

HEGGEL® PS 650

Polyester Resin based Mortar

You Build, We Protect!

Description:

HEGGEL PS 650 is a two-component mortar, formulated with a modified unsaturated polyester resin and a hydrofluoric acid-resistant filler. This mortar is specifically engineered for the convenient installation and jointing of acid-resistant ceramic tiles, bricks or carbon bricks.

Characteristics:

- Strong bonding with ceramic tiles, bricks, or carbon bricks
- Excellent resistance to a wide range of inorganic and organic acids, alkalis, hydrofluoric acid, silicofluoric acid, and oxidizing agents
- Temperature resistance up to 100°C (Dependent on the type of chemical being used)
- Appropriate for both indoor and outdoor use

Applications:

HEGGEL PS 650 is engineered for full-joint or hollow-joint installation of tiles and bricks. Its versatility extends to a wide range of areas, including pits, channels, secondary compartments, storage areas, or workshops that face exposure to aggressive chemicals, notably alkali, hydrofluoric acid, or silicofluoric acid. This product finds its primary applications within industries such as the chemical sector and metal processing. Examples include usage in pickling, cleaning, or neutralization plants.

Chemical Resistance:

Information on the chemical resistance is available on request.

Pot Life (20°C):

Product	Time
HEGGEL PS 650	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 HEGGEL!

Curing (20°C):

Load Capacity	Time
Accessible / Walkability	At least 4 hrs
Chemical / Mechanical Load	At least 5 days

Packaging:

The products are supplied in the following standard package sizes:

Product	Size	Package
HEGGEL PS 650 Solution	25 kg	Hobbock
HEGGEL PS 650 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
HEGGEL PS 650 Solution	20°C	6 Months
HEGGEL PS 650 Powder	20°C	12 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; in the case that such a sealing layer is not applied, then at least a suitable primer with adequate sprinkling must be used. Any unevenness in the substrate must already be levelled out. Ensure the surface is prepared properly for adequate adhesive 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%.

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
Surface, material and ambient air temperature	≥ +10°C up to +30°C
Optimum processing temperature	+20°C
Dew Point Distance	Min 3°C (At a relative humidity of above 70 % at least 5°C.)

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

3. Application Tools

- Drilling machine
- Anchor stirrer
- Mortar mixer
- Joint iron
- Joint injector
- Scale
- Trowel
- Joint injector
- Lambskin roller
- Mixing vessel
- Joint board (rubber chip)

4. Mixing Instruction

HEGGEL PS 650	Parts by Weight
HEGGEL PS 650 Solution	100
HEGGEL PS 650 Powder	500

In case of higher ambient temperatures, mix smaller quantities of mortar to prevent the mixture from a strong exothermic reaction. With an anchor stirrer (300 - 500 rpm) blend the solution well before complete or partial use.

The stirrer shall be moved across the vessel wall and over the bottom. Liquid components need to be first weighed or measured and then transferred to the mixing vessel. Solid components need to be separately weighed or measured before being added to the solution in portions and blended carefully with an anchor stirrer (300 - 500 rpm) to achieve a lump-free mixture. In the process of mixing, the stirrer must be moved across the vessel walls and past the bottom several times. For smaller quantities mixture by hand is also possible. The mortar shall not be used after the expiration of the working time.

5. Application

HEGGEL PS 650 is suitable for both full-joint and hollow-joint installations of tiles and bricks. Processing may commence only when the application requirements are met and can be consistently maintained throughout the entire processing and curing phase.

When ceramic tiles / bricks are being installed, field sizes of approx. 3 x 3 m must be considered, particularly where the substrates are flexible. After conclusion of the initial curing phase, the dividing joints between the fields are sealed (normally 24 to 48 hours).

For bedding joint apply onto the substrate with a thickness of 4 - 7 mm. Apply the mortar to two side edges of the tiles / bricks for full-joint installation, then place the tiles / bricks in position.

Remove the mortar bead with the trowel and smooth out the joint. For a hollow joint

installation, the butt joint shall remain free and be filled later.

Subsequent jointing can be done using a joint injector, joint iron, or joint board. To compress the joint, press excess material with the joint iron into the joint, and use the trowel to remove any remaining material.

When using **HEGGEL Mortar** for the hollow-joint installation of tiles, ensure the bedding joint is properly cured and dry. The open joint should have a rectangular cross-section (depth >15 mm, width: 5 - 8 mm). Keep the sides of tiles free of mortar, and ensure the joints are clean. To achieve visually flawless surfaces after jointing, it is recommended to use **HEGGEL protective varnish**, hard wax, or clinker oil, depending on the type of tiles used. Conduct a test in a small area beforehand to ensure compatibility.

Extra consideration should be given to ensure that the application is free of voids.

6. Consumption

Required Mortar for full-length installation:
(Bed joint 5 mm, Joint width 7 mm)

Material	Size (mm)	Coverage (kg/m ²)
Bricks	240 x 115 x 80	Approx. 29.90
Bricks	240 x 115 x 65	Approx. 26.45
Tiles	240 x 115 x 40	Approx. 21.85
Tiles	240 x 115 x 20	Approx. 17.25
Bed joint	4 - 7 mm	
Joint width	5 - 8 mm	

7. Cleaning

Use **HEGGEL Cleaner** to clean any tools contaminated with uncured materials. Ensure that the cleaning process takes place in well-ventilated areas and adhere to safety precautions.

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.

Technical Data

Title	DIN	ASTM	Value	Unit
Density	DIN EN ISO 1183-1	ASTM D792	2.7	g/cm ³
Flexural Strength*	DIN EN ISO 178	ASTM C580	30	MPa
Compressive Strength*	DIN EN ISO 604	ASTM C579	87	MPa
Tensile Strength*	DIN EN ISO 527	-	15	MPa
Modulus of Elasticity*	DIN EN ISO 178	ASTM C580	4 x 10 ³	MPa
Therm. Coefficient of Linear Expansion	ISO 11359-2	ASTM C531	3.2 x 10 ⁻⁵	1/K
Thermal Conductivity	ISO DIN 22007	-	1.0	W/mK

* Mean value, determined on annealed samples

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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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