

Technical Data Sheet

33.06.408E – 07/06

® KERANOL UP 311

Synthetic resin-based bedding and jointing mortar for heavily stressed tiling and brick linings

Description

KERANOL UP 311 is a bedding and jointing two-component mortar based on unsaturated polyester and vinyl ester resins.

Typical uses

KERANOL UP 311 is suitable as a bedding and jointing material for ceramic surfaces and brick linings that are subjected to severe chemical stress conditions, such as acids and/or oxidising media. The main application covers ceramic coatings and brick linings applied in plants operated by the chemical industry, neutralisation plants, waste water and process water treatment systems, pits and collection tanks, traffic and reloading areas, food and beverage industry and breweries.

Advantages

KERANOL UP 311 is characterised by its excellent mechanical properties and also offers a broad chemical resistance. Additionally to its excellent resistance properties against strong acids, its suitability to oxidising substances is particularly remarkable. The mortar hardens with a minimum of shrinkage and is executed in a light colour tone.

Chemical resistance

Information on the chemical resistance properties will be provided on request.

Substrate

The substrate is defined as a respective sealing layer and acid-proof ceramic material.

Surface pretreatment

The surface must be free of any substances that may act as separating agents as well as any impurities.

Application

KERANOL UP 311 consists of a two component mortar mixture. With the exception of vinyl ester resins based surfaces, all sealing layers prior to the mortar application shall be primed with a three-component primer and subsequently strewn with KCH Powder 6.

Mixing ratios	Parts by weight (kg)	Parts by volume (l)
<u>Primer</u>		
KCH UP solution 1	100	2.00
KCH UP Solution 3	10	0.17
KCH UP hardener 2	3	1 bag (60g)
<u>Bedding and jointing mortar</u>		
KCH UP solution 4	100	2.00
KCH UP powder 7	300	4.40

The ceramic bricks or tiles may be laid once the primer is "hand-dry".

Pot life

Temperature	Primer	KERANOL VE 310
15°C	~ 45 minutes	~ 40 minutes
20°C	~ 35 minutes	~ 30 minutes
30°C	~ 15 minutes	~ 12 minutes

Coverage

Primer: KCH powder 6 approx. 0.25 kg/m²
approx. 1.0 kg/m²

Bedding and jointing (bed joint 5mm / cross joint 7mm):

Split tiles 240 x 115 x 20 approx. 14 kg/m²
Split tiles 240 x 115 x 40 approx. 17 kg/m²
Bricks 240 x 115 x 65 approx. 21 kg/m²
Bricks 240 x 115 x 80 approx. 23 kg/m²

Packing

The following standard quantities are available:

KCH UP solution 1 5, 20 kg
KCH UP solution 3 0.5, 20 kg
KCH UP hardener 2 bag 60 g
KCH powder 6 25 kg
KCH UP solution 4 20 kg
KCH UP powder 7 25 kg

Storage

The products shall be stored in a cool and dry place. With a storage temperature of 23°C the minimum shelf life is as follows:

KCH UP solution 1	6 months
KCH UP solution 1 < 15 °C	9 months
KCH UP solution 3	6 months
KCH UP solution 3 < 15 °C	9 months
KCH UP hardener 2	6 months
KCH powder 6	24 months
KCH UP solution 4	6 months
KCH UP solution 4 < 15 °C	9 months
KCH UP powder 7	12 months

Higher temperatures will shorten the shelf life of this products. The packaging drums are to be kept tightly shut and are to be resealed each time material has been removed. All liquid products must be stored frost-free.

Safety

Adequate ventilation is to be provided while work is in progress. Ventilation is compulsory for all work carried out in pits and closed rooms.

All vapours that are produced while work is in progress must be continuously suctioned off at floor or bottom level.

Only the amount of material effectively required to continue work is to be stored at the working place. The instructions for the prevention of fire and explosion are to be observed if required.

Please note and ensure that even the smallest quantities of the individual components and/or prepared mixtures are not allowed to reach the sewerage.

All regulations for the prevention of accidents stipulated by the employer's liability assurance association, the regulations for the prevention of accidents prescribed at the site of application and the TRGS 507 „Surface treatment in rooms and tanks“, as well as the safety precautions listed on the packing (label) required by the provisions of the Hazardous Materials Ordinance shall be adhered to. The operating instructions pursuant to § 14 GefStoffV as well as the EC safety data sheets are to be complied with.

Technical data	Test specification	Unit	Parameter
Density	DIN EN ISO 1183-1	g/cm ³	1.8
Compressive strength	DIN EN ISO 604	MPa	100
E-Module (pressure)	DIN EN ISO 604	MPa	7,000
Adhesive strength ^{*)}	DIN EN 24624	MPa	> 3
Hardness	DIN 53505	Shore D	80
Dissipation Resistivity (to ground)	DIN EN ISO 1081	Ω	> 10 ⁹
Linear thermal expansion coefficient	DIN 53752	K ⁻¹	35 · 10 ⁻⁶
Max. operational temperature		°C	100

^{*)} on vinyl ester resin sealing layer

The technical data contained herein represents the current state of our product knowledge and is intended to furnish general information regarding our products and their application spectrum. In view of the diversity and multitude of application possibilities, this data should be regarded solely as general information, which does not guarantee any specific properties and/or suitability of these products for each concrete case of application. Consequently, when ordering a product, please contact us for detailed information relative to the properties required for a specific application. Our technical service will, upon request, furnish a profile of characteristics for the concrete application without delay.

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