

## I. Product description

2-component synthetic resin mortar, cold curing, with outstanding solvent resistance.

## II. Properties and application

For bricklaying and jointing bricks, tiles and shapes of ceramic and carbon. For the production of chemically, thermally and mechanically resistant coverings and linings. For lining of chemical apparatus (reactors, columns, gas scrubbers etc.), which are exposed to high temperatures and aggressive chemicals.

Resistant to various solvents and other organic compounds such as CHC (including dichloromethane and EDC).

Particularly suitable for tanks because the relatively high shrinkage is not as important as with particularly large-scale floor coverings.

The cured mortar is electrically conductive and suitable for conductive coverings.

## III. Physical Data

Property [unit], Test method	Value
Density [g/cm <sup>3</sup> ], DIN EN ISO 1183-1, ASTM D 792	1.55
Flexural strength [MPa], DIN EN ISO 178, ASTM C 580	30
Compressive strength [MPa], DIN EN ISO 604, ASTM C 579	70
Modulus of elasticity [MPa], DIN EN ISO 178, ASTM C 580	3000
Shore D hardness, DIN 53505, ASTM D 2240	> 60
The thermal coefficient of linear expansion [1/K], ISO 11359-2, ASTM C 531	24 x 10 <sup>-6</sup>
Thermal conductivity [W/mK], ISO DIS 22007	2.00
max. working temperature (°C)	220
Adherence to ceramic bricks [MPa], DIN EN ISO 4624	1.00
On carbon parts	>Inherent tensile strength
Data are mean values	

## IV. Chemical Resistance

+ = resistant at 20 °C

(+) = short time resistant

- = not resistant

### Chemical resistance WB Dolit FN Kitt D.105

Acetone	+	Isopropanol	+	Nitric acid 5 %	+
Aldehyde	+	Methanol / Ethanol	+	Hydrochloric acid 37 %	+
Ammonia 25 %	+	Methylisobutylketone	+	Sulfuric acid 70 % at 100°C	+
Chlorine bleaching 13 %	-	Mineral oils	+	Toluene / Xylene	+
Chromic acid 10 % CrO <sub>3</sub>	(+)	Sodium hydroxide solution / potash lye 50 %	+	Trichlorethylene	+
Acetic acid 100 %	+	Oleic acid	+	Hydrogen peroxide 30 %	-
Ethyl acetate	+	Petrol	+		
Hydrofluoric acid 50 %	+	Phosphoric acid 85 %	+		

## V. Preconditions

Uneven spots should be levelled in the substrate already. Do not apply the mortar directly to the substrate! If the substrate is not provided with a surface protection system, apply with a suitable primer and sprinkle if necessary. Please contact our Application Technology Department for possible solutions.

Usually the mortar is applied onto CRS coating systems or rubber linings.

### Requirements

Processing temperature	approx. 10–30 °C
Dew point distance	> 3 K
Dew point distance from 70% air humidity	> 5 K

Optimal temperature is 20 °C. Higher and lower temperatures influence the processing time and consistency of the compounds and can change consumption, coating thickness and properties.

Curing is considerably delayed below 15 °C!

### Concrete / screed

Refer to DIN EN 14879-1.

To attain a sufficient adhesive tensile strength, the substrate is generally to be pretreated in such a way that it is free of cement slurry, cement skin, loose and crumbly particles, structure imperfections and separating substances.

The residual moisture of cementitious substrates must not exceed 4 %.

### Steel

Refer to DIN EN 14879-1.

The steel surface shall be sandblasted to a metallic bright finish. A preparation degree of SA 2 ½ as specified in DIN EN ISO 12944-4 and a roughness grade "medium (G)" as specified in DIN EN ISO 8503-1 must be achieved; minimum surface roughness Rz = 70 µm. After blasting, the formation of new rust must be prevented by suitable measures, e. g. priming directly.

### Moisture

During application, the substrate must remain dry. No moisture (condensate, mist) may enter in open joints, onto the bedding joint or the undersides and edges of tiles.

## VI. Components

All components must be stored and transported dry. The minimum storage life applies to a storage temperature of 20 °C, unless otherwise specified. Higher temperatures reduce, lower temperatures increase the minimum shelf life.

Components	Item number	Package	Content	Shelf life
Dolit-FN-Solution	5233007018	Barrel	50 kg	24 Months
Dolit-FN-Solution	5233007001	Hobbock	25 kg	24 Months
Dolit-FN-Powder	5233036021	Bag	15 kg	24 Months
Dolit-Universal-Cleaner	5240023005	PE canister	4 kg	24 Months

**Safety precautions:** For handling, transport and storage observe the relevant material safety data sheets.

## VII. Mixing ratios, mixing sequence and consumption

### Dolit FN Mortar

Component	l / batch	kg / batch	Consumption kg / liter
Dolit-FN-Solution	2.000	2.400	0.547
Dolit-FN-Powder*	5.500	4.400	1.003
<b>Total</b>		<b>6.800</b>	<b>1.550</b>

(\*) Dolit-FN-Powder can be varied by up to 10%  
(depending on the temperature and viscosity of the Dolit-FN-Solution).

