Product Information

Dolit OC

KI.UP.001 | 09/02/2022

PRODUCT GROUP

Mortar - Synthetic resin

BINDER BASE

Unsaturated polyester resin

PROPERTIES / APPLICATION

Laying and jointing mortar based on a modified unsaturated polyester resin and a hydrofluoric acid-resistant filler for easy laying and jointing of acid-resistant ceramic tiles, bricks or carbon bricks.

Synthetic resin mortar for the manufacturing of corrosion-resistant tilings and brick linings of pits, channels, secondary compartments , storage areas or workshops which are exposed to aggressive chemicals, in particular alkali, hydrofluoric acid or silicofluoric acid.

Typical areas of application are in the chemical industry or the metal processing industry, e.g. in pickling, cleaning or neutralisation plants.

- Temperature resistance
  - Up to 100 °C
  - The temperature resistance is basically dependent on the individual chemical stress.
- Very high chemical resistance to a wide range of media, such as:
  - Various inorganic and organic acids and alkalis
  - Hydrofluoric acid and silicofluoric acid
  - Oxydising media
- Can be used inside buildings or outdoors.
- Excellent adhesion to ceramic tiles, bricks or carbon bricks.

SYSTEM DESIGN

Dolit OC mortar mass [▸ 3]

PHYSICAL DATA

Physical property	DIN	ASTM	Value	Unit
Density	DIN EN ISO 1183-1	ASTM D 792	2.7	g/cm³
Flexural strength *	DIN EN ISO 178	ASTM C 580	30	MPa
Compressive strength *	DIN EN ISO 604	ASTM C 579	87	MPa
Tensile strength *	DIN EN ISO 527		15	MPa
Modulus of elasticity *	DIN EN ISO 178	ASTM C 580	4×10^3	MPa
Therm. Coefficient of linear expansion	ISO 11359-2	ASTM C 531	3.2×10^{-5}	1/K
Thermal conductivity	ISO DIN 22007		1.0	W/mK

* Mean value, determined on annealed samples

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PRECONDITIONS

The substrate, ambient air and Dolit materials must be in the temperature range between 10 °C and 30 °C during application. The optimum processing temperature is 20 °C. Higher and lower temperatures affect the working time and consistency of the composition. Consumption and application performance may change as a result.

During application, the substrate must be kept absolutely dry. No moisture (condensate, mist, etc.) may get onto the surfaces to be protected.

Unevenness must already be levelled out in the substrate.

Distance to dew point has to be at least 3 K, at a relative humidity of above 70 % at least 5 K.

The construction site must be protected from draught and direct sunlight.

Dolit mortar systems can be used for the full-joint or hollow-joint installation of tiles and bricks. Normally, the build-up is carried out on one of the coating or lining systems from the CRS programme under the conditions and system build-ups described there (e.g. execution of an adhesive layer). If such a sealing layer is not used, at least a suitable primer with appropriate sprinkling must be provided.

If tiles laid in a hollow joint are to be jointed with a Dolit mortar material, the bedding joint must be hardened and dry again. The open joint should have a rectangular cross-section, be at least 15 mm deep and 5 - 8 mm wide. The side surfaces of the tiles must be free of mortar material and the joint must be clean.

DELIVERY FORM / BEST BEFORE DATE

Component	Item no.	Quantity	Package	Months
Dolit-OC-Solution	5236007001	25 kg	Hobbock	6
Dolit-Filler OC	5211104001	25 kg	Bag	12

- All components must be stored and transported in a dry place.
- The minimum shelf life applies to a storage temperature of 20 °C. Higher temperatures shorten, lower temperatures extend the minimum shelf life.

Safety notice

- For handling, storage and transport, observe the relevant safety data sheets!

