Product Information

# Dolit HSP

BS.WG.001 | 09/02/2022

## PRODUCT GROUP

Spray lining

## BINDER BASE

Water glass

## PROPERTIES / APPLICATION

**Dolit HSP** is a halogen-free water glass mortar which has been optimised for application by spraying (comparable to shotcrete). For fast and uncomplicated application, only water is added to the compact system with formulated hardener to chemically cure the mortar.

A typical application is the efficient production of monolithic coatings on thermally and chemically stressed, dimensionally stable and torsion-free steel surfaces, e.g. in chimney flues, cyclones, hot blast stacks or flue gas flues.

The ideal layer thickness should be 10 - 20 mm.

In case of spray application, ensure that there is sufficient space for handling the spray equipment (min. 1.5 m in diameter).

Not recommended for storage tanks.

- Temperature resistance
  - Up to 900 °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.
- Optimum adhesion to steel with approximately the same coefficient of expansion.

## SYSTEM DESIGN

**Dolit HSP mortar mass [▸ 2]**

## 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 | 10 | MPa |
| Compressive strength * | DIN EN ISO 604 | ASTM C 579 | 30 | MPa |
| Therm. Coefficient of linear expansion | ISO 11359-2 | ASTM C 531 | 1.2 x $10^{-5}$ | 1/K |

* 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.

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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.

## 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-HSP-Powder | 5221016001 | 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 HSP Spray coating | n/a |

## MIXING RATIO / CONSUMPTION

## MORTAR COATING COMPOUND

### DOLIT HSP MORTAR MASS

| Component | kg/litre | Part by weight | kg / mix | Litres / batch |
|---|---|---|---|---|
| Dolit-HSP-Powder | 1.770 | 100 | 25.000 | |
| Water | 0.330 | 19 | 4.600 | |
| **Total** | **2.100** | **119** | **29.600** | |

| | |
|---|---|
| Volume per batch | ≈ 14 litres |
| Consumption per mm | ≈ 2.10 kg/m² |

## 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

Concrete spraying machine with blast rotor

Delivery hose Ø 25 - Ø 32 mm

## APPLICATION

- **Dolit-HSP-Mehl** according to the manufacturer's instructions for the spraying equipment and apply quickly.
- Adjust the delivery pressure so that there is no excessive loss of material due to rebound (approx. 2-3 bar).

## POT LIFE

- At 20 °C the pot life is approx. 3 - 5 min.
- The pot life depends on the temperature.
- Higher temperatures shorten it, lower temperatures prolong it.

## WAIT- / CURING TIME

- The waiting time until further processing is approx. 24 h at 20 °C.
- The thermal load capacity at 20 °C is guaranteed after approx. 48 h. The first heating up must be done slowly.
- The coating is fully chemically resistant after 14 days.

## 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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