SM 485

DATA SHEET

Fast-setting, fibre-reinforced, self-levelling smooth coat for interior floors, for thicknesses from 3 to 30 mm

Interior flooring

Sack

By hand

By machine

Metal trowel

Advantages

- Excellent levelling
- Easy application
- Good mechanical strength
- Fibre-reinforced
- Fast covering application
- For both renovations and new constructions

Composition

SM 485 is a dry premix consisting of special hydraulic binders with rapid hydration and setting, with selected sands and special additives to improve workability and favour its self-levelling properties.

Supply

- Special bags with moisture protection from approx. 25kg

Use

SM 485 is used to level off uneven interior surfaces or old ceramic floors, with thicknesses from 3 to 30 mm, when a short drying time is required to allow subsequent quick installation of the flooring. Ideal for laying wooden, stone, resilient (linoleum, PVC, carpet, LVT, rubber, etc.) coverings, ceramic tiles and resinous coverings. Due to its excellent self-levelling qualities, SM 485 does not leave any imperfections.
Thanks to its excellent mechanical strength, SM 485 is suitable for the following uses:
Environments for residential use (hotels, homes and related services);
Private and public offices;
Public environments (restaurants, healthcare facilities, schools, gyms, libraries, etc.);
Environments for commercial use (shops, warehouses, bookshops, shopping centres, etc.)
SM 485 is particularly suitable for applications on underfloor heating/cooling systems, with heat transfer fluid or electric, for indoor residential environments.
Comply with the requirements of the main application technical standards (UNI 11493-1, UNI 11371, UNI 11515, UNI 11714-1, UNI 10966, etc.).

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Substrate preparation

The application surface must be mechanically resistant, dimensionally stable, free of cracks, cured, dry, have no signs of rising damp, and without any oil, waxes, paints, adhesive residues or any other element that may compromise adhesion to the substrate.

Bonded screed

Any cracks or recasting on horizontal surfaces will be structurally sealed using FASSA EPOXY 300 epoxy sealant.
For cement screeds with with insufficient surface resistance, evaluate the need to consolidate with PRO-MST, a specific product with high-penetration; in the most extreme situations, mechanical abrasion will be required before treatment with the primer. Highly-absorbent cementitious substrates must be treated beforehand with AG 15 primer diluted 1:8 with clean water and the smooth coat applied no more than 24 hours after applying the primer.
Anhydrite substrates must always be adequately prepared by mechanical abrasion, so as to roughen the substrate; subsequently, after careful cleaning, make sure that the residual moisture content is lower than the set limit (from 0.2% to 0.5% depending on the use and type of subsequent covering) and then apply PRIMER DG 74 with a roller. Before applying the smooth coat, make sure that the substrate is completely primed and that the primer is completely dry.
For application on existing ceramic flooring, carefully map the area to make sure that the flooring is solidly fixed to the substrate. Any detached or loose parts must be removed beforehand, and the gaps filled with GAPER 3.30 or LEVEL 30. Carry out mechanical abrasion on the surface, followed by vacuuming and careful cleaning. Once the mortar has dried, to improve adhesion between the substrate and the self-levelling compounds, use PRIMERTEK 101 primer. Before applying the smooth coat, make sure that the substrate is completely primed and that the primer is completely dry.

Floor screed with heating/cooling system

All existing plumbing or electrical systems must be embedded in a compensation layer featuring suitable mechanical strength.
Where radiant systems with “insulating panels” are installed, make sure that all the panels are stable, bonded to the substrate and are arranged side-by-side up to perimeter compressible tape, in order to avoid possible percolation of the product. If coverings are to be applied that are sensitive to rising damp, before installing the panel, apply a material that acts as a vapour barrier, with an S_d (equivalent air layer thickness) in compliance with the corresponding application standards.
On the other hand, for radiant systems without "insulating panels", before installing the radiant system itself, the substrate must be treated with a primer (see the paragraph "bonded screed"); this is essential to avoid excessive absorption of the water used to mix SM 485 by the substrate, which may lead to the formation of cracks in the first few hours after application.
As specified by standard EN1264-4, before laying the screed, the heating circuits must be checked for tightness using a water pressure test.
The thickness of the screed must be defined according to the substrate, the technical characteristics of the radiant panel, the intended use and the type of covering used (for more details, contact Fassa Technical Service).

