NOBILIUM®

THERMALPANEL®

UNI EN ISO 14021:2016

CAM

NATURAL, BREATHABLE AND NON-COMBUSTIBLE INSULATION BOARD

Natural product with a low profile of 9 mm or 3 mm, improving indoor living comfort in winter and summer. Particularly suited for use in **historic buildings**, as the **anchor-free** installation preserves the integrity of the wall/ceiling, while the bonding and top-coating, with layers of **natural lime**, blend well with the materials historically used in this type of building.

NOBILIUM®THERMALPANEL
for historic buildings

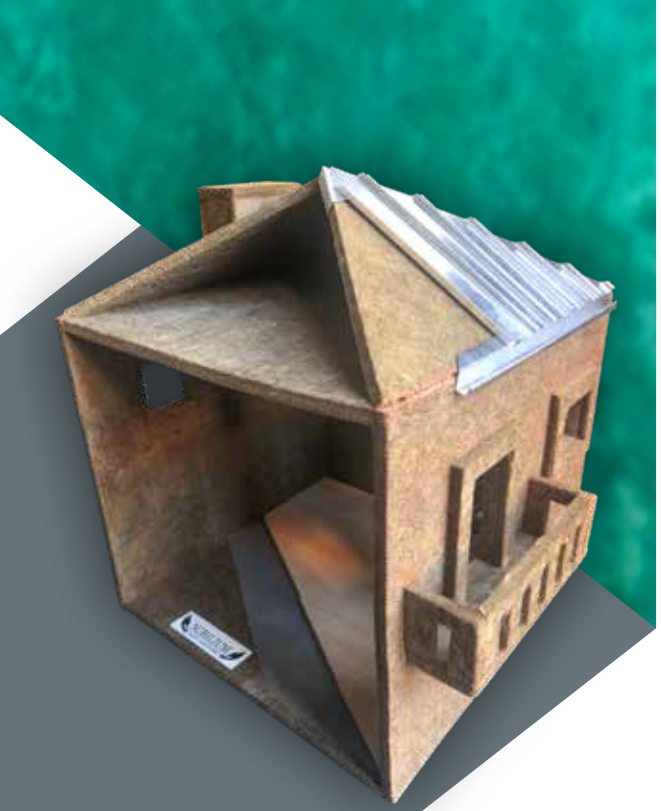
LOW PROFILE INSULATION:

Renovating buildings has become a key priority, but careful analysis is needed to identify the best technical solutions to reduce thermal losses and improve the healthiness of the indoor environment.

NOBILIUM®THERMALPANEL, available in 9 mm or 3 mm, has been designed to provide a valid, low-profile, natural, breathable, non-combustible and mechanically robust solution certified with the CE mark for use in all situations where the use of thicker panels is impossible or problematic.

The interior renovation of a building requires careful planning, and the materials and systems to be used, which if not properly planned may produce undesirable results, must be thoroughly analysed. For this reason, the low-profile NOBILIUM®THERMALPANEL also works well when combined with interior and/or exterior insulation that uses “traditional” thicker materials, offering a more aesthetic final result that hides the insulation from view under the thickness of the plaster.

NOBILIUM®THERMALPANEL
for historic buildings



NOBILIUM® THERMALPANEL

NOBILIUM®THERMALPANEL consists of a 100% natural and non-combustible fibre extracted from a special kind of volcanic rock. The unique construction of the board in several thin veils, "stitched" together mechanically using the same fibre, gives the product innovative mechanical and insulating properties and enables it to be applied to walls and ceilings without needing anchors, and to floors under the screed and/or laid "dry" under the floorboards.

The certifications shown in the table below are a testament to the important insulating properties of the low-profile NOBILIUM®THERMALPANEL 9 mm insulation board, offering a significant reduction in thermal losses of around 50% to 30%.

INSULATION LEVEL ANALYSIS WITH NOBILIUM® THERMALPANEL

Standards Applied: UNI EN ISO 6946; UNI EN ISO 13786

Values under steady-state and dynamic conditions of:	Wall 1* + 9 mm NOBILIUM® THERMALPANEL	Wall 1* + 18 mm NOBILIUM® THERMALPANEL	Wall 2* + 9 mm NOBILIUM® THERMALPANEL	Wall 2* + 18 mm NOBILIUM® THERMALPANEL	Wall 3* + 9 mm NOBILIUM® THERMALPANEL	Wall 3* + 18 mm NOBILIUM® THERMALPANEL
Thermal Transmittance U (W/m2K)	-48,4%	-64,5%	-42,0%	-58,3%	-28,8%	-43,9%
Thermal Resistance R (m2K/W)	+93,8%	+181,4%	+72,7%	+140,0%	+40,6%	+78,2%
Thermal Phase Shift (h)	9,79 h	10,01 h	14,28 h	14,51 h	11,19 h	11,65 h

*Wall 1 reinforced concrete (30 cm)
*Wall 2 stone (50 cm)
*Wall 3 load-bearing perforated bricks (30 cm)

NOBILIUM® THERMALPANEL vs MINERAL WOOL

The technical properties of the board that distinguish it from the classic mineral wool alternatives commonly available on the market are as follows:

