SigaMent EP 674

3-C-grey cold curing bedding mortar

Empowered by Expertise!

Description:

SigaMent EP 674 is a grey, three-component, cold curing synthetic mortar based on an epoxy resin and depending on the application with different fillers.

Characteristics:

- Excellent adhesion to concrete and ceramic
- Good chemical resistance
- Nearly shrinkage-free curing
- Universal "all round" material

Applications:

SigaMent EP 674 is suitable as bedding and jointing mortar for tiles, bricks and fittings made of ceramic to construct a chemically, thermally and mechanically resistant layer or lining.

Due to its dense state and good compatibility with the concrete, a special sealing layer may often be spared. The ceramic tiles can be bedded directly on the concrete substrate (on top of the applied primer) with **SigaMent EP 674** using the two-bed jointing method. In addition, **SigaMent EP 674** can be used on cement based substrates as filling and levelling mortar with the thicknesses of 2 to 5 mm as well as a thin **SigaMent EP 674** protective coating (coating thickness of about 0.3 - 0.7 mm).

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)
Primer	ca. 30-60
Bedding & jointing mortar	ca. 90

Curing (20°C):

Load Capacity	Time
Accessible	ca. 16 h
Over workable	ca. 16 h
Chemical load	ca. 7 Days

Packaging:

The products are supplied in the following standard package sizes:

Product	Size	Article No.
SigaMent EP 670 HARDENER	5 kg	592 0520
SigaMent EP 670 HARDENER	20 kg	592 0510
SigaMent EP 670 SOLUTION	20 kg	592 0500
SigaMent EP 670 POWDER	25 kg	592 0530
SigaMent EP 670 POWDER CONDUCTIVE BLACK	25 kg	592 0540
SigaMent EP 670 CLE	25 kg	592 0920
SigaMent EP 670 DEF	0.25 kg	592 0921

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
SigaMent EP 670 HARDENER	≤ +25°C	24 Months
SigaMent EP 670 SOLUTION	≤ +25°C	24 Months
SigaMent EP 670 POWDER	-	24 Months
SigaMent EP 670 POWDER CONDUCTIVE BLACK	-	24 Months
SigaMent EP 670 CLE	-	24 Months
SigaMent EP 670 DEF	≤ +20°C	

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

Unevenness or surface defects such as rock pockets, casting failures, laitance and other failures which degrade the rigidity of the surface shall be removed and repaired. The repairs can be performed with **SigaMent EP 674** or **SigaMent EP 672**, on top of the primer application. Larger defects need to be remedied with **SigaMent EP 674** notched trowel, **SigaMent EP 674** screed or concrete to flatten. The steel structures connected to the component or mounted in the concrete have to be cleaned down to white metal (SA 2½).

Concrete and cement-base areas:
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 in the concrete shall not exceed 4%. New casted concrete surfaces should be kept for at least 28 days to dry. All surfaces on the substrate shall be free of cracks.

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 Pre-treatment" and "Environmental Conditions" are met.

SigaMent EP 670 PRIMER
SigaMent EP 670 PRIMER is applied onto the substrate or onto the lined membrane firmly and uniformly by means of a masonry brush, paste brush, paint brush, roller or paint pad. The consumption is about 300 to 400 g/m².

SigaMent EP 674
SigaMent EP 674 is applied with a trowel onto the substrate or onto the membrane. The installation of the tiles or bricks has to be performed as cavity-free as possible, as well as with full coverage and with hollow joint method. If the tiles are going to be installed with hollow joint method in alkaline joint mortars and are going to be grouted with **SigaMent EP 674**, it should be noted that the basement layer must be cured, acidified and dried upon acidifying. The open joints should have a perpendicular cross-section, at least 15 mm deep and 5 to 8 mm wide. The lateral faces of the tiles must be free of residue and the joints must be clean.
With **SigaMent EP 670 CONDUCTIVE POWDER BLACK**, a dissipative layer of tiles can be achieved. In the two-bed method, first a 3 mm thick **SigaMent EP 670** bed joint is applied onto the fresh or sanded primer layer. Within 60 minutes the acid-resistant bricks/tiles are covered underneath with 2 - 3 mm jointing mortar and then laid onto the fresh mortar bed. The surfaces of the mortar bed or joints need to be compacted to avoid any remaining air pockets. The entire thickness of the bedding should not exceed 10 mm.

4. Work tools

The following tools are essential for the application:

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

5. Mixing ratio

Pour **SigaMent EP 670 SOLUTION** in a mixing vessel and add **SigaMent EP 670 HARDENER** 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 **SigaMent EP 670** powders 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. Then pour the mixture into a clean pail and mix again briefly. When mixing larger quantities, a forced mixer should be used.

SigaMent EP 670 PRIMER	KG per Litre	Parts by Weight	Parts by Volume
SigaMent EP 670 SOLUTION	0.300	100	-
SigaMent EP 670 HARDENER	0.060	20	-

SigaMent EP 674 BEDDING MORTAR	KG per Litre	Parts by Weight	Parts by Volume
SigaMent EP 670 SOLUTION	0.250	100	-
SigaMent EP 670 HARDENER	0.050	20	-
SigaMent EP 670 POWDER	1.750	700	-

SigaMent EP 674 JOINING MORTAR	KG per Litre	Parts by Weight	Parts by Volume
SigaMent EP 670 SOLUTION	0.265	100	-
SigaMent EP 670 HARDENER	0.053	20	-
SigaMent EP 670 POWDER	1.640	619	-

SigaMent EP 674 BEDDING AND JOINING MORTAR CONDUCTIVE	KG per Litre	Parts by Weight	Parts by Volume
SigaMent EP 670 SOLUTION	0.390	100	-
SigaMent EP 670 HARDENER	0.078	20	-
SigaMent EP 670 CONDUCTIVE BLACK	0.975	250	-

6. Cleaning

Clean all equipment with or **SigaMent EP 670 CLE** 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.

Technical Data	Standard	Unit	Value
Resistance to Ground	DIN 14879-6	Ω	≤ $1 \times 10^{6*}$
Flexural Strength	EN ISO 178	N/mm^2	40
Density (Mixture)	EN ISO 2811 (ASTM D1475)	g/cm^3	2.05
Compressive Strength	EN ISO 604	N/mm^2	100
E-Modulus	-	N/mm^2	1.1×10^4
Coefficient of Thermal Expansion	-	1/K	45×10^{-6}
Thermal Conductivity	-	W/(m.K)	1.7
Tensile Strength	EN ISO 527	N/mm^2	40
Max Operating Temperature Dry	-	°C	+60 / +120**

* ET tiling black ** In combination with ceramic tiles or bricks
Note: The indicated temperatures are dependent on the present load and may vary

SigaMent EP 674; 0.00/29.08.2017. 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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