

HEGSEL® EP 672

Cold Curing Synthetic Epoxy Based Mortar

You Build, We Protect!

Description: HEGSEL EP 672 is a three-component, cold curing synthetic mortar based on epoxy resin and depending on the application with different fillers.

- Characteristics:**
- Excellent adhesion to concrete and ceramic
 - Good chemical resistance
 - Nearly shrinkage-free curing

Applications: HEGSEL EP 672 is suitable to build up chemically, thermally and mechanically resistant linings. It has been specifically designed for bedding and jointing acid resistant brick and tile linings to form chemically, thermally and mechanically resistant coatings and linings. The HEGSEL EP 672 has the following variations:

1. Thin trowelling
2. Self-leveling trowelling, with or without reinforcement
3. Trowelling, conductive Filler - grey and black, cement trowelling, screed and concrete

Chemical Resistance: Information on the chemical resistance is available on request.

Substrate: Components to be brick lined or laminated shall be de-signed and manufactured in accordance with EN 14879-1. Before start of coating work or brick lining work, the suitability of the surface preparation measures according EN 14879-1 must be checked and recorded.

Pot Life (20°C):

Product	Time
Primer	Approx. 30 – 60 min
Bedding & jointing mortar	Approx. 90 min
Cement trowelling, screed, concrete	Approx. 120 min

Curing (20°C):

Load Capacity	Time
Accessible	Approx. 16 hrs
Over workable	Approx. 16 hrs
Chemical load	Approx. 7 days

Packaging: The products are supplied in the following standard package sizes:

Product	Size
HEGSEL EP 670 Hardener	5 kg
HEGSEL EP 670 Hardener	20 kg
HEGSEL EP 670 Solution	20 kg
HEGSEL EP 670 Powder	25 kg
HEGSEL EP 670 Powder Conductive Black	25 kg
HEGSEL EP 672 Powder Fine Grey	25 kg
HEGSEL EP 672 CLE	25 kg
HEGSEL EP 672 DEF	0.25 kg

Storage: The products must be stored in a cool and dry place, away from direct sunlight. At the specified storage temperatures, a shelf life of the products is given of at least for the following periods:

Product	Temperature	Shelf Life
HEGSEL EP 670 Hardener	≤ +25°C	24 Months
HEGSEL EP 670 Solution	≤ +25°C	24 Months
HEGSEL EP 670 Powder	-	24 Months
HEGSEL EP 670 Powder Conductive Black	-	24 Months
HEGSEL EP 672 Powder Fine Grey	-	24 Months
HEGSEL EP 672 CLE	-	24 Months
HEGSEL EP 672 DEF	≤ +20°C	-

1. Surface Preparation

Unevenness or surface defects such as rock pockets, casting failures, laitance and other failures which degrade the rigidity of the surface shall be removed and repaired. The repairs can be performed with **HEGGEL EP 674** or **HEGGEL EP 672**, on top of the primer application. Larger defects need to be remedied with **HEGGEL EP 670** notched trowel, **HEGGEL EP 670** screed or concrete to flatten.

The steel structures connected to the component or mounted in the concrete have to be cleaned down to white metal (SA 2½).

1.1. Concrete and Cement-base Areas

Appropriate action shall be taken to prepare the concrete surfaces; dry and free of dust and free of contaminants such as oil or grease. The concrete shall have minimum tensile strength of 1.5 N/mm². The residual moisture in the concrete shall not exceed 4%. New casted concrete surfaces should be kept for at least 28 days to dry. All surfaces on the substrate shall be free of cracks.

2. Environmental Conditions

The specified environmental conditions must be observed during surface preparation and brick lining and be tested and recorded according EN 14879-6.

Environmental Conditions	Value
Relative Humidity	≤ 80%
Surface Temperature	≥ +10°C up to +30°C
Application Temperature	+20°C ± 5°C recommended
Dew Point Distance	min 3°C

3. Application

The execution of the brick lining work is only permitted, if the requirements of "Surface Pre-treatment" and "Environmental Conditions" are met.

3.1. HEGGEL EP 670 Primer

For all trowelled products the **HEGGEL EP 670 Primer** is necessary. The **HEGGEL EP 670 Primer** is applied onto the substrate or onto the lined membrane firmly and uniformly by means of a masonry brush, paste brush, paint brush, roller or paint pad. The further bedding mortar can be applied immediately onto the fresh primer, otherwise after broadcasting crushed quartz sand onto the hardened primer layer. The consumption is about 300 to 400 g/m².

3.2. HEGGEL EP 672 Thin System

Onto the primer, the **HEGGEL EP 672 Thin System** is applied with a consumption of 3 l/m². With this consumption building a sealing layer with a thickness of 2 - 3 mm is possible. The hardened layer forms a seal, which is applied cross wise with lambswool rollers.

3.3. HEGGEL EP 672 Self Levelling System

HEGGEL EP 672 Self Levelling System is applied onto the primer with a consumption of 1.3 -1.4 kg / m² per mm layer thickness by means of a notched smoothing trowel. The trapped air is removed by using a spiked roller.

For applying a fabric layer, a slide resistant fabric is laid on top of a 2nd layer of **HEGGEL EP 670 Primer**. Thereafter, the application of the **HEGGEL EP 672** self-leveling trowelling is carried out.

3.4. HEGGEL EP 672

HEGGEL EP 672 is applied on floor surfaces approximately 4 - 6 mm and on wall surfaces approximately 3 - 4 mm thick in general. **HEGGEL EP 672** is applied onto the primer with a trowel. Plane leveling is achieved by means of level staff, grout spreader or smoothing/finishing trowels. With **HEGGEL EP 670 Powder Conductive Black** or **HEGGEL EP 670 Powder Conductive Grey** a dissipative layer of tiles/bricks can be achieved. Copper strips or cords must be integrated into the mortar and connected to an earth line.

