

CELENIT
NATURAL INSULATORS

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Celenit. Natural by Nature

Eco-compatible thermal and
sound insulation solutions

Celenit mission is to provide the best thermal and sound insulation solutions with natural panels that respect human health and the environment. To be defined as natural, eco-biocompatible and sustainable, a thermal acoustic insulation product must meet many conditions and certifications that concern:

- raw material and the distance between their sources
- the production process from the energy, emission and health standpoints
- any work scrap recycling and disposal

The designer, builder, retailer or final customer who chooses Celenit products makes the right choice and can count on the support of a company that has been committed to combining technical research with eco-compatibility for over 50 years.

This catalogue intends to introduce: the philosophy behind fully natural insulation materials, their composition, the provisioning sources and their production process.

Furthermore, it aims to create a starting point for technical solution choices, presenting a series of insulation solutions, for traditional and innovative construction systems, and to improve the energy efficiency of existent buildings, to conclude with sound insulation themes and the use of a wide variety of facing panels.



What is Celenit

Mineralised fir wood wool
bound with Portland cement

Celenit panels, solely made of natural materials: wood, Portland cement, marble dust and water, can be defined as a natural and sustainable insulators. The wood comes from sustainable forests (PEFC™ - FSC® certified) and the production process has low carbon emissions (ANAB-ICEA certified); it uses recycled materials such as calcium carbonate, meaning the by-product of marble processing (ICEA certificate); lastly, it uses raw materials whose source is near the production facilities (regional materials). For all these reasons, Celenit panels can be used in projects that require building sustainability certificates such as Leed, SBtool, Breem.

Celenit panels are made up of 65% long and resistant fir fibre and 35% mineral binders, mainly Portland cement and marble dust. Fibres are mineralised, a treatment which, while retaining the mechanical properties of wood, cancels the process of biological deterioration, making the fibres perfectly inert and increasing the level of fire resistance. Fibres are then coated with Portland cement, bound together under pressure to form a stable, resistant, compact and durable structure. The cellular structure of wood gives the insulation panel lightness and elasticity; The sound absorption and the excellent ability to adhere to all forms of mortar are due to the gaps between the fibres. The pressurised wood and Portland cement agglomerate determines the product's compactness and strength, two qualities that are always appreciated in the building industry; the presence of Portland cement gives high resistance to water and frost and superior mechanical properties such as resistance to bending and compression. These characteristics make Celenit a very versatile multi-purpose product for many building applications.







Celenit production

Fifty years
of innovation

Celenit is manufactured in a state-of-the-art factory with a production capacity of 12,000 sq. m. per day. The plant is characterised by low energy consumption and part of the energy demand is supplied by the photovoltaic system that covers its entire roof. High production capacity and full automation guarantee both large and small orders are quickly filled. Delivery speed is highly appreciated by the insulation market. The highly automated process guarantees constant production standards required by EN 13168 and EN 13964 standards; in fact, production is internally checked several times a day and periodically by notified bodies.

All products sold on the Italian and European markets must bear CE marking obtained from notified bodies in the EU and provide DoP (Declaration of Performance). The technologically advanced plant and constant controls required by CE marking are a guarantee for those who use Celenit panels. Whoever uses technical materials must be ensured that the data provided by the company are met by standard production and only companies that invest in production like Celenit are able to provide this guarantee.



Celenit functions and performance

Insulation solutions for full comfort

Celenit panels have an open cellular structure where air, wood and cement contribute in assuring all insulation needs are met and building lifespan is prolonged. Celenit is an insulation panel that offers a wide range of advantages. For this reason, it is designed to be inserted in any combined insulation specification whose goal is not only to meet all legal requirements, but also to respect human health and the environment. Celenit is the best thermal summer insulation panel, able to provide a prominent contribution in roofs and light walls. In a variable thermal regime, that is the norm for many climates, both low and high temperatures are affecting the energy efficiency of a building. Therefore good insulation has to reduce thermal dispersions and be able to store the heat as well. Thanks to its mass and specific heat, Celenit has a heat storage capacity 20 times higher than that of common insulators. It guarantees optimal thermal lag and attenuation, especially in light structures.

