

PRODUCT INFORMATION

Asplit HES

PRODUCT DESCRIPTION

Asplit HES is a gray, halogen free sodium silicate mortar, which by mixing with water, chemically reacts to harden. The hardener and binder are included in the powder.

FIELDS OF APPLICATION

Asplit HES is used mainly as a polarising mortar for ceramic lining of chimneys in domestic households. Further, it is also used for the laying of tiles, bricks and shapes for floor and vessel linings.

Asplit HES exhibits good properties to water and rinsing actions for several weeks, yet permanent rinsing is not possible. For constant rinsing or abrasion resistance, use an Asplit synthetic resin based mortar for jointing.

Except to hydrofluoric acid, **Asplit HES** is resistant to all acids, solvents, oxidising agents, oils and fats; but it is not resistance to alkalis.

FEATURES

- Halogen-Free, containing no Fluoride
- Extreme high corrosion protection
- Temperature Resistance to +900°C
- Easy to use

CHEMICAL RESISTANCE

Information on the chemical resistance properties is available upon request.

SUBSTRATE

Components to be brick lined 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. Concrete surfaces needs to be covered with a sealing barrier layer, since all silicate based mortars have a certain porosity due to their nature, which allows the ingress of liquids.

SURFACE PRE-TREATMENT

C-STEEL

Surfaces must be clean, dry and free of contaminants. All contaminants, including non-visible detectable contaminants, must be removed in accordance with DIN TR 55684 and EN ISO 8502.

Non-alloyed steel surfaces shall be abrasive blasted to "Near White Metal" in accordance with EN ISO 12944-4. A surface preparation degree of SA 2½ (SSPC-SP 10; NACE No. 2) as specified in EN ISO 8501-1 and a "medium (G)" roughness degree as specified in EN ISO 8503-2 must be achieved. A minimum surface profile of $R_z \geq 70 \mu\text{m}$ is required.

To prevent flash rust, the primer must be applied immediately after the blasting and cleaning of the substrate or the component must be air conditioned to a relative humidity of $\leq 40\%$.

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%.

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	$\leq 80\%$
Surface Temperature	$\geq +10^\circ\text{C}$ up to $+30^\circ\text{C}$
Application Temperature	$+20^\circ\text{C} \pm 5^\circ\text{C}$ recommended
Dew Point Distance	min. 3K

APPLICATION

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

The scratch coat is applied on the substrate by using a wide brush or a lambs wool roller.

Asplit HES 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

WORK TOOLS

The following tools are essential for the application:

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

MIXING RATIO

Pour water in a mixing vessel and add **Asplit HES 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. When mixing **Asplit HES**, a characteristic is that mixture is often found to be too dry at first; although after 5 min of mixing, a mix is produced which is good to apply.

Scratch Coat for 1m ²	Parts by Weight [kg]	Parts by Volume [Liter]
Water	100	2.00
Asplit HES POWDER	400	7.55

Asplit HES	Parts by Weight [kg]	Parts by Volume [Liter]
Water	100	2.00
Asplit HES POWDER	700	13.21

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. 18
Bricks	240 x 115 x 65	ca. 23
Bricks	240 x 115 x 80	ca. 26

Asplit HES

POT LIFE (20°C)

Product	Time [min]
Asplit HES	ca. 90

CURING (20°C)

Load Capacity	Time
Load	ca. 24 h
Chemical load	ca. 10 Days

POST TREATMENT

The brickwork and flooring with **Asplit HES** will be waterproof after 10 days, even if it is not acidified. If an earlier waterproofing is sought, then it should be acidified.

Acidifying is also necessary when **Asplit HES** is applied without jointing; where it is to be post jointed with a furanic or phenolic resin based mortar. In this case, after the potassium silicate mortar is set, it is necessary to acidify the voids / joints 2 or 3 times, with a few hours interval between. Acidifying can be done with a mixture (by weight) of: 20% alcoholic sulphuric acid (mixture of 20 parts water + 20 parts 96% sulphuric acid + 60 parts isopropyl alcohol).

20% watery sulphuric acid can also be used, but it has a slower drying time. When mixing, the water has to be added first.

COMMISSIONING

Brick and tile linings with **Asplit HES**, 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. Brick lined vessels or apparatus, should be put into operation initially with diluted mineral acids. If there is a long period of time between the completion of the linings and normal operation; or after the apparatus has been out of service for a longer time, it is mandatory to fill the vessel or apparatus with a weak concentration of acid and water. Open vessels should be covered.

CLEANING

Clean all equipment with water immediately after use. The cleaning is done while the material is still not hardened.

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.

PACKING UNITS

The products are supplied in the following standard package sizes:

Product	Size	Article No.
Asplit HES POWDER	25 kg	592 0110

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
Asplit HES 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.

Technical Data	Standard	Unit	Value
Flexural Strength	EN ISO 178	N/mm ²	10
Density (Mixture)	EN ISO 2811 (ASTM D1475)	g/cm ³	2.0
Compressive Strength	EN ISO 604	N/mm ²	25
E-Modulus	-	N/mm ²	1.1 x 10 ⁴
Coefficient of Thermal Expansion	-	1/K	12 x 10 ⁻⁶
Thermal Conductivity	-	W/(m • K)	1.2
Max. Operating Temperature Dry	-	°C	+900

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

Information given in the fact sheet above corresponds to the current knowledge available to us regarding our products at the time of its drafting and is intended as a guideline for informational purposes. However, because of the multiple possibilities regarding possible applications, processing and on site conditions, any information given in the fact sheet above is not legally binding, in particular, without being limited to, such information shall not be interpreted as a warranty of merchantability or of fitness for a particular purpose. Customer therefore is advised to conduct its own testing or make an inquiry with our technical department before ordering. We reserve the right to change the product at any time, in particular, without being limited to, minor changes because of advancements in technology. If by way of exception, the information given in the fact sheet above is incorporated by reference into any contract concluded with us under German Law, such information, shall only be interpreted as determining the specific requirements of the contractual products as set out in § 434 BGB (German Civil Code) and shall not be interpreted as constituting a guarantee of condition.

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TIP TOP Oberflächenschutz Elbe GmbH	Asplit HES	Revision 1.07 -10.06.2021
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