

I. Product description

Halogen-free water glass mortar. Optimised for application by spraying (comparable to shotcrete). Compact system with integrated hardener that is mixed with water for application and then hardens by chemical reaction.

II. Application and properties

- 💡 Special protective building material, halogen and fluoride-free
- 💡 Extremely high acid resistance
- 💡 Temperature resistant up to 900 °C
- 💡 Very good adhesion to steel, with approximately the same expansion coefficient

The mortar is used as corrosion protection, i.e. a monolithic coating, on larger building and tank surfaces that are dimensionally stable (torsion-free). The layer thickness should be between 10 and 20 mm.

For steel surfaces, e.g. steel chimneys, cowpers and cyclones. Not recommended for steel liquid storage tanks. The components to be coated must have sufficient space for handling the spraying equipment. The free working space should not be smaller than 1.50 m in diameter.

III. Physical Data

Property [unit], Test method	Value
Density [g/cm³], DIN EN ISO 1183-1, ASTM D 792	2.0
Flexural strength [MPa], DIN EN ISO 178, ASTM C 580	10
Compressive strength [MPa], DIN EN ISO 604, ASTM C 579	30
The thermal coefficient of linear expansion [1/K], ISO 11359-2, ASTM C 531	12 x 10 ⁻⁶

Data are mean values.

IV. Chemical Resistance

+ = resistant at 20 °C

(+) = short time resistant

- = not resistant

Substances

Acetone	+	Isopropanol	+	Phosphoric acid 85 %	+
Ammonia 25 %	+	Methanol / Ethanol	+	Nitric acid 65 %	+
Chlorine bleaching 13 %	-	Methylisobutylketone	+	Hydrochloric acid 37 %	+
Chromic acid 20 % CrO ₃	+	Mineral oils	+	Sulfuric acid 90 % at 100°C	+
Acetic acid 100 %	+	Sodium hydroxide solution / potash lye 50 %	-	Toluene / Xylene	+
Ethyl acetate	+	Oleic acid	+	Trichlorethylene	+
Hydrofluoric acid	-	Petrol	+	Hydrogen peroxide 30 %	+

V. Preconditions

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 pot life and consistency of the mixtures.

Avoid draughts and solar radiation.

Steel

Please observe DIN EN 14879-1.

The steel surface is to be blasted to a metallic bright finish. The degree of preparation Sa 2½ according to DIN EN ISO 12944-4 and the degree of roughness "Medium (G)" according to DIN EN ISO 8503-1 must be achieved; minimum roughness depth Rz = 70 µm. After blasting, the formation of new rust must be prevented by suitable measures.

Moisture

During application, the substrate must be kept dry. No moisture (condensate, mist, etc.) must get onto the material.

VI. Components

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

Component	Item number	Package	Content	Shelf life
Dolit-HSP-Powder	5221016001	Bag	25 kg	24 Months
Tap water				

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

VII. Mixing ratios, mixing sequence and consumption

Component	kg/l	kg / batch
Dolit-HSP-Powder	1.77	25.00
Water	0.33	4.60
Total	2.10	29.60

Consumption per mm thickness in kg/m² (approx.) 2.10

Work steps:

1

Batch yields per mm thickness in m² (approx.): 14

VIII. Application

The mortar can be applied by spraying with a rotor machine with sandblasting rotor, which works continuously based on the revolver system (e.g. Aliva 246.2 / Aliva AG; Wilden Switzerland).

The diameter of the conveying hose should be between 25 mm and 32 mm. The pump pressure must be set so that there is no high material loss due to rebound (approx. 2-3 bar).

Pot life

Temperature	Pot life
20 °C	3-5 minutes

Postprocessing

If there is a risk of neutral contamination (e.g. from rainwater) between completion and start up of the coating or if no acidic contamination occurs during the start-up phase, the mortar must be acidified after hardening and drying. The acid is brushed or sprayed generously over the surface once.

For acidification 20 % alcoholic sulphuric acid is suitable: 20 wt. % water, 20 wt. % sulphuric acid (96%) and 60 wt. % alcohol (isopropyl alcohol, ethanol or methylated spirits). It can also be acidified with 20% aqueous sulphuric acid. However the drying will be slower.

WARNING! Start with water when mixing! Add the acid slowly whilst stirring. Heat development! Observe safety measures!

IX. Waiting time until commissioning

The waiting time until further processing is approx. 24 hours at 20 °C.

The thermal resilience at 20 °C is guaranteed after approx. 48 hours. The first heating up must be done slowly.

The coating is fully chemically resistant after 14 days.

X. Safety and Disposal

The following points should be observed:

- Sufficient ventilation and venting (especially in pits and tanks)
- No smoking and no fire
- 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 protection soap (no solvents!) and skin protection cream
- Wear a dust mask when grinding (e.g. for repairs)
- Operating 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)
- Avoid direct contact of the materials with the flame, especially during welding work (welding beads) on site

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

XI. Cleaning

Tools soiled with uncured materials can be cleaned with water.

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This issue replaces all previous versions.