

FASSAFLOOR ECO

DATA SHEET

Self-levelling natural anhydrite screed for residential interior floors



Interior flooring



Sack



Silo



By machine

Advantages

- Biocompatible
- Good mechanical strength
- Ideal on underfloor heating systems
- High dimensional stability

Composition

FASSAFLOOR ECO a dry premix made from special natural anhydrite, graded sand and specific additives to improve workability and optimise its self-levelling characteristics.

Supply

- In bulk in silo
- special sacks with protection against moisture, approx. 25 kg

Use

FASSAFLOOR ECO, thanks to its special formulation, can be used for the construction of interior floor screeds with the function of load distribution, before laying wood or resilient coverings (linoleum, PVC, carpet, LVT, rubber, etc.) and ceramic tiles. Thanks to its specific characteristics, FASSAFLOOR ECO is suitable for different uses, such as in residential and public spaces, offices and businesses. Sanding and reinforcing mesh are not required. Especially suitable for application on underfloor heating systems and for the construction of large surfaces, due to its high dimensional stability.

Substrate preparation

The application surface must be free of all foreign matter, mechanically resistant, stable, without cracks, cured, dry and clean.

For the construction of unbonded or floating screeds, before laying the screed, any substrates that are irregular or with significant differences in level must be levelled off the same height, making a compensating layer using products such as FASSAFLOOR LIGHT 300 or CALCESTRUZZO CELLULARE; any plumbing or electrical systems must also be embedded in the compensation layer.

In the specific case of floor slabs resting on the ground, suitable waterproofing will be needed (coatings or sheathing, making sure that the screed is protected against possible rising damp).

Unbonded screed (minimum thickness 3 cm)

Lay a vapour barrier (thickness according to the value of S_d , equivalent air layer, required) over the entire surface of the cast, making sure to both overlap the joints by at least 10-15 cm and to fold the sheet up onto the walls to the same height as the compressible strip; seal all joints with moisture-resistant adhesive tape.

Arrange, along the perimeter walls and the elements in elevation, a strip of compressible material 0.5-1 cm thick and at least as high as the finished portion of the flooring, including the finish coverings.

Floating screed (minimum thickness 4 cm)

For screeds on thermal insulation or soundproofing systems, such as SILENS STA 10, scrupulously apply the insulating materials, following the manufacturer's installation instructions and, as regards soundproofing, standard UNI 11516 "Installation instructions for floating flooring systems for soundproofing".

If necessary, lay a vapour barrier (thickness according to the value of S_d , equivalent air layer, required) over the entire surface of the cast, making sure to both overlap the joints by at least 10-15 cm and to fold the sheet up onto the walls to the same height as the compressible strip; seal all joints with moisture-resistant adhesive tape.

Arrange, along the perimeter walls and the elements in elevation, a strip of compressible material 0.5-1 cm thick and at least as high as the finished portion of the flooring, including the finish coverings.

The thickness of the screed must be decided based on the compressibility and thickness of the insulation, the final intended use and the type of covering used.

Floor screed with heating system

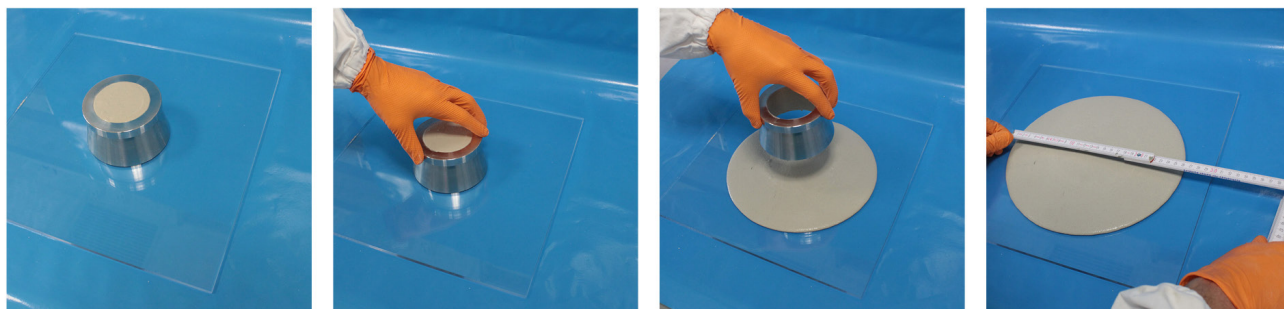
Where radiant systems are installed, make sure that all the panels are stable, bonded to the substrate and are arranged side-by-side up to perimeter compressible tape, in order to avoid thermal bridges.

