SM300

Bonding and reinforcement mortar

Product Data Sheet *2025-09*

Product description

System-tested, mineral-based fibre reinforced bonding and reinforcement mortar WARM WALL systems. As a reinforcement mortar on basecoats and as a mortar for renovation, refurbishment and remodelling.

Composition

Cement, hydrated lime, graded limestone grains, limestone powder, silica sand, special bonding agent, water-repellents and additives.

Storage

Store the bags on wooden pallets in a dry environment. Can be stored for at least 9 months.

Quality

In compliance with EN 998-1, the product is subject to initial type testing and continuous factory production control. Furthermore, the product is subject to external monitoring and bears the CE marking.

Field of application

Bonding and reinforcement plaster for Knauf WARM WALL systems, specially as a reinforcement mortar for scratch render Mak3, ceramic and natural stone cladding.

- Renovation mortar and basecoat when reworking existing old coating layers
- Reinforcement on basecoat
- Mineral render bonding layer
- For application on façades and plinth area

Properties and added value

- General-purpose rendering/plastering mortar GP acc. to EN 998-1
- Compressive strength category CS III acc. to EN 998-1
- Contains fibres and bonding agents
- In façades and in plinth areas
- For interiors and exteriors
- For machine or hand application
- Grain size 1.0 mm
- Colour shade grey

Application

Substrate and pretreatment

Substrate	Pretreatment
Non-stable paint coats	Remove completely.
Render hollows and cavities	Remove completely and fill with a suitable render, take the drying times into account.
Concrete, paint coats, old render	If necessary, clean with a high-pressure water cleaner adapted to the substrate until free of dust and allow to dry completely.
Old plaster / render	Solidify the surface by applying Grundol primer that should be fully absorbed.

Preparation

Check substrate for compliance with VOB part C, DIN 18350/ DIN 18345 chapter 3.1 and/or according to VOB part B, DIN 1961 paragraph 4 no. 3. Clean the substrate of dust and loose parts and remove, ensure that the surface is smooth. Cover easily-soiled building components before commencement in accordance with Code of Practice "Abklebe- und Abdeckarbeiten für Maler- und Stuckateurarbeiten - *Masking and covering for painting and stucco work*" (German only) issued by the Bundesverband Ausbau und Fassade. Protect weather-exposed surfaces from precipitation and direct sunlight.
Preparation of the substrate in accordance with the Substrate/ Pre-treatment table. All substrates must be stable, dry, even and free of grease and dust as well as free of any residual substances that may reduce the adhesion. Test existing coats (paint coats and old renders) for stability and compatibility before application. Allow primer coats to dry for at least 12 hours before continuing work.

Machines / equipment

PFT mixing pump G 4

- Stator — D4-3 1/2 capacity
- Rotor — D4-3
- Mortar hoses — Ø 25 mm
- Wet mortar pumping distance — up to 30 m

Mixing

Mixing by hand

Mix the content of one bag with about 5.2 litres of clean water until an application-ready lump-free consistence is achieved.

Mixing by machine

For machine application using mixing pumps, e.g. PFT G4, set the desired consistence by adding water.

Application

Bonding

SM300 can be applied manually or by machine. A stainless-steel trowel must be used. Apply insulation panels immediately, no later than 10 minutes after application of the adhesive, in the fresh adhesive bed by pushing, floating and pressing.

Polystyrene insulation panels

Adhesive application on insulation materials
The adhesive area ratio with the substrate is ≥ 40 % (≥ 60 % in case of cladding with ceramic and natural stone) after pressing on the insulation panels. Apply an approx. 50 mm wide ribbon of mortar around the perimeter and 3 palm-sized adhesive mortar dabs or strips on the insulation panel center. On even substrates it is possible to apply the adhesive mortar on the entire surface of the insulation panel with a notched trowel.

Application of adhesive on the substrate
The adhesive can be applied in the form of mortar dabs directly on the substrate at spaces of maximum 100 mm using the meandering method. In case of partial surface adhesive application, the required adhesive bonding surface must be ≥ 60 % after pressing on the insulation panels. If the adhesive mortar is bonded on the entire surface, the adhesive mortar must be combed on with a notched trowel immediately before the insulation panels are applied. Apply the insulation panels immediately after adhesive is applied to the fresh mortar bed by pushing, floating and pressing. Apply a continuous strip of adhesive in the edge areas. Only apply a maximum of 3 m of adhesive in advance.

Mineral wool lamellae boards

Adhesive application on insulation materials
On even substrates it is possible to apply the adhesive mortar on the entire surface of the insulation panel with a notched trowel.