Thermal insulation and inertia

The resistance of a material to temperature change, indicated by the time dependent variations in temperature during a full heating/cooling cycle (a 24-hour day for Earth), is known as thermal inertia. It is a measure of a material's ability to transfer heat in and out of that portion that received solar heating during the day and cools at night. In many climate zones thermal inertia is as important as thermal resistance. Celenit boards, thanks to their mass and specific heat can accumulate heat 20 times more than light insulators. That is why they are the best summer insulators providing optimal thermal lag data.

Durability and mechanical resistance

the wood fibre is fully protected from any biological, chemical or meteorological phenomenon thanks to the silicates of Portland cement and its saturation with mineralising and fire retarding substances. The carbonation of the calcium in the cement increases the product resistance properties over time. Durability is unlimited.

Hygrometric behaviour

Celenit panels act as hygrometric regulators: they absorb excess humidity and release it when normal conditions are re-established, without any deformation occurring. Using Celenit panels on false ceilings and facings makes the environment drier also contributing to improved living comfort.

Sound insulation

The features of a Celenit panel such as its mass, honeycomb structure, low elastic modulus and internal damping effect make it a good product both to regulate noise (sound absorption), and to reduce the transmission of sound (sound insulation).

Fire behaviour

Celenit is classified according to European standards (EN 13501-1) in Euroclass B-s1, d0 and A2-s1, d0. In the event of fire, it does not burn, it does not drip, does not create fumes or toxic gases and does not spread the fire. In fact, it slowly burns without flame, creating a mass of consistent ash that protects the part underneath the panel, reducing and annihilating combustion speed. In the event of fire, the wood cement lining on multi-layer panels with flame-retardant polystyrene cores prevents the polystyrene from coming into direct contact with the flame and inhibits the air necessary for combustion.

Eco biocompatibility

Celenit consists of natural products: wood from certified sustainable forests (PEFC™ - FSC®), mineral components, Portland cement and calcium carbonate, which is considered a recycled material because it is a by-product of marble processing (ICEA certified). The panel's physical characteristics, namely the ability to transpire, the absence of electrostatic charges, the ability to accumulate heat and to regulate humidity, ensure optimum living conditions. Celenit was eco-biocompatible certified by ANAB-ICEA.

Sound absorption

The micro-porosity and elasticity of wood wool and macro-porosity of the gaps in the Portland cement and wood agglomerate guarantee excellent specific resistance to air flow and therefore viscous friction for the sound waves that pass through the panel. In addition, the inner sound absorption characteristics of the material, combined with substantial panel stiffness, allow for significant absorption efficiency, including for low-frequency sounds.

Water and freezing behaviour

Celenit is fully insensitive to water and freezing. Portland cement grants the panel water resistance and the close bond with the fibre prevents detachment in the event of freezing temperatures. Therefore, it does not swell or crumble when wet. The natural stability when wet and freezing is confirmed by passing freezing and defrosting cycles in the freezing point tests.

Technical reliability

Thanks to the countless certifications earned from various non-profit laboratories and universities and due to the ISO 9001 corporate quality system, Celenit offers guaranteed tested insulation solutions that use highly reliable products.