As specified by standard EN 1264-4, before laying the screed, the heating circuits must be checked for tightness using a water pressure test.

Before starting application, the reference levels must be checked with a spirit level or laser level, and any side retainers for the cast must be prepared.

Mixing and application

If using the product supplied loose, FASSAFLOOR ECO is mixed using a horizontal mixer connected directly to the silo station. Once the machine has been started and the right amount of water has been added to obtain the correct consistency of the mixture (fluidity test with specific Fassa equipment), the operator can then go to the application position. The system will be switched on and off directly from the application surface using a remote control. The system has a flow-rate of about 100 litres/min (about 6 cubic metres/hour).



Use a three-phase plastering machine such as m-tech duo Mix or M330 for mixing and pumping to the laying surface. These machines must be set up to allow double mixing; please contact our technical support for the use of different plastering machines. The equipment must be clean and free of residues of different materials, especially if cement-based.

Adjust the water dosage to obtain the right mix consistency depending on the application thickness; the mix should be self-levelling and homogeneous throughout the thickness. It is recommended to perform a fluidity test using the Hagerman's cone, the right consistency values range from 23-25 cm on a dry plexiglass plate. Higher values cause sedimentation of the product and a reduction in mechanical strength, especially in terms of surface hardness, as well as lengthening setting and drying times.

The product is spread starting from the thicker areas and then levelled using a levelling rod, compacting the screed a first time, then applying a second finishing coat crosswise to the first. The operations described above must be completed within the product's workability time.

Avoid air draughts and strong sunlight in the first 48 hours after application (in summer it is recommended to use dark fabrics to block sunlight on all openings). From the third day onwards, ventilate the area to assist hardening and ensure optimum drying of the screed. Coatings can only be laid after complete drying (moisture content less than 0.2-0.5% depending on the type - see warnings); the time required depends on the thickness, type of substrate, amount of water in the mix, thermo-hygrometric conditions and air velocity. PRIMER DG74 must always be applied before applying cement-based adhesives or skim coats. For installation of ceramic or stone coverings, it is recommended to use our AZ 59 FLEX, AT 99 MAXYFLEX, AD 8 adhesive mixed with FASSACOL LATEX S2, or, if quick-setting products are required, RAPID MAXI S1.

For laying wooden coverings, it is recommended to use our ADYWOOD 2K two-component epoxy-polyurethane adhesive, or ADYWOOD MS one-component silane adhesive for laying wooden floors, after having treated the application surface with the PRIMER ADW diluted 1:1 with DILUENTE ADW and waiting for the solvent to completely evaporate.

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 7 days, the system must be started in accordance with the requirements of standard EN 1264-4, or the following instructions:

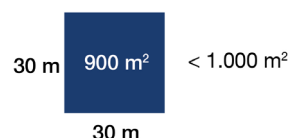
- the first heating cycle starts with a water outlet temperature of 20-25°C, which must remain constant for 3 days;
- subsequently, the water inlet temperature must be increased by 5°C per day, until reaching the maximum expected operating temperature;
- this temperature must be maintained for 5 days for thicknesses up to 55 mm; for every additional 5 mm in thickness, the time must be increased by one day;
- 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.

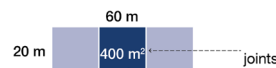
Joints/maximum surface without divisions

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.).

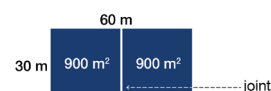
For a square area of less than 1,000 m² ($S < 1,000 \text{ m}^2$), the joints are not essential.



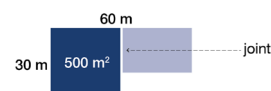
Division joints are only needed if the length is greater than 2.5 times the width; in this case, the surface area must be less than 400 m² ($S < 400 \text{ m}^2$).



For large surfaces, the divisions can be made every 900 m², making sure to create square areas.