Application of adhesive on the substrate
The adhesive can be applied in the form of mortar dabs directly on the substrate at spaces of maximum 100 mm using the meandering method. In case of partial surface adhesive application, the required adhesive bonding surface is ≥ 50 % (≥ 60 % in case of cladding with ceramic and natural stone) after pressing on the insulation panels. If the adhesive mortar is bonded on the entire surface, the adhesive mortar must be combed on with a notched trowel immediately before the insulation panels are applied. Apply the insulation panels immediately after adhesive is applied to the fresh mortar bed by pushing, floating and pressing. Apply a continuous strip of adhesive in the edge areas. Only apply a maximum of 3 m of adhesive in advance.

Mineral wool insulation panels

Adhesive application on insulation materials
The adhesive area ratio with the substrate is ≥ 40 % (≥ 60 % in case of cladding with ceramic and natural stone) after pressing on the insulation panels. Apply an approx. 50 mm wide ribbon of mortar around the perimeter and 3 palm-sized adhesive mortar dabs or strips on the insulation panel center.
On even substrates it is possible to apply the adhesive mortar on the entire surface of the insulation panel with a notched trowel.

Application of adhesive on the substrate
The adhesive can be applied in the form of mortar dabs directly on the substrate at spaces of maximum 100 mm using the meandering method. In case of partial surface adhesive application, the required adhesive bonding surface is ≥ 50 % (≥ 60 % in case of cladding with ceramic and natural stone) after pressing on the insulation panels. If the adhesive mortar is applied over the entire surface, the adhesive mortar must be combed on

with a notched trowel immediately before the insulation panels are applied.
Apply the insulation panels immediately after adhesive is applied to the fresh mortar bed by pushing, floating and pressing. Apply a continuous strip of adhesive in the edge areas. Only apply a maximum of 3 m of adhesive in advance.

PF and PU insulation panels

Adhesive application on insulation materials
The adhesive bonding surface with the substrate is ≥ 40 % after pressing in the insulation panels. Apply an approx. 50 mm wide ribbon of mortar around the perimeter and 3 palm-sized adhesive mortar dabs or strips on the insulation panel center.

Application of adhesive on the substrate
Apply machine applied adhesive in the form of mortar dabs directly on the substrate at spaces of maximum 100 mm using the meandering method and apply the insulation panels immediately by pushing, floating and pressing. The required adhesive bonding surface is ≥ 60 % after pressing in the insulation panels. Apply a continuous strip of adhesive in the edge areas. Only apply a maximum of 3 m of adhesive in advance.

Reinforcement

At the inside corners of reveal to lintel, embed reinforcement mesh strips or mesh corner angle reinforcement fully into the SM300. Subsequently apply Gewebeeckwinkel 100/150 Mesh Corner Angles 100/150 mm perpendicular and flush, apply the reinforcement layer and level it. Alternatively, embed diagonal reinforcement made of Gewebeeckpfeile mesh corner arrows or reinforcement mesh strips approx. 300 x 500 mm directly in the fresh mortar starting from the corner. When reinforcing wood fibre insulation panels first of all apply SM300 as a surface-pressed layer on the board surface. Apply mortar in the corresponding render thickness and embed Knauf Armiergewebe reinforcement mesh on the entire surface with at least a joint overlap of at least 100 mm “fresh-in-fresh”. The reinforcement mesh should be fully covered with SM300.

The mesh is arranged in the centre of the mortar when the basecoat thickness is up to 4 mm, in case of 5 to 7 mm layer thickness it is in the upper half of the layer. In case of a double reinforcement mesh layer, the mesh layers must be offset to one another. At least 2 to 3 mm of mortar must be between the mesh sheets. The diagonal reinforcements are embedded after the first reinforcement mesh layer. Joint overlap of the second reinforcement mesh to the first reinforcement mesh and the overlap of the mesh sheets to one another ≥ 100 mm.
The layer thicknesses of the basecoat layer on Knauf WARM WALL systems is 5 – 7 mm, with the exception of:

- WARM WALL Plus in Timber Construction: 7 mm recommended
- WARM WALL Natur: 7 mm recommended
- WARM WALL with Mak 3: 7 mm
- On basecoats: approx. 4 mm

A drying time of at least 1 day per mm basecoat thickness is required prior to application of mineral-based render finishes. Paste-like finishing plasters may not be applied before SM300 is fully dry, however after at least a minimum drying time of 10 days. In addition, we strongly recommend application of a Quarzgrund Pro primer before paste-like finishing plasters are applied. The stated drying times may be significantly longer in case of cool or wet weather.

Renovation mortar
SM300 can be applied with a coating thickness of up to maximum 10 mm as a leveller of texture imperfections. Apply multiple layers for larger layer thicknesses. Embed Knauf reinforcement mesh if necessary.

Reinforcement mortar
When used as a reinforcement mortar on lightweight renders, a layer thickness of approx. 4 mm should be applied and reinforcement mesh embedded across the entire surface.