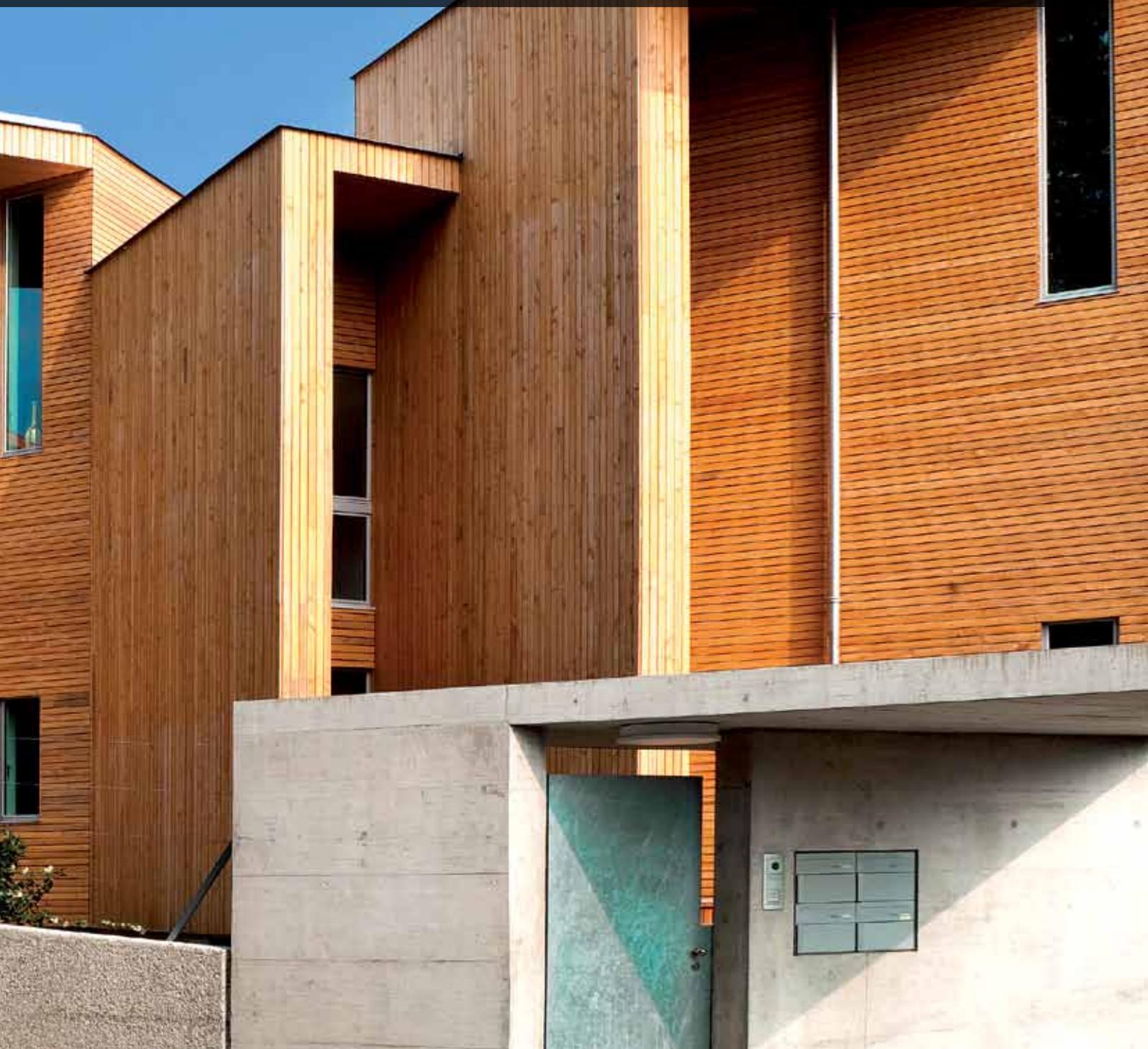


Fibers taken from a Celenit panel and observed in the electron microscope: it is a perfectly preserved structure, high efficiency, which explains the high degree of strength and stability of the product and its insulating characteristics enhanced by the presence of the mineral binder that protects the wood fibers without damaging them.

Celenit for innovative building



Prefabricated timber and metal frame houses offer great advantages in terms of insulation, breathability, construction speed and low environmental impact. However, since light structures, they have summer thermal insulation, sound insulation, fire and humidity protection problems that must be carefully taken into account during the design phase and suitably treated. Celenit panels are ideal insulators for these types of structures. Thanks to their density, specific heat, insensitivity to the meteorological elements and fire behaviour, they protect these types of buildings increasing their efficiency and durability.