3.5. HEGGEL EP 672 Cement System

The **HEGGEL EP 672 Cement System** is used for building layer thicknesses up to 8 mm. By using the **HEGGEL EP 670**, material components can be prepared by adding fillers of PC screed and PC concrete mixtures in masses. Such components are built in where thicker layers (>8 mm) are required. It can be used in particular, as a screed to form leveling layers or slopes, as well as it can be used to fill dents and holes in the concrete structure.

The layer thicknesses should be built up at least three times thicker than the largest grain diameter. Likewise, the concrete mix can be used to manufacture stairways, pedestals, foundation or other rigid structures. In case of using gravel and sand aggregates, only washed and dried materials should be chosen. For mixing larger quantities a compulsory mixer is required.

4. Application Tools

The following tools are essential for the application:

- Stirrer (max 300 rpm)
- Measuring cup & Mixing vessels
- Flat / wide brush / floor brush / paint pad
- Mortar trowel
- Miscellaneous (safety glasses, rubber gloves etc.)

5. Mixing Ratio

Pour **HEGGEL EP 670 Solution** in a mixing vessel and add **HEGGEL EP 670 Hardener** at the specified mixing ratio. The stirring of the merged components should be at least 3 minutes and must result in a homogeneous mixture. Then add **HEGGEL EP 670 powders** in the recommended mixing ratio to this mixture and stirrer again. The stirring of the merged components

should be at least 3 minutes and must result in a homogeneous mixture. Then pour the mixture into a clean pail and mix again briefly. When mixing larger quantities, a forced mixer should be used.

HEGGEL EP 670 Primer	Parts by Weight (kg)	Parts by Volume (Liter)
HEGGEL EP 670 Solution	100	2.00
HEGGEL EP 670 Hardener	20	0.45

HEGGEL EP 672 Thin System	Parts by Weight (kg)	Parts by Volume (Liter)
HEGGEL EP 670 Solution	100	2.00
HEGGEL EP 670 Hardener	20	0.45
HEGGEL EP 670 Powder	619	9.90

HEGGEL EP 672 Sealing	Parts by Weight (kg)	Parts by Volume (Liter)
HEGGEL EP 670 Solution	100	2.00
HEGGEL EP 670 Hardener	20	0.45
HEGGEL EP 672 Powder Fine Grey or White	47	0.70

HEGGEL EP 672 Self Levelling System Black	Parts by Weight (kg)	Parts by Volume (Liter)
HEGGEL EP 670 Solution	100	2.00
HEGGEL EP 670 Hardener	20	0.45
HEGGEL EP 672 Powder Fine Black	50	0.75

HEGGEL EP 672 (floor area)	Parts by Weight (kg)	Parts by Volume (Liter)
HEGGEL EP 670 Solution	100	2.00
HEGGEL EP 670 Hardener	20	0.45
HEGGEL EP 670 Powder	700	11.20

HEGGEL EP 672 (wall area)	Parts by Weight (kg)	Parts by Volume (Liter)
HEGGEL EP 670 Solution	100	2.00
HEGGEL EP 670 Hardener	20	0.45
HEGGEL EP 670 Powder	675	10.80

HEGGEL EP 672 Conductive Black	Parts by Weight (kg)	Parts by Volume (Liter)
HEGGEL EP 670 Solution	100	2.00
HEGGEL EP 670 Hardener	20	0.45
HEGGEL EP 670 Powder conductive Black	500	2.69

HEGGEL EP 672	Cement Trowelling (kg)	Screed (kg)	Concrete (kg)
HEGGEL EP 670 Solution	0.170	0.130	0.110
HEGGEL EP 670 Hardener	0.034	0.026	0.022
HEGGEL EP 670 Powder	-	0.450	0.380
Washed river sand 0-3mm	-	0.450	0.380
Washed gravel 3-7mm	-	0.700	0.600
Washed gravel 7-15mm	-	0.500	0.400
Washed gravel 15-30mm	-	-	0.400
1 Litre = Approx.	2.2 kg	2.2 kg	2.3 kg

6. Cleaning

Clean all equipment with or **HEGSEL EP 672 CLE** immediately after use. The cleaning is done while the material is still not hardened.

7. 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	Standard	Value	Unit
Resistance to Ground (conductive grey)	EN ISO 1081	$\leq 1 \times 10^6$	Ω
Resistance to Ground (conductive black)	EN ISO 1081	$\leq 1 \times 10^4$	Ω
Flexural Strength	EN ISO 178	40	N/mm ²
Density (Mixture)	EN ISO 2811 (ASTM D1475)	2.05	g/cm ³
Compressive Strength	EN ISO 604	100	N/mm ²
E-Modulus	-	1.1×10^4	N/mm ²
Coefficient of Thermal Expansion	-	45×10^{-6}	1/K
Thermal Conductivity	-	1.7	W/m.K
Tensile Strength	EN ISO 527	40	N/mm ²
Max Operating Temperature Dry	-	+60	°C
Max Operating Temperature Dry (In combination with ceramic tiles or bricks)	-	+120	°C
Max Operating Temperature Dry (as trowel layer)	-	+80	°C

Note: The indicated temperatures are dependent on the present load and may vary.

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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.

HEGSEL GmbH

Huttropstr. 60
45138 Essen
Germany
Tel: +49 201 17003 270
Fax: +49 201 17003 277
E-Mail: info@heggel.de
Web: www.heggel.de