When applied as a basecoat, a general drying time of at least 1 day per mm layer thickness should be observed. In case of unfavourable weather conditions (e.g. high air humidity or low temperatures) the drying time will be extended.

Scratch render
The layer thickness of SM300 must be approx. 7 mm. On the reinforcing mesh apply at least 2 to 3 mm SM300 and after initial setting roughen the surface horizontally with a brush. The mesh may not become exposed.

Render bonding layer
Apply SM300 on concrete, XPS-R, wood fibre panels and similar substrates with a thickness of at least 5 mm. Spread the mortar using a widely notched trowel. Wait at least 1 day and a maximum of 3 days before application of further coats. An additional reinforcement mesh should be embedded when reinforcing the substrate.

Plinth application
The render system must be protected against the ingress of moisture at the connection to the lower edge. The required plaster sealing or the necessary moisture protection must be applied up to at least 5 cm above the edge of the ground line or top edge of the covering. In the lower edge, this is recommended for application up to the existing building sealing or perimeter insulating panels. As a plaster seal / moisture protection, apply Sockel-Dicht in a layer thickness of at least 1.2 mm (dry layer thickness min. 1 mm). When sufficiently dry, apply a protective cover against damage (e.g. fleece laminated dimpled sheet and slip membrane) up to the ground line.

Health-relevant requirements

Always wear waterproof, robust gloves, long work clothes and safety goggles when working with SM300 Bonding and Reinforcement Mortar.
If the SM300 Bonding and Reinforcement Mortar comes into contact with the eyes, they must be washed out immediately with clean, clear water and an eye specialist consulted immediately! Avoid prolonged skin contact with the product and, if this occurs, clean the affected areas immediately and thoroughly with clean water!

The longer the fresh product remains on your skin, the greater the risk of serious skin damage. Keep children away from fresh material and always follow the health and safety instructions during application.

Application temperature / climate

Do not apply with air, component and/or substrate temperatures below +5 °C and ensure that the temperature does not fall below this temperature until the plaster has hardened sufficiently. Furthermore, the temperature should not exceed +30 °C during application.
In order to prevent rapid dehumidification of the fresh render by the exposure to direct sunshine (high surface temperatures), and/or strong wind (danger of cracks, reduction in strength) suitable protection measures / treatment (e.g. protective nets, keeping moist) are required.

Cleaning

Clean the machines and tools with water immediately after use.

Notes	For application as a bonding and basecoat mortar, the Knauf system data sheet and the National Technical Approval / general type approval for the corresponding Knauf WARM WALL system must be observed. Renders must be applied according to EN 13914, DIN 18550, DIN 55699, DIN 18345 and DIN 18350 well as the generally recognized building engineering rules and valid guidelines. Heating in rooms should only be put into operation in stages. Rapid dehumidification, e.g. using dehumidifiers should be avoided.

Technical data

Description	Standard	Unit	SM300
Reaction to fire	EN 13501-1	Category	A1
Grain size	–	mm	1.0
Compressive strength	EN 1015-11	Category	CS III
Tensile adhesion strength	EN 1015-12	N/mm^2	> 0.08 Fracture pattern A, B or C
Capillary water absorption	EN 1015-18	Category	W_c 2
Water vapour permeability coefficient μ	EN 1015-19	–	≤ 25
Thermal conductivity $\lambda_{10, dry\ mat}$ at P = 50 % P = 90 %	EN 1745	 W/(m·K) W/(m·K)	 ≤ 0.82 ≤ 0.89

The stated technical data were evaluated acc. to the respective test standards. Deviations under site conditions are possible.

Material requirement / efficiency

	Coat thickness mm	Consumption approx. kg/m^2	Yield approx. m^2/bag	m^2/ton
Adhesive (40% adhesive surface)	5.0	3.0	8.3	333
Adhesive (60% adhesive surface)	5.0	4.3	5.8	233
Adhesive (100% adhesive surface)	5.0	7.2	3.5	139
Reinforcement basecoat WARM WALL	5.0 – 7.0	7.1 – 10.0	3.5 – 2.5	141 – 100
Reinforcement render on basecoat	4.0	5.7	4.4	175
Render bonding layer	5.0	7.2	3.5	139

The consumption values were determined under laboratory conditions. Additional consumption resulting from conditions in practice must be taken into account. The material consumption depends on the roughness, evenness and absorption properties of the substrate as well as the machinery used.

Product range

SM300	Application	Packaging unit	Material number	EAN
1.0 mm	25 kg	42 bags/pallet	00178249	4003950086755
	Bulk	In silos	00178250	4003950086762

Sustainability and environment

Short description	Comment	Unit	Value
EPD Environmental Product Declaration	–	–	EPD-VDP-20230401-IB01-DE
Blue angel	DE-UZ 198	–	fulfilled

Videos for Knauf systems and products can be found under the following link:
youtube.com/knauf

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