TECHNICAL PROPERTIES	NOBILIUM® THERMALPANEL	MINERAL WOOL average values
Nominal density	180 Kg/m³	100 Kg/m³
Point load resistance	6150 N	200/600 N
Specific heat capacity	2100 J/KgK	1000 J/KgK
Tensile strength parallel to the direction of the boards	1478 kPa	15 kPa
Nominal thickness	9mm and self-supporting 3mm and self-supporting	Not available at comparable thickness
Thermal conductivity	0,032 W/mK	0,040 W/mK
Breathability	μ 3 Exceptionally breathable	μ 1 Exceptionally breathable
Combustibility	Non-combustible A1	Non-combustible A1
Residual tensile strength after subjection to 200°C heat (%)	98	95
Residual tensile strength after subjection to 400°C heat (%)	85	60
Residual tensile strength after subjection to 600°C heat (%)	76	20
Loss of weight per vibration (v = 50 Hz, A = 1 mm, t = 3 hours, %) at 200°C	0	40
Loss of weight per vibration (v = 50 Hz, A = 1 mm, t = 3 hours, %) at 450°C	0,01	75
Loss of weight per vibration (v = 50 Hz, A = 1 mm, t = 3 hours, %) at 900°C	0,35	100
Loss of weight in water (%)	1.6	4.5
Loss of weight in acidic conditions (%)	2.2	24
Loss of weight in alkaline conditions (%)	2.75	6.1

The summary table above clearly demonstrates the significant technical variations in certain key parameters, including specific heat capacity, tensile strength and the low thermal conductivity with a high density, confirming NOBILIUM® THERMALPANEL as the only product worldwide to possess these characteristics at only 9 mm thick.

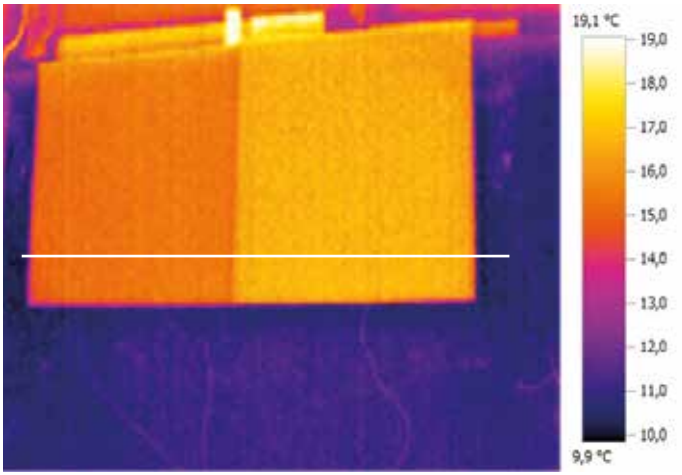
IDEAL INSULATION PROPERTIES

Until today, the properties shown below could only be found in different products and had never been incorporated into a single product, like NOBILIUM® THERMALPANEL.

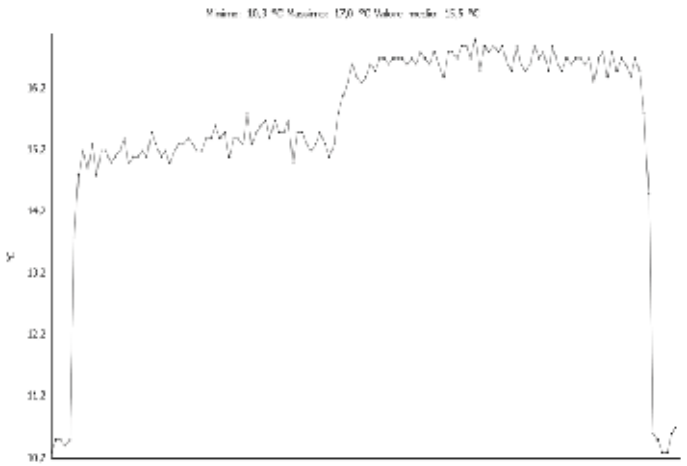
- Low thermal conductivity
- High density
- High specific heat capacity
- Non-combustible
- High breathability
- Natural product
- Easily recyclable
- Low profile
- High tensile strength
- Excellent dimensional stability
- Ease of installation
- Excellent cost/technical properties/ environmental impact/ low profile ratio
- CE marked in compliance with EN 13162:2012 + A1: 2015
- Compliance with CAM EN 14021:2016

Bonding and top-coating certified by leading manufacturers, including
CALCHÈRA S. GIORGIO, CROMOLOGY SETTEF, CROMOLOGY VIERO, CUGINI SPA, CVR, FASSA BORTOLO, GRIGOLIN, HD SYSTEM, KERAKOLL, KIMIA SPA, MAPEI, TASSULLO, TCS CALCE, TORGGLER.

Thermographic analysis of NOBILIUM® THERMALPANEL



Application of NOBILIUM® THERMALPANEL 9 mm (left) and 18 mm (right) on a 30 cm reinforced concrete wall.



The graph shows the surface temperatures of the wall and the NOBILIUM®THERMALPANEL 9 mm and 18 mm boards.

"Dry" thermo-acoustic application with 3 mm Nobilium® Thermalpanel for structures.

"Dry" thermo-acoustic application with 3 mm Nobilium®Thermalpanel for structures.

Nobilium®Thermalpanel for the renovation of historic/rustic buildings.

Nobilium® Thermalpanel laid on interior wall, without anchors, with layer of natural lime.

Nobilium®Thermalpanel to improve exterior thermal bridging.

Nobilium®Thermalpanel for thermo-acoustic underfloor insulation.

FOR EXTERIORS:
THERMAL INSULATION,
WINDOW SOFFITS,
BALCONIES,
TERRACES AND ROOFS

FOR INTERIORS:
THERMAL INSULATION,
THERMAL BRIDGES,
FLOORS AND CEILINGS

A high-quality, natural insulation solution for any surface of your home.

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NOBILIUM® THERMALPANEL®

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