

SigaMent FU 631

2-C-furan resin mortar with carbon fillers

Empowered by Expertise!

Description: **SigaMent FU 631** is a black, two-component, cold curing synthetic mortar based on a modified furan resin with carbon fillers.

Characteristics:

- High temperature resistance up to +220°C
- Excellent adhesion to ceramic and carbon bricks
- High universal chemical resistance.
- Excellent chemical resistance to acids, solvents and alkalis
- The hardened mortar conducts electricity
- Long shelf life even at high temperatures, therefore suit-able also in tropic regions

Applications: **SigaMent FU 631** is suitable for bedding and jointing of tiles, bricks and fittings made of ceramic or carbon for the production of chemical, thermal and mechanic resistant coatings and protective linings. Due to the high shrinkage rate **SigaMent FU 631** is not suitable as bedding mortar for great flooring areas. There is no negative influence for the use in tanks, vessels and for the joining of bricks and tiles. **SigaMent FU 631** is particularly suitable for brick lining of chemical equipment (reactors, columns, gas scrubbers etc.) which are exposed to high chemical and thermal loads.

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)
SigaMent FU 631	ca. 60

Curing (20°C):

Load Capacity	Time
Accessible	ca. 24 h
Chemical load	ca. 8 Days

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

Product	Size	Article No.
SigaPox 414 HARDENER	8 kg	592 0615
SigaPox 414 SOLUTION	20 kg	592 0605
SigaMent FU 631 SOLUTION	20 kg	592 0060
SigaMent FU 631 SOLUTION	50 kg	592 0061
SigaMent FU 631 POWDER	25 kg	592 0050
SigaMent FU 631 UNI	8.4 kg	592 0900

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	Tempera	Shelf Life
SigaPox 414 HARDENER	≤ +25°C	24 Months
SigaPox 414 SOLUTION	≤ +25°C	24 Months
SigaMent FU 631 SOLUTION	≤ +30°C	24 Months
SigaMent FU 631 POWDER	-	24 Months
SigaMent FU 631 UNI	≤ +20°C	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 with **SigaPox 414** before application. The primer must be sanded in a fresh state after the final coat. If a sealing layer of rubber or coating is present, **SigaMent FU 631** can be directly applied on the sealing layer. 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 coating work is only permitted, if the requirements of "Surface Preparation" and "Environmental Conditions" are met.

SigaMent FU 631 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. If tiles have to be laid in alkaline mortar with open joints, make sure that the mortar is hardened, acidified and dried before applying **SigaMent FU 631**.

The joints have to be square with a depth of min. 15 mm and a width of 5-8 mm. The edges of the tiles have to be free from mortar and the joints must be cleaned.

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 **SigaMent FU 631 SOLUTION** in a mixing vessel and add **SigaMent FU 631 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

Primer	KG per litre	Parts by Weight	Parts by Volume
SigaPox 414 SOLUTION	0.815	100	0.87
SigaPox 414 HARDENER	0.325	40	0.36

SigaMent FU 631	KG per litre	Parts by Weight	Parts by Volume
SigaMent FU 631 SOLUTION	0.600	100	1.00
SigaMent FU 631 POWDER	1.000	167	2.91

6. Consumption

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

Material	Size (mm)	Coverage (kg/m ²)
Tiles	240 x 115 x 20	ca. 12
Tiles	240 x 115 x 40	ca. 15
Bricks	240 x 115 x 65	ca. 18
Bricks	240 x 115 x 80	ca. 20

7. Post treatment

To obtain optimum resistance of brick linings inside vessels - preferable to solvents - an after treatment with hot water (16 - 24 hours at 70°C - 80°C) is strongly recommended. In case of extended time period between completion of lining work and starting the apparatus, it is advisable to fill in slightly acid water to a third of its volume.

8. Cleaning

Clean all equipment with **SigaMent FU 631 UNI** immediately after use. The cleaning is done while the material is still not hardened.

9. 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	DIN 14879-6	Ω	≤ 1 × 10 ⁸
Flexural Strength	EN ISO 178	N/mm ²	30
Density (Mixture)	EN ISO 2811 (ASTM D1475)	g/cm ³	1.6
Compressive Strength	EN ISO 604	N/mm ²	70
E-Modulus	-	N/mm ²	0.8 × 10 ⁴
Coefficient of Thermal Expansion	-	1/K	24 × 10 ⁻⁶
Thermal Conductivity	-	W/(m.K)	2.0
Tensile Strength	EN ISO 527	N/mm ²	8
Max. Operating Temperature Dry	-	°C	+220

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

SigaMent FU 631; 0.00/28.08.2017. 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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