

Self-levelling cementitious screed for interior floors in civil constructions



Composition

E 500 is a dry premix made up of specific cements, graded sands and specific additives to improve workability and optimise the self-levelling characteristics.

Specifications

Specific weight of powder	approx. 1,500 kg/m ³
pH:	alkaline
Application thickness	3-6 cm
Mixing water	approx. 16%
Yield	approx. 18 kg/m ² for 10 mm thickness
Shrinkage	approx. < 0.4 mm/m
Density of the hardened product	approx. 2,100 kg/m ³
Working time	approx. 30 minutes
Typical drying time at +20°C and 65% RH	1 week/cm for first 4 cm of thickness, 2 weeks/cm for each additional cm. At lower temperatures and/or higher R.H. drying time can be longer.
Flexural strength after 28 days	approx. 5 N/mm ²
Compressive strength after 28 days	approx. 20 N/mm ²
Thermal conductivity coefficient (EN 12524)	$\lambda_d = 1.41 \text{ W/m-K}$ (tabulated value)
Can be walked on	approx. 24 hours
Conforms to standard EN 13813	CT-C20-F5

Use

SA 500 is a self-levelling screed, which is used as an underlay in interiors for floors made of wood, vinyl, linoleum, moquettes, ceramic tiles. It is particularly suitable for houses, schools, gymnasiums, offices, shops, and more generally for large interior surfaces in the housing field or service industry.

Surface preparation

Remove any extraneous objects from the floor making sure that it is dry and stable.

Place a 0.7-1 cm thick strip of compressible material along the perimeter walls and raised elements, at least as high as the screed being made. Apply sheets of polyethylene across the entire surface of the cast, making sure to overlap the

SA 500

Floor Screeds



joints by at least 25 cm and to run the sheet up the walls by a few centimetres above the compressible strip. For flooring in contact with the ground, apply a waterproof underlay on the surface where the floor is laid. Check the reference levels and where necessary use sideboards to hold the cast in place. The screed should be divided at openings in walls or any protrusions, placing a divider strip in the screed during application or sectioning the screed when hardened. The maximum feasible surface area without divisions is similar to traditional screeds made from sand and cement, that is, around 40 m². For underfloor heating systems, welded mesh must be embedded inside the screed, making sure to fasten it suitably to the insulating panels. Indicatively this net can have a mesh of 50x50 or 50x80 mm and 2 mm thick rods. The net should be interrupted by the expansion joints that must be placed by the doors and in any case in a way that the single rooms do not exceed a surface of 40 m². For the position of the joints in odd-shaped floor plans, refer to the architect or designer's instructions.

N.B.: to ensure good quality of the SA 500 self-levelling screed, special care must be paid to the preparation of the application surface (no cracks, insulation, waterproofing, etc.).

Working

Self-levelling screed SA 500 is mixed in a horizontal mixer directly linked to the silo station and transported to the place where it is to be laid by a continuous screw pump. If using the product packaged in sacks, application is performed using special continuous mixers that deliver the material to the point of use via a special hose. Begin laying at the point of greatest depth and then level off with a levelling bar.

Warnings

- Avoid freezing and quick drying of the fresh mortar. 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 considerably, and below 0°C the fresh or partially hardened product may be broken up by frost.
- Avoid laying SA 500 at temperatures above +30°C.
- Avoid strong air currents and direct sunshine for the first 48 hours after laying. From the third day on ventilate the environment to assist hardening and ensure optimum drying of the screed.
- Avoid laying SA 500 in thickness less than 3.0 cm. For application of SA 500 on sound insulating materials, it is necessary to consider the compressibility and the thickness of the insulating material used, when dimensioning the screed thickness.
- If the screed is laid on underfloor heating systems, there is no need to use fluidifying agents, since they are already contained in the product formulation.
- Avoid the application of the product directly in contact with pure aluminium.
- Lay floors (parquets, resilient floors etc.) only after having checked that the humidity is below 2% as measured with a carbonate hygrometer. For the application of wooden coverings on screeds laid on underfloor heating systems the residual humidity must be ≤ 1,7 %, according to standard UNI 11371.
- The residual humidity shall be measured with a carbide hygrometer, when it is assumed that the screed humidity content is lower than 3%. For the measurement introduce a 50 gr sample in the vessel together with a calcium carbide vial. The reading has to be made on the scale corresponding to 50 gr, or with the conversion chart supplied with the instrument, 20 minutes after the beginning of the test.
- For a workmanlike tile ceramic flooring on any cementitious screed applied with the "glue" method, the maximum residual humidity must be equal to 4% approx.. This value can roughly be reached by a 4 cm screed after 7 to 14 days, depending on the thermohygrometric conditions in the curing phase.
- Lay ceramic floors specifically using medium elastic AZ 59 or else AD 8 adhesives mixed with latex DE 80.
- We suggest using the adhesive for parquet based on vinyl only for a maximum size of 25x5 cm and only after treating the screed with a primer compatible with the type of adhesive used.
- The floating screeds laid on a nylon sheet, on which thin coverings in general and/or resilient floor coverings have to be applied, shall have a minimum thickness of 4 cm and be reinforced with a metal mesh laid in the middle of the screed.
- The use of thin-layer resin finishes is not guaranteed, even if they are compatible with our product from a chemical-physical point of view, because the surface characteristics could vary due to the raw material used. These variations can be easily hidden with the traditional finishes, such as ceramic tiles, wood, etc.; on the contrary, if resin finishes are used, these variations might lead to aesthetic complaints.

SA 500 should only be used in its original state, without the addition of other materials.



SA 500

Floor Screeds



Supply

- Loose in silo.
- Special sacks with protection against damp of 30 kg approx.

Storage

Store in a dry place for no longer than 6 months. Setting may slow down after the product has been stored for some time, however without the final performance being affected.

Quality

SA 500 undergoes accurate and continuous checks in our laboratories. The raw materials used are carefully selected and checked.

The above information refers to laboratory testing; it is possible that in practical applications on site it may differ according to the conditions in which the material is applied. In any case the user should verify 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.