6.50 kg
1 Sale-Unit	PU 4000 DB	Component B	6.50 kg
1 Bag	PU 4006	Component C	40.00 kg
Total quantity			53.00 kg

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STORAGE / SHELF LIFE

Store in dry and frost-free conditions. Ideal storage temperature is between 59 - 68 °F (15 - 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

Classification of the fire behaviour according DIN EN 13501-01:2010-01: Bfl-s1.

Slip resistance grade R11, R12/V6, R13/V4, R13/V6 possible, according to DIN 51130 and BGR 181.

Slip resistance grade R9 possible, in combination with PU-BETON 4080 Kopfsiegel R10, according to DIN 51130 and BGR 181.

Suitable for use in foodstuffs according § 31 para. 1, German Food and Feed Code (German law LFGB).

Please ask for the tested system structure.



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PU4006-V1-022013
DIN EN 13813:2003-01
Synthetic resin screed mortar
DIN EN 13813: SR-B1.5-AR0.5-IR4
Fire behavior: Bfl-s1
Emission of corrosive substances: SR
Wear resistance BCA: AR 0.5
Adhesive tensile strength B 1.5
Impact resistance: IR 4

WARRANTY - DISCLAIMER

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