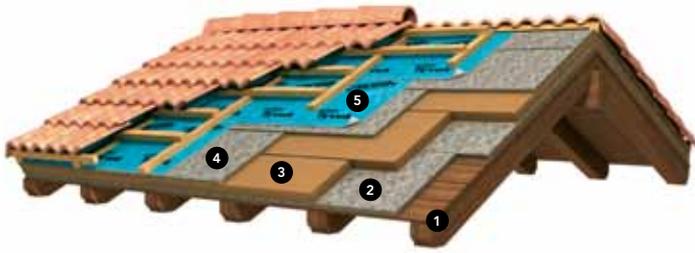


Timber buildings

Light buildings with high living comfort

Timber buildings are characterised by their excellent energy efficiency, with reduced perimeter walls thickness. Consequently the living space increases with the same volume. The two main construction types are plywood and timber frame structures. Thermal and sound insulation able to protect the building from biological decay is required for both types. The Celenit technical solution for plywood walls is an external insulation made with Celenit F2/C or Celenit L2/C panels that combine wood wool and cement with wood fibre or rock wool, and subsequent plaster finish. In timber frame structures the insulation is a combination of a low density and low conductivity wood fibre panel, such as Celenit FL45, protected by the external insulation made up of Celenit N/C panels that are an excellent plaster background and increase the inertia of the entire building. It should be remembered that the efficacy of Celenit external insulation also extends to the summer. In fact, thanks to the high density and specific heat of the mineralised wood wool, the heat wave is attenuated, limiting internal heating. Thermal inertia can be increased by adding an internal layer of Celenit N panels with the additional advantage of being able to carve the panels to place power lines. Celenit N panels offer better mechanical resistance than classic plasterboard finish. Wall, floor and facing elements can be totally or partially prefabricated in the factory and installed on-site. This allows for the building to be quickly assembled, provided that the executive designs are fully ready before work starts.

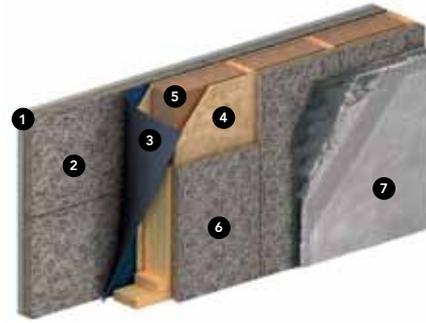




Roof - external insulation

- 1 Wood planking
- 2 Celenit N
- 3 Celenit FL/150
- 4 Celenit N
- 5 DuPont™ Tyvek® Pro - Enercor®

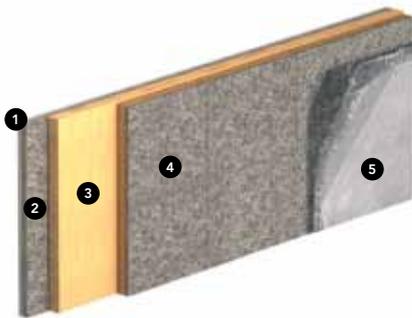
- **Thermal trasmittance**
from 0,18 to 0,37 W/m²K
- **Phase lag**
from 16h30' to 9h1'
- **Sound insulation index R_w**
until 47 dB



External wall - Timber beam framing

- 1 2 gypsum boards
- 2 Celenit N
- 3 Klöber Sepa® Forte-Klöber Wallint® T3
- 4 OSB
- 5 Celenit FL/45
- 6 Celenit N/C
- 7 Plaster

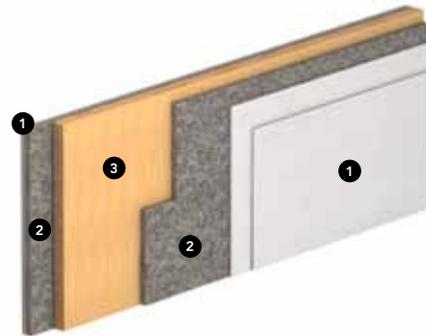
- **Thermal trasmittance**
from 0,19 to 0,30 W/m²K
- **Phase lag**
from 11h53' to 9h28'
- **Sound insulation index R_w**
until 58 dB



External wall - Xlam boards

- 1 2 gypsum boards
- 2 Celenit N
- 3 Xlam panel
- 4 Celenit F2/C
- 5 Plaster

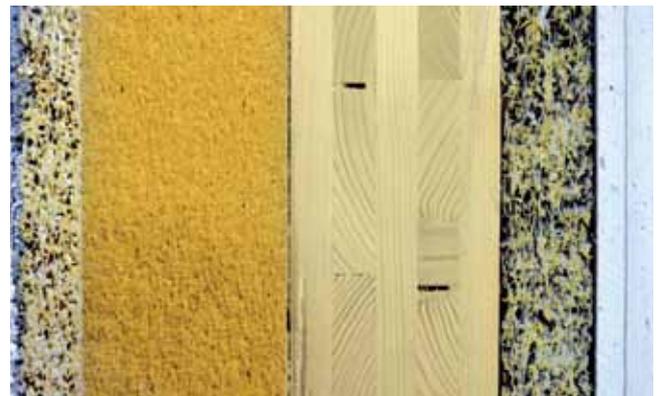
- **Thermal trasmittance**
from 0,20 to 0,36 W/m²K
- **Phase lag**
from 15h40' to 11h1'
- **Sound insulation index R_w**
until 57 dB



