



You Build, We Protect!

HEGSEL® SP 668

Halogen-Free Water Glass Mortar

Description:

HEGSEL SP 668 is a two-component, halogen-free water glass mortar designed for bedding and joining of acid-resistant tiles or bricks specially on floors. Tile lining systems bedded and jointed with **HEGSEL SP 668** provide strong resistance to chemicals and heat, especially in acidic and neutral environments.

Characteristics:

- Excellent acid resistance (not including hydrofluoric acid)
- Highly resistant to oxidizing agents, organic solvents, oils, greases, and fuels
- Water-resistant, suitable for neutral pH environments, and rainwater-resistant, making it suitable for outdoor use
- Temperature resistance up to 450°C (Dependent on the type of chemical being used)
- Can be applied to metal surfaces without pre-treatment
- Halogen-free

Applications:

HEGSEL SP 668 is designed as a bedding and jointing of tile / brick lining for storage tank farms, secondary containment zones, Process / treatment sites, trenches, sumps, and logistical or infrastructure areas where acids like sulfuric acid, hydrochloric acid, and phosphoric acid are used extensively in chemical processes.

Chemical Resistance:

Information on the chemical resistance is available on request.

Pot Life (20°C):

Product	Time
HEGSEL SP 668	Approx. 30 - 60 min

Note: Depending on the actual ambient temperature, the pot life may vary. Higher temperatures could shorten the pot life, while lower temperatures would prolong it. For further information, please consult HEGSEL!

Curing (20°C):

Load Capacity	Time
Accessible / Walkable	At least 24 hrs
Chemical and Mechanical Load	At least 8 days

Packaging:

The products are supplied in the following standard package sizes:

Product	Size	Package
HEGSEL SP 668 Solution	25 kg	Hobbock
HEGSEL SP 668 Powder	25 kg	Bag

Storage:

The products must be stored in a cool and dry place, away from direct sunlight. The solution part must be frost-free. At the indicated storage temperatures, the shelf life of the products is at least the below mentioned periods:

Product	Temperature	Shelf Life
HEGSEL SP 668 Solution	20°C	24 Months
HEGSEL SP 668 Powder	20°C	24 Months

If the shelf life is passed, the materials must be tested prior to use. Higher temperatures by storage and transport would reduce the shelf life, whereas lower temperatures would extend the minimum shelf life. The containers are to be kept closed tightly. All liquid products must be stored in frost-proof conditions.

1. Surface Preparation

As a rule, the mortar should be built up on one of the HEGGEL linings or coatings. Any unevenness in the substrate must already be levelled out.

Concrete: Refer to DIN EN14879-1.

Ensure the surface is prepared properly for adequate adhesive tensile strength. It should be dry, clean, free from any cement slurry, loose parts, defects, contaminants such as oil or grease or any substances that prevent adhesion. The residual moisture content of concrete shall not exceed 4%.

It is essential to protect the coating/lining from potential water or vapor pressure from its reverse side. While all water glass mortars have some porosity that might allow liquids in, it is vital to coat concrete surfaces with a liquid-resistant layer, following standard practices for acid-resistant construction. The surface should be prepared so the water glass mortar binds effectively.

2. Environmental Conditions

The specified environmental conditions must be complied with during surface preparation and tile/brick lining. During the application, the substrate must be kept completely dry. No moisture (condensate, mist, etc.) may get onto the surfaces that are to be protected. The construction site has to be protected against direct sunlight and draught.

Environmental conditions	Value
Relative humidity	≤ 80%
Surface / material / air temperature	≥ +10°C up to +30°C
Optimum processing temperature	+20°C
Dew Point Distance	min. 3K (at a relative humidity of above 70 % at least 5 K.)

Elevated or decreased temperatures could affect the working time and consistency of the mixture. As a result, consumption and application performance may vary.

