

HEGSEL VE 641

3-C-cold curing vinyl ester resin mortar

Description: **HEGSEL VE 641** is a black, three-component, cold curing synthetic resin mortar, based on a Novolac vinyl ester resin with carbon fillers.

Characteristics:

- Very good chemical resistance, especially against oxidizing agents / acids (chlorine bleach, nitric acid), alkalis and solvents
- Very good mechanical resistance
- Fast curing
- Electrically conductive

Applications: **HEGSEL VE 641** is suitable for bedding and jointing of tiles, bricks and fittings, especially for chemical loads of concentrated acids, solvents and oxidizing medium. Furthermore, **HEGSEL VE 641** has a good resistance against high temperatures and high mechanical stresses. Main application fields are tiling and brick linings of components in the chemical industry, waste water and process water treatment, pulp and paper industry and pickling lines.

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

Substrate: Components shall be designed and manufactured in accordance with EN 14879-1. Before start of 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 (min)
HEGSEL VE 641	ca. 40

Curing (20°C):

Load Capacity	Time
Accessible	ca. 24 h
Chemical load	ca. 3 Days

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

Product	Size	Article No.
HEGSEL HR 910	0.1 kg	17761365
HEGSEL HR 910	0.4 kg	17761350
HEGSEL VE 641 SOLUTION	20 kg	17763060
HEGSEL VE 641 POWDER	25 kg	17763090
Cleaner E-200	4 kg	17701830
Cleaner E-200	8 kg	17701833

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 HR 910	≤ +20°C	12 Months
Cleaner E-200	≤ 5-25°C	60 Months
HEGSEL VE 641 SOLUTION	≤ +20°C	6 Months
HEGSEL VE 641 POWDER	-	24 Months

If the storage time is exceeded, the materials must be tested before use. Higher storage and transport temperatures will reduce the shelf life. The containers must be kept tightly closed. Liquid products must be stored frost-proof. In addition, the DIN 7716 must be observed.

1. Surface preparation

Steel and concrete surfaces must be primed before application. The primer must be sanded in a fresh state after the final coat. Sealing layers, except VE or UP based layers, must be provided with a sanded primer before application of the synthetic mortar. Unevenness should be compensated in the ground.

C-STEEL

All contaminants, including non-visible detectable contaminants, must be removed in accordance with DIN Fachbericht #28 and EN ISO 8502.

Ferrite steel surfaces shall be abrasive blasted to "Near White Metal" in accordance with EN ISO 12944-4. A standard preparation degree of SA 2½ (SSPC SP-10; NACE #2) as specified in EN ISO 8501-1 must be achieved. The primer must be applied immediately after the blasting.

CONCRETE

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 content must not exceed 4%.

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. 3K

3. Application

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

HEGGEL VE 641 is applied on the substrate or sealing layer by using a mortar trowel. Tiles and bricks must be free of voids, fully bedded and hollow jointed.

4. Work tools

The following tools are essential for the application:

- Stirrer (max. 300 r/min.)
- Measuring cup & Mixing vessels
- Flat / wide brush / roller
- Mortar trowel
- Grouting tool
- Miscellaneous (safety glasses, rubber gloves etc.)

5. Mixing ratio

Pour **HEGGEL VE 641 SOLUTION** in a mixing vessel and add **HEGGEL HR 910** 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 VE 641 POWDER** 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.

Primer	Parts by Weight (kg)	Parts by Volume (Liter)
HEGGEL VE 641 SOLUTION	100	2.00
HEGGEL HR 910	1.5	0.03

HEGGEL VE 641	Parts by Weight (kg)	Parts by Volume (Liter)
HEGGEL VE 641 SOLUTION	100	2.00
HEGGEL HR 910	1.5	0.03
HEGGEL VE 641 POWDER	180	5.24

6. Consumption

Bedding and jointing (Bed Joint 5 mm / Cross joint 5-7 mm)

Material	Sizes (mm)	Coverage (kg/m ²)
Tiles	240 x 115 x 20	ca. 10
Tiles	240 x 115 x 40	ca. 13
Bricks	240 x 115 x 65	ca. 16
Bricks	240 x 115 x 80	ca. 18

7. Cleaning

Clean all equipment with **Cleaner E-200** immediately after use. The cleaning is done while the material is still not hardened.

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	Standard	Unit	Value
Resistance to Ground	EN ISO 1081	Ω	≤ 1 × 10 ⁸
Flexural Strength	EN ISO 178	N/mm ²	25
Density (Mixture)	EN ISO 2811 (ASTM D1475)	g/cm ³	1.4
Compressive Strength	EN ISO 604	N/mm ²	140
E-Modulus	-	N/mm ²	0.6 × 10 ⁴
Coefficient of Thermal Expansion	-	1/K	40 × 10 ⁻⁶
Thermal Conductivity	-	W/(m.K)	1.0
Tensile Strength	EN ISO 527	N/mm ²	10
Max. Operating Temperature Dry	-	°C	+ 120

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 actual 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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