Partiotional wall - Xlam boards

- 1 2 gypsum boards
- 2 Celenit N - 40 mm thick
- 3 Xlam panel - 85 mm thick

- **Tickness**
21,5 cm
- **Weight**
118,7 kg/m²
- **Sound insulation index R_w**
56 dB



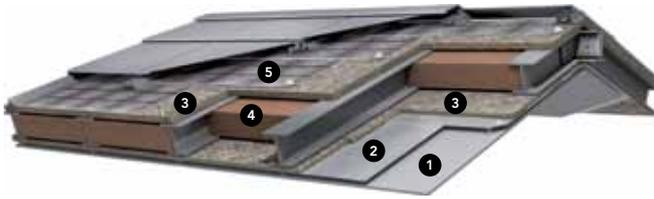


Metal frame buildings

Metal frame technology for high energy efficiency

Like timber buildings, the construction technique defined as the dry construction system: layering materials of various types on a lightweight and resistant steel frame, has been recently developed. The building has the aspect of a typical brick home with the difference that the material used permits significant savings and higher comfort, without neglecting traditional technical qualities. The dry construction system has many advantages over the traditional building technique. Normally, the building is made up of a steel frame that offers light and speedy assembly. As for the perimeter walls, the external casing is made up of a rendered fibre cement slab and, moving inwards, a series of layers of metal frames filled and covered with insulation and waterproof membranes. The internal casing is made up of additionally layered insulation material such as rock wool or wood fibre, a vapour control membrane and plaster board finishing. Wood wool panels like Celenit N are inserted between the metal frames to provide sound insulation and thermal lag to the lightweight structure. The same concept is applicable to the roof system where the frame is filled with light insulation material while, both the extrados and intrados is insulated with Celenit N high density boards in continuity to prevent the roof overheating which, in addition to discomfort, generates considerable air conditioning costs.



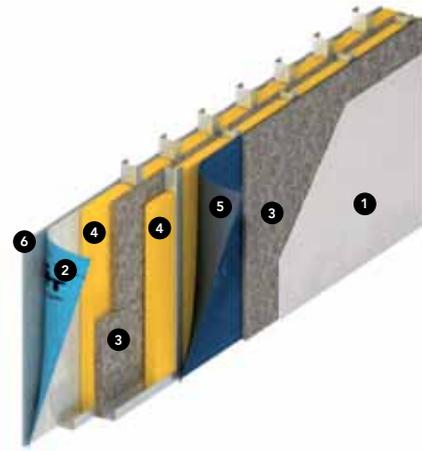


Roof insulation

- 1 Gypsum board
- 2 DuPont™ AirGuard® Reflective
- 3 Celenit N
- 4 Celenit FL/45
- 5 Water proofing

• **Thermal trasmittance**
from 0,19 to 0,33 W/m²K

• **Phase lag**
from 10h34' to 7h41'

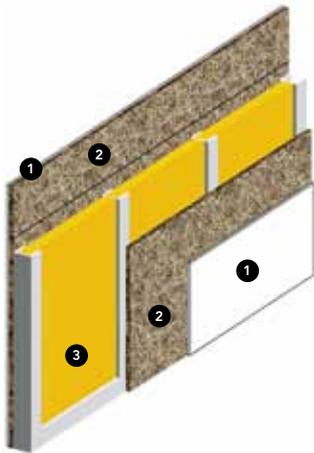


External wall

- 1 Gypsum fribreboard
- 2 DuPont™ Tyvek® Pro
- 3 Celenit N
- 4 Mineral wool 50 kg/m³
- 5 Klöber Sepa® Forte
- 6 Gypsum board

