AFON CASA
BUILDING INNOVATION

# THERMAL SCREED

Patented and on the market for over
30YEARS



## ALTERNATIVE TO TRADITIONAL SLAB

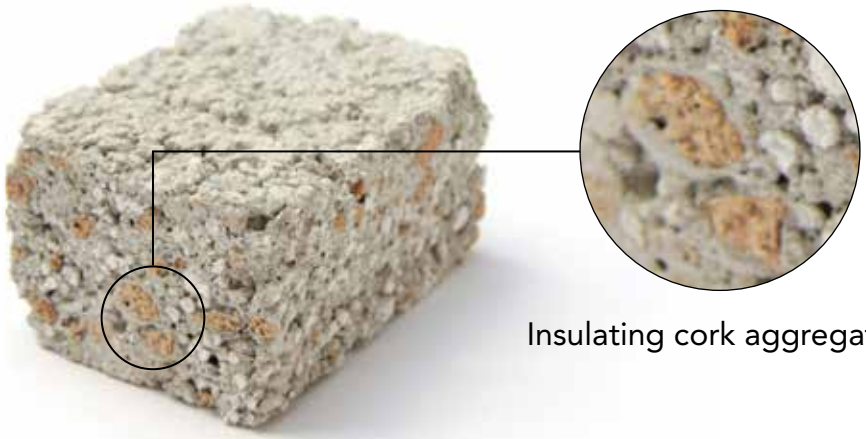
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# THERMAL SCREED

## Anti-condensation Thermal Barrier and Noise Barrier

**Field of application:**
under floors, between one storey and another on the ground floor to eliminate humidity and condensation, under roof tiles to form heat-insulating and waterproofing slabs and to thermally insulate terraces.



Insulating cork aggregates

## APPLICATIONS

**Thermal Screed**, composed of natural aggregates with high thermal power, meets the various needs of modern building, encompassing within itself two fundamental functions:

1) Thermal insulation;
2) Acoustic insulation;

In fact, by casting on the roof, after laying fibreglass mesh, a thickness of 3 cm of **Thermal Screed**, a thermo-acoustic slab is obtained; moreover, of considerable importance is the low specific weight of the product, which allows the renovation of old buildings without weighing down the structure.
The advantages of **Thermal Screed** extend to other important applications, in fact it can be used:

- as a filling preparation for subfloor and subsequent gluing of parquet and other coverings;
- between one floor and another under the flooring to reduce falling and footstep noise;
- to thermally insulate dwellings above porches;
- to form thermal slabs against humidity under floors and on the ground floor.

As the product is thixotropic it is excellently suited to thermally insulate terraces with dwellings below; the thixotropic character favours the spreading of the material, allowing the desired slopes to be created.
**Thermal Screed** is a premixed insulating product ready to be added with pozzolanic cement and water at the moment of use. The mixture, once mixed and cast at high thicknesses over the floors before paving, is suitable for forming thermo-acoustic slabs.

# THERMAL SCREED

## Mixing and laying method

## MIXING METHOD

Place in a 250-litre concrete mixer:

- 35 litres of initial water
- 75 Kg of 325 Portland cement
- 1 litre of Additive 370/C
- 1 bag of **Thermal Screed** of 20 Kg



Scan the QR code to watch the video of the mixing and laying method.

Make sure that the cement has not stuck to the bottom of the concrete mixer; if this is the 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 sufficient, add more in small doses at a time. If the mortar is instead too runny, some lime may be added to thicken it. Run the concrete mixer for 5-7 minutes.

WARNING: If the mix runs longer than expected, the mass incorporates too much air and the mortar becomes inconsistent, therefore unsuitable for use. On the contrary, if it incorporates too little air, the alveoli do not develop sufficiently and the performance is not excellent. The resulting mass must appear thixotropic: dense and soft.

## LAYING METHOD

**Thermal Screed** can be applied in a single pass starting from 3 cm in thickness.
The procedure provides:

1. Make the guides, with the material itself or with metal bars or wooden strips, fixing them with quick-setting cement and removing them the following day;
2. Spread the product, cutting the protrusions of the mortar with the trowel so as to make the application uniform. Absolutely avoid eliminating them by crushing the mortar, so as not to break the alveoli created inside the mass. Spread the screed uniformly over the whole surface up to a height not lower than half of the design thickness; laying of GFRP mesh adapting it to the geometries of the deck by means of suitable cut-outs, taking care to guarantee the required overlaps of at least 10 cm between separate sheets of the aforesaid mesh. Covering of the mesh with a height equal to at least half of the design thickness, and subsequent screeding to obtain a compact and planar upper surface suitable to receive the flooring.
3. The leveling must be performed out with a metal straightedge ruler, moved slowly in a zig-zag motion.
4. Make any expansion joints in the case of surfaces subject to temperature peaks or in the case of large surfaces to be covered.
5. Waiting times before laying the flooring equal to 7-10 days. It is in any case advisable to carry out a hygrometer reading at the end of the indicated period, and verify that there is no residual r.h. greater than5%.

# TECHNICAL DATA




| | |
|---|---|
| THERMAL CONDUCTIVITY | λ = 0,057 W/mK |
| VAPOUR DIFFUSION RESISTANCE | μ = 5 |
| SPECIFIC WEIGHT | 350 Kg/m$^3$ |
| SPECIFIC HEAT | 1000 J/KgK |
| APPROXIMATE YIELD | 1 kg/m$^2$ thickness cm 1 |
| PACKAGING | 20 kg bags |
| FIRE RESISTANCE | A1 |
| VAPOUR TRANSMISSION RATE | 370 gr per day/m$^2$ thickness 2.5 cm |
| IMPACT SOUND REDUCTION | 25 Db thickness cm 5 |
| FLEXURAL STRENGTH | 1.66 N/mm$^2$ |
| COMPRESSIVE STRENGTH | 3.24 N/mm$^2$ |
| LIQUID WATER PERMEABILITY | 0.31 Kg/m$^2$h$^{1/2}$ |

# ADVANTAGES OF THERMAL SCREED

- **LOW SPECIFIC WEIGHT - IDEAL FOR RENOVATIONS WITHOUT BURDENING THE STRUCTURE**
- **USABLE BETWEEN ONE FLOOR AND ANOTHER UNDER THE FLOORING**
- **ALLOWS THE CREATION OF THERMAL SLABS AGAINST HUMIDITY UNDER FLOORS AND ON THE GROUND FLOOR**
- **SUITABLE FOR THE THERMAL INSULATION OF TERRACES WITH DWELLINGS BELOW OR ABOVE PORTICOES**
- **EASE OF SPREADING THANKS TO THE THIXOTROPIC CHARACTER, ALLOWING THE DESIRED SLOPES TO BE CREATED**
- **PREMIXED INSULATING PRODUCT READY TO BE ADDED WITH CEMENT AND WATER**
- **SUITABLE FOR FORMING THERMO-ACOUSTIC SLABS WITH HIGH THICKNESSES ABOVE SLABS BEFORE FLOORING**

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