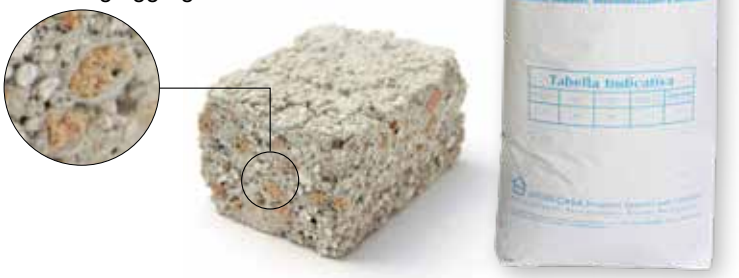
Technical data sheet

THERMAL SCREED

Dehumidifying Thermal Screed

Cork insulating aggregates



Rev. No. 4 dated 01-07-2026

General description

THERMAL SCREED AFON CASA is composed of natural aggregates with high thermal power and, thanks also to its alveolar structure, meets the diverse demands of modern construction by acting as a highly efficient thermal insulator.
The prescribed minimum thickness of 3 cm, with an embedded 40x40 mm fiberglass mesh, ensures optimal thermal performance.
Of significant importance is the low specific weight of the product (350 Kg/m^3), which allows the renovation of old buildings without overloading the existing structural elements.
It also finds application on ground-slabs and ventilated crawl spaces with condensation and/or rising damp problems, or alternatively to improve the impact sound insulation of floors between different housing units (or apartments).
It can be used as a filling underlayment preparation for the subsequent glue-down installation of hardwood flooring (parquet) and other types of flooring.
Being a thixotropic product, it lends itself excellently to thermally insulating terraces with residential spaces below; this characteristic favors the spreading of the material, allowing to achieve the desired slopes.

Warranty

In addition to the legal warranty, the product is covered by a Product Liability insurance policy with a primary Italian insurance company.

Supply and storage

20 Kg bags + 1-liter bottles of ADDITIVE for each bag. Unlimited shelf life if kept in dry places.

Fields of Application

THERMAL SCREED is used for the thermal insulation of floors for the preparation of flooring installation, or for the creation of encapsulating screeds for MEP/building utility systems, or, in the case of underfloor heating, for the preparation of the installation of the support panels for the underfloor heating.
Suitable also for slopes; the use of a vapor barrier membrane is recommended, properly turned up at the perimeters and overlapped to ensure complete structural decoupling, it is suitable to receive the flooring installation after creating fragmentation joints.

Substrate preparation

Clean the substrates very well before casting the screed.

Warnings:

- It cannot be applied by spray;
- Do not apply at temperatures below 5 C°;
- Verify that the subfloor/deck is structurally capable to receive additional loads beyond the pre-existing ones;
- Provide for the installation of a vapor barrier before spreading the screed, make sure to provide vertical turn-ups and adequate overlaps;
- For thicknesses equal to 3 cm, it is necessary to insert the GFRP reinforcement mesh;
- In cases where flooring or waterproofing with cementitious sheath directly on the thermal screed is planned, it is advisable to provide the reinforcement mesh at a depth of 3 cm from the upper surface;
- In any case, it is suggested to provide the mesh for every generic application.

Mixing method

Pay particular attention to the mixing method, therefore proceed as follows: In a concrete mixer with a capacity greater than 250 liters, introduce: 35 lt of water + 75 Kg of 325 Portland cement + AFONCASA Additive 1 lt bottle/bag + n.1 package of THERMAL SCREED, 20 Kg bag. Make sure that the cement has not stuck to the bottom of the concrete mixer, in which case stop the mixer and detach it; tilt the mixer, wait a few seconds so that the initial water wets the whole mass and, if it is not enough, add more in small doses at a time. If the mortar appears too fluid or wet, a small amount of lime can be added to increase body and thickness. Let the concrete mixer spin for 5/7 minutes.

ATTENTION
If the mortar spins more than expected, it incorporates too much air and the mortar itself becomes inconsistent, therefore unsuitable for use. Conversely, if it incorporates little air, the cells do not develop sufficiently and the performance is not excellent. The resulting mass must therefore appear thixotropic and thus dense and soft.

N.B. In order not to compromise the correct success of the mix, the content of the bag must be mixed all at once. Keep the empty bag over the mouth of the mixer during operation, so that dust does not escape. The use of a mask for the operator is prescribed.

Laying method

The **THERMAL SCREED** can be applied in a single pass starting from 3 cm of thickness.
The procedure involves:

1. Prepare level guides, with the material itself or with metal bars or wooden slats, securing them with quick-setting cement and removing them the next day;
2. Spread the product, using a trowel to cut through any protrusions in order to make the application uniform. Avoid eliminating the protrusions by crushing the mortar, so as not to break the cells created inside the mass. Spread the screed uniformly over the entire surface up to a height not lower than half of the design thickness; - Lay a GFRP mesh, adapting it to the geometries of the deck by means of appropriate cutouts, paying attention to ensure the due overlaps of at least 10 cm between distinct sheets of the aforementioned mesh. Covering of the mesh with a height equal to at least half of the design thickness, and subsequent levelling to obtain a compact and flat upper surface suitable to receive the flooring.
3. Straightedge leveling must be performed with a metal straightedge, operated slowly in a zig-zag motion.
4. Execute any expansion joints in case of surfaces subject to temperature peaks or in case of large surfaces to cover.
5. Curing and Drying Time: 7-10 days. It is however recommended to carry out a measurement with a hygrometer at the end of the indicated period, and verify that the residual relative humidity is not higher than 5%.

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THERMAL CONDUCTIVITY	λ = 0,057 W/mK
VAPOR DIFFUSION RESISTANCE	μ=5
SPECIFIC WEIGHT	350 Kg/m^3
SPECIFIC HEAT	1000 J/KgK
APPROXIMATE YIELD	1 kg/m^2 per cm 1 thickness
PACKAGING	20 kg Bags
REACTION TO FIRE	A1
VAPOR TRANSMISSION SPEED	370 gr per day / m^2 per 2.5 cm thickness
THEORETICAL SOUND-ABSORBING POWER (R at 500 Hz)*	24 dB* thickness 3 cm 29 dB* thickness 5 cm
FLEXURAL STRENGTH	1.66 N/mm^2
COMPRESSIVE STRENGTH	3.24 N/mm^2
LIQUID WATER PERMEABILITY	0.31 Kg/m^{2}h$^{1/2}$

** Note on acoustic performance: The indicated sound-insulating power values (R) are the result of a predictive mathematical estimation based on the Mass Law in a diffuse field at a frequency of 500 Hz, calculated on the theoretical weight of the dry screed layer. These values refer only to the single layer of isolated material and do not constitute a laboratory certification of the constructive system (R_w).*

Specification item

THERMO-ACOUSTIC SCREED AFON CASA suitable for the preparation of lightweight underlayments for the laying of floorings (application of self-leveling compound in case of parquet), insulation of every type of floors, The material must feature a dry density equal to 350 kg/m^3, thermal conductivity equal to 0.057 W/mK.