GISCODE

Product	GISCODE
Dolit OC mortar mass	SB-STY10

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MIXING RATIO / CONSUMPTION

BEDDING AND JOINTING MORTAR

DOLIT OC MORTAR MASS

Component	kg/litre	Part by weight	kg / mix	Litres / batch
Dolit-OC-Solution	0.450	100	2.500	2.400
Dolit-Filler OC	2.250	500	12.500	9.600
Total	**2.700**	**600**	**15.000**	

Volume per batch	≈ 5.5 l Mortar mass

Mortar required for full-length installation (bedding joint 5 mm, butt joint 7 mm)		
Split tiles 240 x 115 x 20 mm	≈ 7.5 l	17.25 kg/m²
Split tiles 240 x 115 x 40 mm	≈ 9.5 l	21.85 kg/m²
Bricks 240 x 115 x 65 mm	≈ 11.5 l	26.45 kg/m²
Bricks 240 x 115 x 80 mm	≈ 13.0 l	29.90 kg/m²
Bed joint thickness	4 – 7 mm	
Joint width	5 – 8 mm	

MIXING / APPLICATION

Processing may only be started when the application requirements are met and can be maintained during the entire processing and curing.

WORKING EQUIPMENT

Mortar mixer	Joint board (rubber chip)	Drilling machine
Trowel	Measuring cup	Anchor stirrer
Joint iron	Scale	
Joint injector	Mixing vessel	

MIXING SEQUENCE

- At high ambient temperatures, mix smaller quantities of mortar to avoid a strong exothermic reaction of the mixture.
- Stir the solution well with an anchor stirrer (300 - 500 rpm) before use or partial withdrawal. Move the stirrer past the vessel wall and bottom
- Liquid components are measured or weighed and transferred to a mixing vessel.
- Solids are measured or weighed out individually, added to the solution in portions and mixed in carefully with an anchor stirrer (300 - 500 rpm) until a lump-free mixture is obtained.
- During the mixing process, move the stirrer past the vessel wall and bottom several times.
- Smaller quantities can be mixed by hand.
- Do not use the mortar after the working time has expired.

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APPLICATION

- The mortar can be used for the full-joint or hollow-joint installation of tiles and bricks.
- Bedding joint is applied to the substrate in a thickness of 4 - 7 mm.
- When applying ceramic tiles or bricks, especially on flexible (elastomeric) substrates such as **Dolit Acid protection lining**, laying field sizes of about 3 x 3 m should be observed. The separating joints between the fields are sealed after completion of the first curing phase (usually after 1 - 2 days).
- For full-joint application, apply the mortar to two side edges of the tiles or bricks. Then place the tile or brick in position.
- Remove the mortar bead with the trowel and smooth out the joint.
- With hollow joint installation, the butt joint remains free and is filled later.
- In order to obtain visually flawless surfaces after jointing, the use of **Dolit protective varnish**, hard wax or clinker oil is recommended, depending on the tiles used. Check the use on a test area in advance.
- Special care should be taken to ensure that the work is free of voids.
- The subsequent jointing can be done with a joint injector, joint iron or joint board.
- To compact the joint, excess material is pressed into the joint with the joint iron. Remaining material is removed with the trowel.

POT LIFE

- At 20 °C the pot life is approx. 30 - 60 min.
- The pot life depends on the temperature.
- Higher temperatures shorten it, lower temperatures prolong it.

WAIT- / CURING TIME

- Waiting time until walkability (at 20 °C) at least 4 hours.
- Curing time until complete chemical and mechanical resistance (at 20 °C) at least 5 days.

CLEANING

Tools that are soiled with uncured materials can be cleaned with Dolit-Universal-Cleaner. Clean only in well ventilated areas and observe safety measures.

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SAFETY / DISPOSAL

- Ensure sufficient ventilation, especially when working in closed rooms, pits or containers.
- Observe fire and smoking ban.
- Observe safety data sheets, hazard statements and safety advice on the containers.
- Wear prescribed personal protective equipment. Avoid skin contact with the materials.
- Clean and care for hands with skin protection soap and ointment. Do not use solvents.
- Wear a dust mask during grinding work, e.g. repairs.
- Follow operating instructions according to §14 GefahrstoffV and Technical Rules for Hazardous Substances TRGS 507.
- Comply with the accident prevention regulations of the employers' liability insurance associations.
- Avoid direct contact of the materials with the flame, especially when welding, watch out for welding beads.
- Preferably consume residual quantities.
- Do not pour residues down the sink or into the dustbin.
- Collect residues for disposal separately in durable, sealable and labelled containers.

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