

# HEGSEL® SP 662

Temperature Resistant Potassium Silicate mortar

*You Build, We Protect!*

**Description:**

**HEGSEL SP 662** is a halogen free potassium silicate mortar, which has been specially designed to be used by spraying (similar to sprayed concrete).

**HEGSEL SP 662** is a compact system which includes a specially formulated hardener, which by mixing with water, chemically reacts to harden.

**Characteristics:**

- Halogen free containing no fluorides
- Extremely high acid resistance
- Temperature Resistance to +900°C
- Very good bonding strength to steel
- Nearly the same coefficient of expansion as steel

**Applications:**

**HEGSEL SP 662** is used as a corrosion protection in larger buildings and vessel areas, as a monolithic coating. The coating thickness should be between 10 – 20 mm thick. The coating is mainly designed for steel areas; such as steel chimney flues, Cowper and Cyclones. It is not recommended for the storage of liquids in steel tanks. The cylinders, vessels etc. must have sufficient space to accommodate the spraying pipes. The free working space should not be less than 1.50 m in diameter.

**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.

**Curing (20°C):**

Load Capacity	Time
Over Workable	Approx. 24 hrs
Thermal Loadable	Approx. 48 hrs
Chemical Load	Approx. 14 days

**Packaging:**

The products are supplied in the following standard package sizes:

Product	Size
<b>HEGSEL SP 662 Powder</b>	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
<b>HEGSEL SP 662 Powder</b>	-	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

### 1.1. Carbon 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.

### 1.2. 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/mm<sup>2</sup>. 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 3°C

## Technical Data

Title	Standard	Value	Unit
Flexural Strength	EN ISO 178	10	N/mm <sup>2</sup>
Compressive Strength	EN ISO 604	30	N/mm <sup>2</sup>
Coefficient of Thermal Expansion	-	12 × 10 <sup>-6</sup>	K <sup>-1</sup>
Max Operating Temperature Dry	-	+900	°C

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

## 3. Application

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

**HEGSEL SP 662** is spray applied with a rotary machine, incorporating a sandblasting rotor, which applies the coat by operating continuously like the revolver system (e.g. Alivia-246).

The diameter of the hose at the front should be between 25 mm and 32 mm. Generally, the pressure is set at between 2 – 3 bar. It should be finely adjusted, so that it results in a faultless coating. Pressure being set too high will result in loss of material, when it rebounds.

## 4. Application Tools

The following tools are essential for the application:

- Stirrer (max 300 rpm)
- Measuring cup & Mixing vessels
- Flat / wide brush
- Mortar trowel
- Rotary machine (Alivia-246)
- Miscellaneous (safety glasses, rubber gloves etc.)

## 5. Mixing Ratio

The spray coating of **HEGSEL SP 662** occurs, when the **HEGSEL SP 662** Powder is rotary mixed at the spray nozzle with water, similar to the guniting process.

HEGSEL SP 662	Parts by Weight (kg)	Parts by Volume (Liter)
Water	18	2.00
HEGSEL SP 662 Powder	100	8.89

## 6. Cleaning

Clean all equipment with water 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.

**HEGSEL SP 662**; Revision No: 1.10 / Last Revision Date: 20.07.2023

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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