

Product Information

Dolit^{CN}

KI.PH.001 | 09/02/2022



PRODUCT GROUP

Mortar - Synthetic resin

BINDER BASE

Phenolic resin

PROPERTIES / APPLICATION

Laying and Jointing mortar based on a modified phenolic resole and a carbonaceous filler for easy laying and jointing of acid-resistant ceramic tiles, bricks or carbon bricks.

Wide range of applications for the manufacturing of brick linings in process tanks in the chemical industry, ore processing, flue gas cleaning, etc. or as a laying and jointing mortar for tiling on floor and wall surfaces subject to high thermal, mechanical and chemical stresses.

- Temperature resistance
 - Up to 180 °C wet load
 - Up to 200 °C dry load
 - 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 (including hydrofluoric acid), greases, oils and fuels, solvents and various hydrocarbons.
- Can be used inside buildings or outdoors.
- Excellent adhesion to ceramic tiles, bricks or carbon bricks.
- When heated for the first time, **Dolit CN** undergoes permanent expansion and is therefore suitable for the manufacturing of prestressed brickwork.
- Electrically conductive (see **Testing the electrostatic discharge capacity** ► 5).

SYSTEM DESIGN

Dolit CN mortar mass ► 3

PHYSICAL DATA

Physical property	DIN	ASTM	Value	Unit
Density	DIN EN ISO 1183-1	ASTM D 792	1.5	g/cm ³
Shore D hardness	DIN 53505	ASTM D 2240	70	Shore D
Abrasion resistance	DIN 52108	ASTM C 241	10	cm ³ / 50 cm ²
Flexural strength *	DIN EN ISO 178	ASTM C 580	24	MPa
Compressive strength *	DIN EN ISO 604	ASTM C 579	65	MPa
Tensile strength *	DIN EN ISO 527		8.5	MPa
Modulus of elasticity *	DIN EN ISO 178	ASTM C 580	3 x 10 ³	MPa
Adhesive strength to ceramic tiles	DIN EN ISO 4624		> EZF	MPa
Adhesion to carbon tiles	DIN EN ISO 4624		> EZF	MPa
Therm. Coefficient of linear expansion	ISO 11359-2	ASTM C 531	1.9 x 10 ⁻⁵	1/K
Thermal conductivity	ISO DIN 22007		1.7	W/mK
Electr. leakage resistance	DIN EN 14879-6 At >70% relative humidity	ASTM F 150/98	≤ 10 ⁶	Ω

EZF = Inherent tensile strength

* Mean value, determined on annealed samples

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.

If the tiles are hollow-jointed and laid in alkaline mortar material, the bedding joint must be acidified with 20% alcoholic sulphuric acid.

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DELIVERY FORM / BEST BEFORE DATE

Component	Item no.	Quantity	Package	Months
Dolit-CN-Solution	5233007001	25 kg	Hobbock	12
Dolit-CN-Powder	5233045021	15 kg	Bag	24

- 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 CN mortar mass	SB-P30

MIXING RATIO / CONSUMPTION

BEDDING AND JOINTING MORTAR

DOLIT CN MORTAR MASS

Component	kg/litre	Part by weight	kg / mix	Litres / batch
Dolit-CN-Solution	0.577	100	2.000	1.650
Dolit-CN-Powder	0.923	160	3.200	4.600
Total	1.500	260	5.200	

Volume per batch	≈ 3.45 l Mortar mass
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NOTE!

Dolit-CN-Powder may be varied in quantity by up to 10%. Depending on temperature and viscosity of the solution.

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	11.25 kg/m ²
Split tiles 240 x 115 x 40 mm	≈ 9.5 l	14.25 kg/m ²
Bricks 240 x 115 x 65 mm	≈ 11.5 l	17.25 kg/m ²
Bricks 240 x 115 x 80 mm	≈ 13.0 l	19.50 kg/m ²
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.

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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.
- Check solution for separated water before use (condensation product of the resin, separates on the surface). Pour off any water, do not stir in.
- Stir well. 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.

APPLICATION

- The mortar can be used for the full-joint or hollow-joint installation of tiles or bricks.
- Bedding joint is applied to the substrate in a thickness of 4 - 7 mm.
- 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 24 hours.
- Curing time until complete chemical and mechanical resistance (at 20 °C) at least 8 days.
- Optimum resistance to some solvents is only achieved after several weeks at normal temperature. This process can be accelerated by heat treating the finished flooring or brick lining.

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.

TESTING THE ELECTROSTATIC DISCHARGE CAPACITY

The measurement of the earth leakage resistance R_E is carried out with a commercially available resistance measuring device up to 10^8 Ohm with 100 volts DC as measuring voltage. A circular electrode with a diameter of 50 mm is used as the measuring electrode. As a contact mediator, a 50 mm diameter flow paper slightly moistened with tap water is placed on the surface of the tile. During the measurement, a force of approx. 10 N is applied to the base.

The test takes place at the construction site and is carried out at the earliest 8 days after installation. In the case of non-electrically conductive ceramic tiles, measurements are taken in the area of the joint. Tile flooring needs to be cleaned before the test. There must be no insulating layers.

For non-conductive tiles, the panel size must not exceed the following dimensions to ensure conductivity across the joint material:

- For rectangular tiles 115 x 240 mm
- For square panels: 150 mm x 150 mm

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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This issue replaces all previous versions.