Product Information

Dolit K14+

KI.WG.005 | 09/02/2022

PRODUCT GROUP

Mortar, Water glass

BINDER BASE

Water glass

PROPERTIES / APPLICATION

Dolit K14+ has the highest thermal resistance in the CRS mortar range at 1400 °C. The main area of application is the temperature-resistant and chemically resistant lining of rotary kilns, drying drums, roasting kilns, sulphate kilns, etc.

Dolit K14+ is suitable as a laying and jointing mortar for laying refractory and/or acid-resistant ceramics. For refractory linings, it is usually used when fireclay mortars are not suitable because the mechanical strength and/or chemical resistance is not high enough. Already during the production of the refractory lining, inherent stability is achieved with **Dolit K14+**.

- Temperature resistance
  - Up to 1400 °C
  - The temperature resistance is basically dependent on the individual chemical stress.
- Very high acid resistance (but not to hydrofluoric acid).
- Very good resistance to aggressive gases or flue gas components (e.g. sulphur oxides), even at very high temperatures.
- Rapid sintering
- High inherent stability during bricklaying.
- Short drying process, as no water is added and dry bricks are laid.

SYSTEM DESIGN

Dolit K14+ mortar mass [▸ 3]

PHYSICAL DATA

Physical property	DIN	ASTM	Value	Unit
Density	DIN EN ISO 1183-1	ASTM D 792	2.0	g/cm³
Flexural strength *	DIN EN ISO 178	ASTM C 580	6	MPa
Compressive strength *	DIN EN ISO 604	ASTM C 579	20	MPa

* 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.

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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.

STEEL

Refer to DIN EN14879-1.

The steel surface is blasted to near white blast cleaning. A surface cleanliness of Sa 2½ according to DIN EN ISO 12944-4 and the roughness grade "Medium (G)" according to DIN EN ISO 8503-1; minimum surface roughness R_z = 70 µm must be achieved. After blasting, the reformation of rust must be prevented by suitable measures.

DELIVERY FORM / BEST BEFORE DATE

Component	Item no.	Quantity	Package	Months
Dolit-K14-Solution	5221009001	25 kg	Hobbock	24
Dolit-K14-Plus-Powder	5221015001	25 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 K14+ mortar mass	n/a

MIXING RATIO / CONSUMPTION

PRIMER ON STEEL SURFACES

DOLIT K14+ PRE-COAT

Component	kg/m²	Part by weight	kg / mix	Litres / batch
Dolit-K14-Solution	0.500	100	12.500	9.300
Dolit-K14-Plus-Powder	0.500	100	12.500	9.000
Total	**1.000**	**200**	**25.000**	

Area per batch	≈ 25 m²

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BEDDING AND JOINTING MORTAR

DOLIT K14+ MORTAR MASS

Component	kg/litre	Part by weight	kg / mix	Litres / batch
Dolit-K14-Solution	0.500	100	1.350	1.000
Dolit-K14-Plus-Powder	1.500	300	4.050	2.900
Total	**2.000**	**400**	**5.400**	

Volume per batch	≈ 2.7 l Mortar mass

Mortar required for full-length installation (bedding joint 5 mm, butt joint 8 mm)		
Split tiles 240 x 115 x 20 mm	≈ 7.5 l	15.00 kg/m²
Split tiles 240 x 115 x 40 mm	≈ 9.5 l	19.00 kg/m²
Bricks 240 x 115 x 65 mm	≈ 11.5 l	23.00 kg/m²
Bricks 240 x 115 x 80 mm	≈ 13.0 l	26.00 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

Lambskin roller	Mortar mixer	Joint injector
Brush	Trowel	Joint board (rubber chip)
Surface brush	Joint iron	

MIXING SEQUENCE

- Stir the solution well with the 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.

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APPLICATION

- To prevent rusting, steel surfaces should be coated with **Dolit K14+ Voranstrich** immediately after blasting. To do this, apply **Dolit K14+ primer** evenly to the steel surface.
- The mortar can be used for the fully saturated laying of tiles or bricks.
- Apply the bedding joint to the substrate.
- 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.
- Special care should be taken to ensure that the work is free of voids.
- Subsequent jointing can be done with a joint iron or jointing 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

- Commissioning of tile linings or brick linings after 5 days at the earliest.
- Commissioning of tile linings or brick linings when exposed to liquids above 150 °C after 8 - 10 days at the earliest.
- Lined tanks and apparatus should first be started up with diluted mineral acids.
- In the case of a longer time interval between completion and start-up or during prolonged downtime, it is expedient to fill one third of the tank or apparatus with low-concentrated acidic water. Open tanks must be covered.

CLEANING

Tools soiled with uncured materials can be cleaned with water.

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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