• **Thermal trasmittance**
da 0,14 a 0,18 W/m²K

• **Phase lag**
da 11h52' a 10h4'



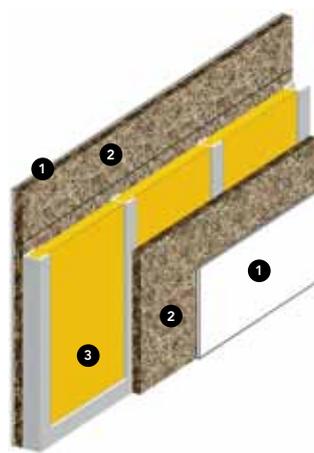
Partitional wall

- 1 Gypsum board - 15 mm thick
- 2 Celenit N - 25 mm thick
- 3 Mineral wool 50 kg/m³ 70 mm thick

• **Tickness**
15,5 cm

• **Weight**
54,3 kg/m²

• **Sound insulation index R_w**
59 dB



Partitional wall

- 1 Gypsum board - 15 mm thick
- 2 Celenit N - 50 mm thick
- 3 Mineral wool 50 kg/m³ 70 mm thick

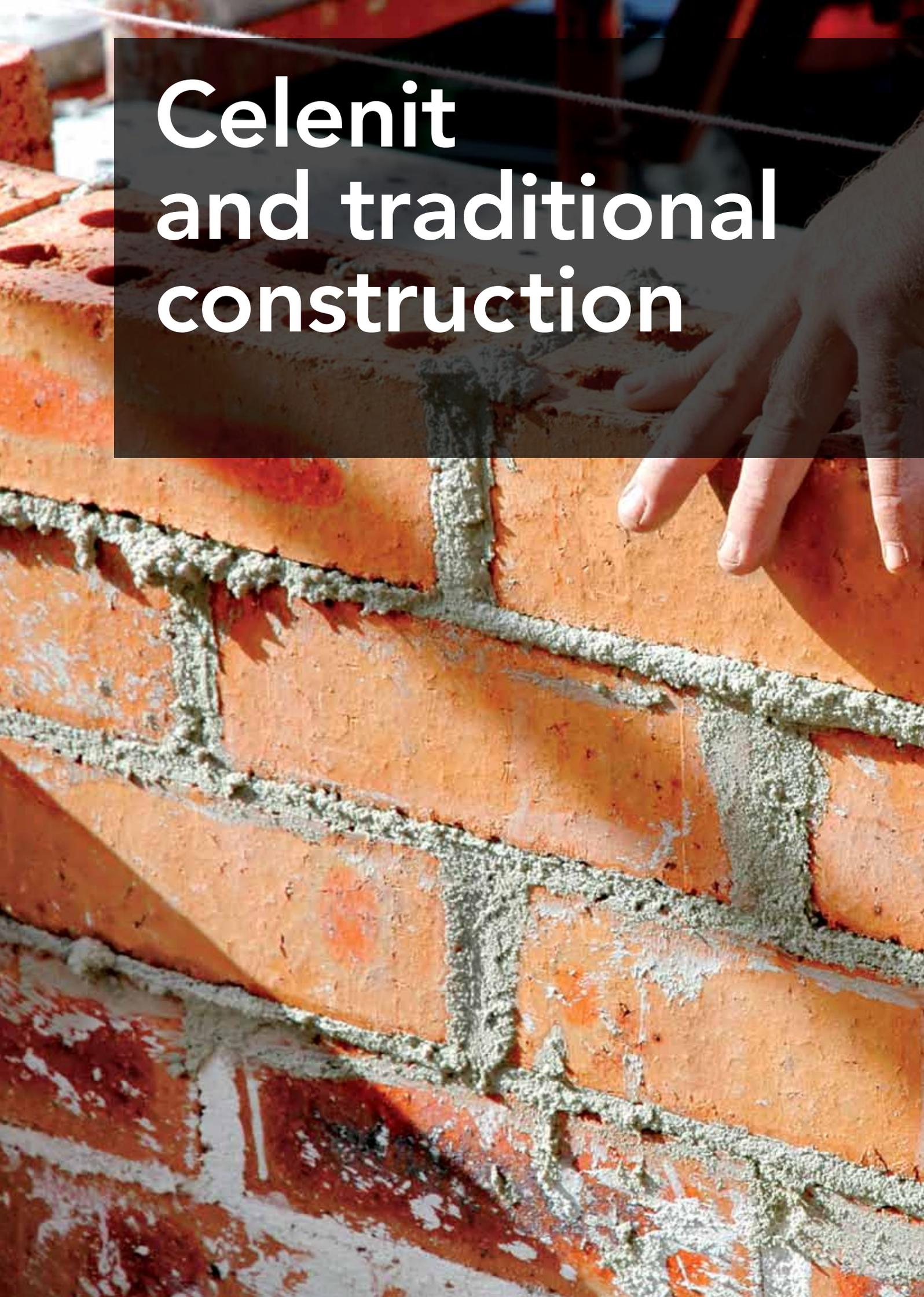
• **Tickness**
20,5 cm

• **Weight**
65 kg/m²

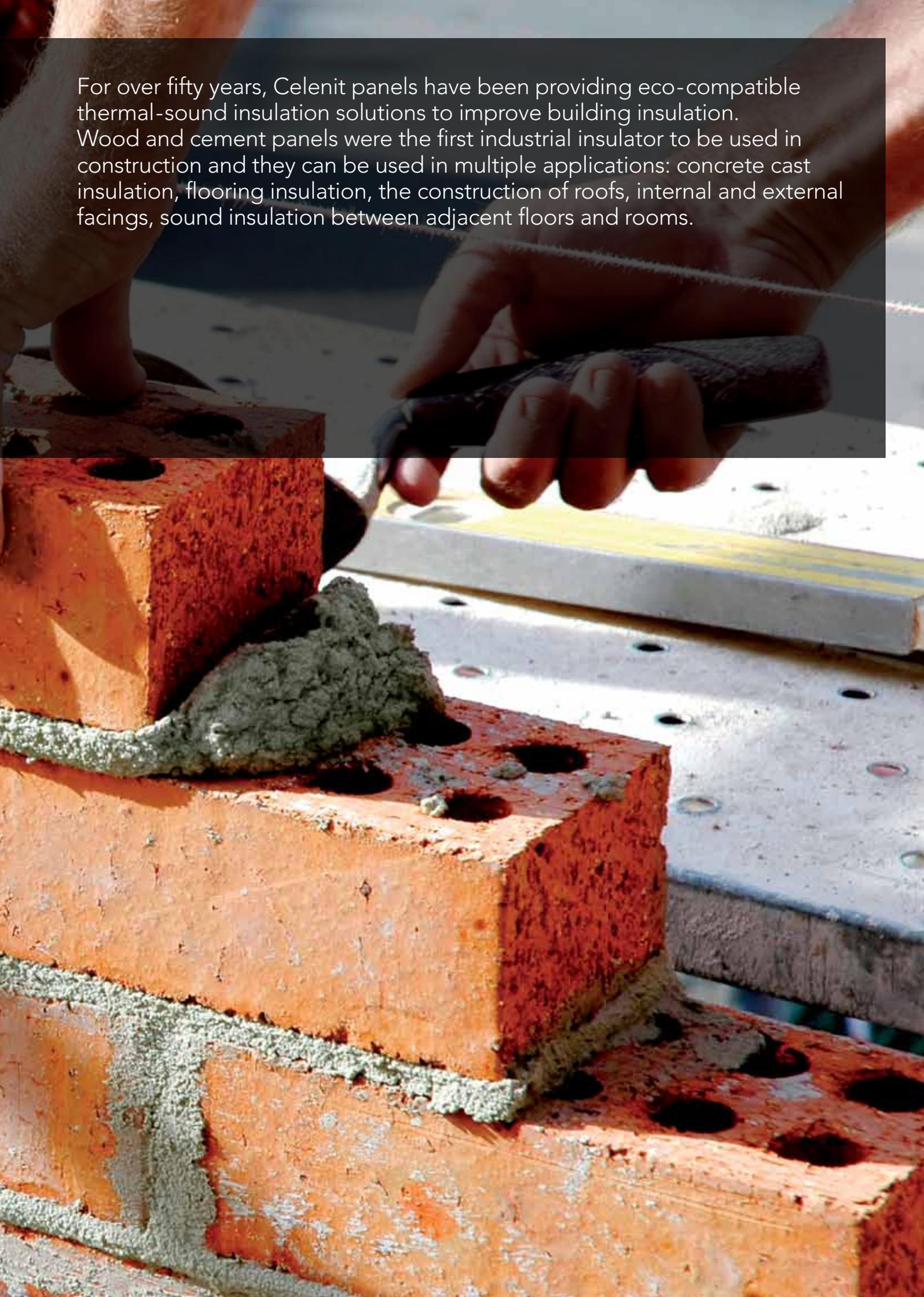
• **Sound insulation index R_w**
61 dB



Celenit and traditional construction



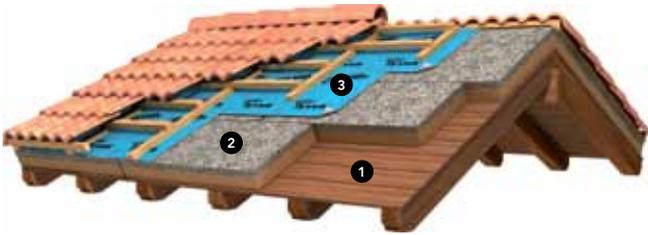
For over fifty years, Celenit panels have been providing eco-compatible thermal-sound insulation solutions to improve building insulation. Wood and cement panels were the first industrial insulator to be used in construction and they can be used in multiple applications: concrete cast insulation, flooring insulation, the construction of roofs, internal and external facings, sound insulation between adjacent floors and rooms.