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Mixing

For application by machine, use a suitably-equipped I41 Fassa Bortolo plaster sprayer or m-Tech Duo-mix. The type of machine will be chosen according to the work being performed (thickness, surfaces, etc.). To correctly adjust the amount of water in the machine and thus obtain the right consistency of the mixture, carry out a fluidity test using specific Fassa equipment.
For application by hand, pour the contents of a sack into a bucket containing the amount of clean water specified in the technical data and mix by hand or using a mechanical stirrer at low speed for no longer than 3 minutes, until obtaining a fluid, uniform and smooth mixture. Wait 2 minutes before application and then stir the mix.
SM 485 is applied simply in one coat only in thicknesses from 3 to 30 mm, starting from the thicker areas, using a levelling rod, notched metal trowel or scraper. For thicknesses below 10 mm, a spiked roller is recommended. For thicknesses over 10 mm, it is recommended to use a levelling rod to level and compact the first coat, then apply a second finishing coat crosswise to the first.
The operations described above must be completed within the product's workability time.
Coverings can only be applied when drying is complete; the time required depends on the thickness, the type of substrate, the amount of water in the mixture and the temperature-humidity conditions.
For laying pre-polished ceramic or stone coverings, it is recommended to use one of our adhesives, AZ 59 FLEX, AT 99 MAXYFLEX, SPECIAL ONE or AD 8, mixed with FASSACOL LATEX S2. For Spain and Portugal FASSACOL PLUS, FASSAFLEX BASIC, FASSAFLEX, FASSAFLEX TOP. If quick setting products are required, RAPID MAXI S1 can be used.
For laying wooden coverings, it is recommended to use our ADYWOOD 2K two-component epoxy-polyurethane adhesive, or ADYWOOD MS, single-component silane adhesive for laying wooden floors.
For laying resilient coverings, it is recommended to use our ADYTEX RS one-component acrylic adhesive, or ADYTEX 2K high-performance epoxy-polyurethane adhesive.
The adhesive will be chosen according to the expected format and type of covering.
In any case, begin applying the covering only after verifying the suitability of the substrate according to the application regulations in force.

First radiant system start-up cycle

After curing for a period of at least 14 days, the system must be started in accordance with the requirements of standard EN 1264-4, or the following instructions:

- the first heating cycle starts with a water outlet temperature of 20-25°C, which must remain constant for 3 days;
- subsequently, the water inlet temperature must be increased by 5°C per day, until reaching the maximum expected operating temperature;
- this temperature must be maintained for 5 days;
- then the water inlet temperature must be reduced by 10°C a day, until reaching the initial temperature;
- during the period in which the system is started for the first time, check ventilation in the rooms so as to avoid the formation of drafts.

It is always good practice to start the system before bonding any type of flooring, in order to make any cracks appear on the screed due to accumulation of stress resulting from thermal expansion; the covering must then be laid when the screed has cooled.

Joints/maximum surface without divisions

- Division joints must be made on the screed (at least 1/3 of the thickness); in principle, the joints must subdivide the surface into square or rectangular sections, and must therefore be made in correspondence with openings in the walls, protrusions or areas with irregular shapes (i.e. "L" or "U" etc.).
- The joints are made during application by inserting an elastic PVC joint into the screed, without interrupting the reinforcing mesh embedded in the screed, if used; the mesh must be interrupted at the expansion joints on the heated floor screed or at the structural joints.
- The maximum area should be around 40 m², with a maximum length ratio of 2 to 1 and the longest side not exceeding 8 metres.
- Structural joints must be marked on the screed.

For joints in areas with irregular shapes, it is recommended to follow the designer's instructions or contact Fassa Technical Service at area.tecnica@fassabortolo.it.