Technical Data

Title	DIN	ASTM	Value	Unit
Density	DIN EN ISO 1183-1	ASTM D792	2.2	g/cm ³
Compressive Strength *	DIN EN ISO 604	ASTM C579	70	MPa
Tensile Strength *	DIN EN ISO 527	-	7	MPa
Modulus of Elasticity *	DIN EN ISO 178	ASTM C580	3.0 x 10 ³	MPa
Adhesion Strength to Concrete / Screed	DIN EN ISO 4624	-	> Inherent tensile strength	MPa
Adhesion Strength to Ceramic Tiles	DIN EN ISO 4624	-	> Inherent tensile strength	MPa
Thermal Coefficient of Linear Expansion	ISO 11359-2	ASTM C531	1.5 x 10 ⁻⁵	1/K
Thermal Conductivity	ISO DIN 22007	-	1.2	W/mK

* Mean value, determined on annealed samples.

3. Application Tools

- Mortar mixer
- Joint iron
- Joint board
- Scale
- DUO agitator
- Trowel
- Joint injector
- Measuring cup
- Mixing vessel
- Spiral stirrers

4. Mixing

HEGSEL SP 668	Parts by Weight
HEGSEL SP 668 Solution	100
HEGSEL SP 668 Powder	880

Pour the weighed amount of **HEGSEL SP 668 Solution** into a mixing vessel. Then, gradually add **HEGSEL SP 668 Powder** in portions. With a DUO stirrer set between 300 - 500 rpm, mix the components, making sure to cover the entire vessel, including its sides and bottom. Spend about 5 minutes on this process, turning the initial crumbly mix into a smooth mortar. Once achieved, allow the mortar to rest for a brief 2-minute period. Following this rest interval, proceed to stir the mixture rigorously for an additional 3 minutes. For smaller quantities, it is fine to mix by hand. Always remember not to use the mortar beyond its recommended working time for optimal results.

5. Application

HEGSEL SP 668 is suitable for both the full-joint as well as hollow-joint installation of tiles / bricks.

For a full-joint installation, apply the mortar to both side edges of the tiles or bricks. Once the mortar is applied, position the tile or brick in its designated place. For optimal adhesion, apply the mortar diligently to both the substrate and the tile or brick, ensuring thorough contact. After application, firmly set the tile or brick into its specified position. Using a trowel, clear away the mortar bead and even out the joint. For a hollow joint setup, keep the butt joint clear, filling

it at a later stage.

The jointing can be done subsequently with a joint injector, joint iron or joint board. To compress the joint, excess material should be pressed with the joint iron into the joint. The remaining material should be removed with the trowel.

When HEGSEL Mortar is being used for hollow-joint installation of tiles, the bedding joint must be cured and dry again. There should be a rectangular cross-section in the open joint (depth: >15 mm, width: 5 - 8 mm). The sides of tiles must be free of mortar and the joints must be clean.

Extra attention must be applied to ensure that the work is free of voids.

6. Consumption

Required Mortar for full-length installation (Bed joint 5 mm, Joint width 8 mm)

Material	Size (mm)	Coverage (kg/m ²)
Bricks	240 x 115 x 80	Approx. 28.00
Bricks	240 x 115 x 65	Approx. 24.80
Tiles	240 x 115 x 40	Approx. 20.50
Tiles	240 x 115 x 20	Approx. 16.30
Bed joint	4 - 7 mm	
Joint width	5 - 8 mm	

Note: Values are approximate requirements.

7. Cleaning

Tools stained with uncured materials can be easily cleaned using water.

8. Safety Measures

The material safety data sheets of the individual components, the safety instructions on the packing (label) as well as the legal requirements for handling hazardous materials must be observed.

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All information contained herein is based on the current state of our knowledge and practical experience at the time of release. Therefore, please make sure that this is the latest edition of the Technical Data Sheet. All data are only intended as a guideline for informational purposes and do not constitute a legally-binding warranty of the suitability for a certain purpose of use, due to its dependence on site conditions and possible processing, use and applications. All information contained in this technical datasheet is subject to change without notice.

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