

HEGGEL SP 661

High thermal resistance potassium silicate mortar

Description:

HEGGEL SP 661 is a potassium silicate mortar with corresponding chemical but higher thermal resistance compared to conventional potassium silicate mortars.

Characteristics:

- Hardening at room temperature therefore self-supporting brickwork, even before sintering
- Fast sintering, which prevents the mortar flowing out of the joints
- Temperature Resistance up to +1400°C
- The expansion coefficient is similar to ceramic bricks

Applications:

HEGGEL SP 661 is used as temperature and chemical resistant mortar for brick linings with refractory and acid proof bricks. **HEGGEL SP 661** is suitable for all refractory brick linings, which cannot be done with fireclay mortar, because of its lower mechanical and chemical resistance.

Working with **HEGGEL SP 661** the drying processes can be shortened by mixing, because the mixing is without water and is applied on dry brick material.

HEGGEL SP 661 is used mainly for brick linings in ovens, such as rotary kilns; drying drums; roasting ovens; sulphate ovens and especially where SO₂ and SO₃ gases are released and in corresponding temperatures, where refractory mortars are used; such as in ovens on cooling cladding, such as, oven walls or T-Joints in Ovens.

Except to hydrofluoric acid, **HEGGEL SP 661** is resistant to all acids, solvents, oxidizing agents, oils and fats; but is not resistance to alkalis.

Chemical resistance:

Information on the chemical resistance is available on request.

Substrate:

Components to be coated shall be designed and manufactured in accordance with EN 14879-1. Before start of coating work, the suitability of the surface preparation measures according EN 14879-1 must be checked and recorded.

Pot life (20°C):

Product	Time (min)
HEGGEL SP 661	ca. 40

Curing (20°C):

Load Capacity	Time
Load	ca. 48 h

The products are supplied in the following standard package sizes:

Packaging:

Product	Size	Article No.
HEGGEL SP 661 SOLUTION	20 kg	17760735
HEGGEL SP 661 SOLUTION	270 kg	17760750
HEGGEL SP 661 SOLUTION	1000 kg	17760720
HEGGEL SP 661 POWDER	25 kg	17760570
Cleaner E-200	4 kg	17701830
Cleaner E-200	8 kg	17701833

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:

Storage:

Product	Temperature	Shelf Life
HEGGEL SP 661 SOLUTION	≤ +30°C	24 Months
HEGGEL SP 661 POWDER	-	24 Months
Cleaner E-200	5-25°C	60 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

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.

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.

The Scratch Coat is applied on the substrate by using a wide brush or a lamb's wool roller.

HEGGEL SP 661 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
- Mortar trowel
- Grouting tool
- Miscellaneous (safety glasses, rubber gloves etc.)

5. Mixing ratio

Pour **HEGGEL SP 661 SOLUTION** in a mixing vessel and add **HEGGEL SP 661 POWDER** at the specified mixing ratio. The stirring of the merged components should be at least 3 minutes and must result in a homogeneous mixture.

Scratch Coat for 1m ²	Parts by Weight (kg)	Parts by Volume (Liter)
HEGGEL SP 661 SOLUTION	100	2.00
HEGGEL SP 661 POWDER	100	1.89

HEGGEL SP 661	Parts by Weight (kg)	Parts by Volume (Liter)
HEGGEL SP 661 SOLUTION	100	2.00
HEGGEL SP 661 POWDER	300	5.66

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. 15
Tiles	240 x 115 x 40	ca. 19
Bricks	240 x 115 x 65	ca. 23
Bricks	240 x 115 x 80	ca. 26

7. Post treatment

The brickwork and flooring, with **HEGGEL SP 661** does not have to be post thermally treated after brick laying.

8. Commissioning

Brick and tile linings with **HEGGEL SP 661** can be exposed to chemical stresses of fluids, at the earliest after 5 days; except when the liquid temperature is +150°C, then there should be a time lapse of 8 -10 days after completion. In the case of chimneys, the actual Norms and Guidelines should be followed.

9. Cleaning

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

10. 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
Flexural Strength	EN ISO 178	N/mm ²	6
Density (Mixture)	EN ISO 2811 (ASTM D1475)	g/cm ³	2.0
Compressive Strength	EN ISO 604	N/mm ²	20
Max. Operating Temperature Dry	-	°C	+ 1400

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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