10 % must be added to the calculated project requirement for bedding and butt joints as a reserve.

Consumption per mm thickness in kg/m<sup>2</sup> (approx.): 1.550

Mixture yield in l (approx.):

4.4

### Mortar requirement per m<sup>2</sup> (approx.)

Split tiles 240 x 115 x 20 mm	7.5 l	11 kg
Split tiles 240 x 115 x 40 mm	9.5 l	14 kg
Bricks 240 x 115 x 65 mm	11.5 l	17 kg
Bricks 240 x 115 x 80 mm	13 l	19 kg
By filled-joint laying (bedding joints 5 mm / butt joints 7 mm)		

### Joint dimensions (in mm)

Bed joint thickness	4–7
Joint width	4–8
Depth of joints by hollow joint laying	min. 15

1 liter material spread over 1 m<sup>2</sup> is always 1 mm layer thickness.

### Mixing sequence

**CAUTION! At high ambient temperatures, mix smaller amounts of mortar to avoid a strong exothermic reaction of the mixture.**

1. Stir the mortar solution well before use with the mastic paddle (also for partial removal). Then measure or weigh the solution and transfer to a mixing vessel.
2. The materials are mixed in a mixing vessel with a drill and mortar whisk at 300-500 rpm. Lead the whisk alongside wall and bottom of the vessel, until a homogeneous mixture is obtained.
3. Solids are individually measured or weighed, added to the solution in portions and stirred in as described until a lump-free mixture is formed.

Small amounts can be mixed by hand. Do not use the mortar after the pot life has elapsed!

## VIII. Application, pot life

- Application may only be started when the conditions specified in the chapter "Preconditions" have been met.
- If the materials can not be handled at optimum working temperatures of approx. 10-30 °C, they must be cooled or heated to 20 °C.

### Dolit FN

The mortar can be applied with filled joints and hollow joints. The bedding joint should be 4-7 mm thick.

With filled joints the mortar is applied to the underside and two side edges of the tiles or bricks before they are put on. Remove the cement bulge with the trowel and smooth it down.

Tiles and bricks are placed on the bedding joint with hollow joints, the butt joint remains free and is filled later. Here is to pay attention to cavity-free work.

For jointing, work the mortar into the dry and clean joint with the jointing injector. Cut the tip of the jointing injector so that it fits into the joint and can be filled from below. To compact the joint, press excess material over the edge of the joint with the joint trowel and then remove the remains with a trowel.

Smooth the joints before curing. For this purpose, a joint trowel is wetted with Universal Cleaner.

## Pot life

The pot life at a material temperature of 20 °C approx. 30–60 minutes. It also depends on the batch.

Higher temperatures reduce, lower temperatures extend the pot life.

## IX. Working Equipment

Measuring cup, balance, mixing vessels, drilling machine, mortar whisk

Cement mixing machine, trowel, tooth trowel, joint trowel, jointing injector

## X. Waiting and curing times

Waiting time until walkability depends on temperature and is at 20 °C approx. 24 hours.

Curing is considerably delayed below 15 °C!

The finished coating must be put into operation at 20 °C early after 7 days. In the case of apparatus brick lining, the optimum resistance (especially to solvents) is achieved after post-heat treatment with water (16–24 hours at 70–80 °C).

If there is a long waiting time before start up, please consult the Application Technology Department.

## XI. Safety and Disposal

- sufficient aeration and de-aeration (especially in tanks and pits)
- no smoking/no fire
- refer to the Safety Data Sheets.
- observe hazard warnings and safety instructions on labels.
- wear required personal protective equipment (avoid skin contact with materials).
- clean and protect hands with skin protective soap and skin protection cream (no solvents).
- wear a dust mask when sanding (e.g. for repairs).
- instructions as per § 14 of GefahrstoffV (Toxic Substances Act) and TRGS 507 (Technical regulations for Hazardous Substances - Germany).
- accident prevention regulations by the Liability Insurance Association for the Chemical Industries (Germany).

Do not expose materials to heat or open flame, this applies in particular to welding works (weld beads).

Preferably consume residual quantities. Do not pour into a spout or dustbin! Collect separately for disposal in durable, lockable and labeled containers.

## XII. GISCODE

Product	GISCODE
Dolit FN Mortar	SB-F 30

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This issue replaces all previous versions.