For surfaces with considerable protruding corners, the divisions must be made to the right of the protruding corner ($S < 500 \text{ m}^2$).



Expansion joints

- The joints must be made in such a way as to isolate each individual room when subsequently laying non-grouted rigid coverings or in the event of different heating fluid temperatures;
- Joints up to 300 m² can be made when using elastic (wood, linoleum, resilient coverings, etc.) and rigid, wide-jointed coverings.

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

Warnings

- FASSAFLOOR ECO must only be applied by specialists.
- The product must be applied by installers who have completed training for the application of FASSAFLOOR ECO with Fassa Bortolo's technical staff.
- Fassa cannot be held liable for any damage resulting from use that is not compliant with the datasheet or due to incorrect implementation.
- 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 for exteriors.
- Avoid applying FASSAFLOOR ECO at temperatures above +30°C. (in the summer, it is recommended to use dark fabric screens on all openings).
- Avoid strong air currents and direct sunshine for the first 48 hours after laying. From the third day, ventilate the rooms to help the floor screed to harden and dry.
- The screed must be protected against humidity, accidental contact with water and the formation of condensate.
- Avoid laying FASSAFLOOR ECO in thicknesses of less than 3 cm.
- Application on underfloor heating systems does not require the use of fluidifiers, as these are already contained in the product's formulation.
- Avoid applying the product directly in contact with pure aluminium.
- Lay wooden, resilient and laminated floors only after having ascertained by carbide hygrometer that the moisture content is ≤ 0.5% (in compliance with UNI 11371 and UNI 11515-1).
- For application of wooden, resilient and laminated floor coverings on screeds enclosing underfloor heating coils, residual moisture must be ≤ 0.2% (in compliance with UNI 11371 and UNI 11515-1).
- 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 anhydrite screed, the residual moisture content must be ≤ 0.5% (in compliance with standard UNI 11493-1).
- For application of ceramic floor coverings on screeds enclosing underfloor heating coils, residual moisture must be ≤ 0.3% (in compliance with UNI 11493-1).
- For the production of unbonded screeds on polyethylene sheets intended for the subsequent application of thin coverings in general and/or resilient coverings, the minimum thickness must be at least 4 cm (in compliance with UNI 11515-1).
- Remember that for the installation of moisture-sensitive coverings (wood, resilient, etc.), the separating barrier must have an S_d (equivalent air layer thickness) that complies with the requirements of the corresponding application standards.
- For laying on underfloor heating systems, a minimum thickness of 3 cm is recommended above the pipes.
- The drying times indicated in the Technical Data table refer to reaching a residual moisture value of approximately 0.5%. To reach the lower values required by the UNI 11371, UNI 11493-1, UNI 11515-1, UNI 11714-1 standards for bonding on underfloor heating systems, the underfloor system needs to be switched on in heating mode, making sure the relative humidity in the rooms does not exceed 60%.

FASSAFLOOR ECO it must be used in its original state without the addition of foreign materials.

Storage

Keep dry for a period not exceeding 12 months. Once the product has expired, it must be disposed of in accordance with the current legislation.

Quality

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

Technical Data

Specific gravity of the powder	approx. 1,500 kg/m ³
Granulometry	0-3 mm
pH	alkaline
Application thickness	3-7 cm
Mixing water	16-18%
Yield	approx. 18 kg/m ² with 10 mm thickness
Shrinkage	0.06 mm/m
Density of hardened product	approx. 2,050 kg/m ³
Working time at 20°C	approx. 40 minutes
Typical drying time at +20°C and 65% RH	1 week/cm for the first 4 cm of thickness; 2 weeks/cm for each additional cm; at lower temperatures and/or higher R.H. drying time may increase
Reaction to fire	A1 _{fl}
Flexural strength after 28 days (EN 13892-2) *	≥ 5 N/mm ²
Compressive strength after 28 days (EN 13892-2) *	≥ 20 N/mm ²
Thermal conductivity coefficient (EN 1745)	λ = 1,31 W/(m·K) (tabulated value)
Time before walking on at 20°C	approx. 24 h
Compliant with standard EN 13813	CA-C20-F5
(*) The specimens for mechanical strength tests are prepared in the laboratory, 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.