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Warnings

- Product for professional use.
- Always consult the safety data sheet before use.
- The fresh product must be protected against frost and quick drying. Normally a temperature of +5°C is suggested as a minimum value for application and proper hardening of the product. Below this value, setting would be delayed excessively and below 0°C the fresh or partially hardened product could be broken up by frost.
- Do not use the product outdoors, on highly flexible substrates and in environments with continuous presence of water.
- Avoid applying SM 485 at temperatures above +30°C.
- Avoid air draughts and strong sunlight in the first few hours after application (in summer it is recommended to use dark fabrics to block sunlight on all openings). After curing for at least 24 hours, and in any case once setting is complete, ventilate the rooms to assist hardening and ensure optimum drying of the screed.
- Protect the fresh screed from humidity, accidental contact with water and condensate formation using suitable finishes.
- Avoid laying the SM 485 screed less than 3 mm thick.
- Avoid applying the product directly in contact with pure aluminium.
- Application on underfloor heating systems does not require the use of fluidifiers, as these are already contained in the product's formulation; steel mesh reinforcement is recommended.
- Lay wooden, resilient and laminated floors only after having ascertained by carbide hygrometer that the moisture content is ≤ 2% (in compliance with UNI 11371 and UNI 11515-1).
- For application of wooden, resilient or laminated floor coverings on screeds with underfloor heating, residual moisture must be ≤ 1.7% (in compliance with UNI 11371 and UNI 11515-1).
- Lay stone coverings only after having ascertained by carbide hygrometer that the moisture content is ≤ 3% or ≤ 2% (in compliance with UNI-11714-1).
- Residual moisture is measured using a carbide hygrometer only in screeds in which the presumed moisture content is less than 3%, placing a 50 gram sample and a vial of calcium carbide in the steel bottle. The reading must be made on the 50 g scale, or using the appropriate conversion scales supplied with the instrument, 20 minutes after starting the test. Electrical instruments may provide inaccurate values.
- For correct installation of ceramic flooring on any cement screed, the residual moisture content must be ≤ 3% (in compliance with standard UNI 11493-1).
- When radiant heating systems are used, it is always good practice to start the system before bonding any type of flooring, in order to make any cracks appear on the screed due to accumulation of stress resulting from thermal expansion; for SM 485, start the system after allowing a period of at least 14 days for curing. The covering must then be applied once the screed has cooled down.
- In addition to what is specified in the "substrate preparation" paragraph, it should be stressed that bonded screeds can only be made on sound, compact, crack-free substrates and with a residual moisture content below that required for applying the envisaged covering.

SM 485 it must be used in its original state without the addition of foreign materials.

Storage

Store in a dry place for no longer than 6 months. Once the product has expired, it must be disposed of in accordance with current legislation.

Quality

SM 485 is subjected to accurate and constant checks in our laboratories. The raw materials used are rigorously selected and controlled.

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Technical Data

Specific gravity of the powder	approx. 1,250 kg/m³
Application thickness	3-30 mm
Granulometry	< 2 mm
Mixing water	18-20%
Yield	approx. 1.7 kg/m² per mm in thickness
Density of the hardened product	approx. 2,000 kg/m³
pH	alkaline
Workability time at +20°C	approx. 30 minutes
Thermal conductivity coefficient (EN ISO 10456)	1.35 W/mK (tabulated value)
Specific heat (EN ISO 10456)	1KJ/(kg·K) (tabulated value)
Water vapour diffusion resistance factor (EN ISO 10456)	100 dry conditions, 60 wet conditions (tabulated value)
Resistance to stresses parallel to the application surface (UNI 10827)	≥ 1.6 N/mm²
Flexural strength after 28 days (EN 13892-2) *	≥ 7 N/mm²
Compressive strength after 28 days (EN 13892-2) *	≥ 25 N/mm²
Walkability at +20°C	approx. 3 hours
Reaction to fire (EN 13501-1)	A2fl
Compliant with standard EN 13813	CT C25 F7
Recycled/recovered/by-product content	The product contains some recycled/recovered/by-product. The relevant declaration is available on request.
(*) The specimens for mechanical resistance tests are prepared under laboratory conditions, using a specific procedure in accordance with the reference standard (EN 13892-1)	

The above information refers to laboratory testing; it is possible that in practical applications on site these may differ considerably according to the conditions in which the material is applied. In any case the user must check that the product is suitable for the intended application, taking all responsibility for its use. Fassa reserves the right to make technical modifications without notice.

Technical specifications regarding the use of Fassa Bortolo products for structural or fire prevention applications will only be officially valid if provided by Fassa Bortolo's "Technical Service" and "Research, Development and Quality System". If necessary, contact Technical Service in your country of reference (IT: area.tecnica@fassabortolo.com, ES: asistencia.tecnica@fassabortolo.com, PT: assistencia.tecnica@fassabortolo.com, FR: bureau.technique@fassabortolo.fr, UK: technical.assistance@fassabortolo.com).

Please note that for the aforementioned products, the assessment is required by the appointed professional, in accordance with regulations in force.

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