The high performance roof

In many climate zones, summer heat protection has the same importance as winter cold insulation. Insulation that suitably attenuates and delays the entrance of the heat wave permits high energy savings. Good roof insulation must also protect against external noise, the risk of fire and any damages due to water infiltration or excessive humidity. Furthermore, insulation should not have impacts on human health or the environment. Materials must last in time and guarantee adequate resistance to loads without being compressed. A good architectural design must take all these needs into account and identify complete insulation solutions with reliable and certified materials that provide the maximum living comfort, recovering the investment in time thanks to energy savings. The solutions offered by Celenit are applicable on both slanted roofs, whether or not ventilated, and flat roofs, guaranteeing the maximum living comfort especially in the attic.

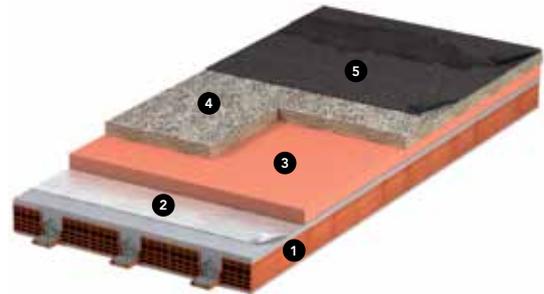


Roof insulation

- 1 Wood planking
- 2 Celenit F2
- 3 DuPont™ Tyvek® Pro
DuPont™ Tyvek® Enercor

• **Thermal trasmittance**
da 0,19 a 0,36 W/m²K

• **Phase lag**
da 13h44' a 8h13'



Flat roof insulation

- 1 Concrete slab
- 2 DuPont™ AirGuard® Reflective
- 3 XPS
- 4 Celenit N
- 5 Water proofing

• **Thermal trasmittance**
da 0,17 a 0,28 W/m²K

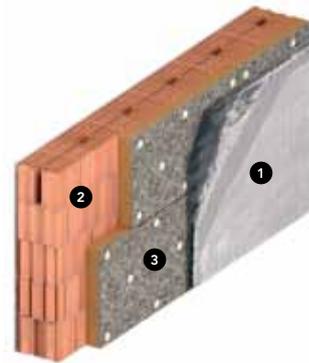
• **Phase lag**
da 21h1' a 11h1'





Bio-ecological walls

Celenit offers high performance perimeter wall insulation solutions for brickwork, providing external and internal insulation coverings and interspace insulation. The use of highly breathable natural materials simultaneously guarantees good thermal, sound and fire protection. Since made of insulating materials that have low conductivity, high specific heat and significant volume mass, these partitions ensure excellent winter insulation and optimal summer wellbeing thanks to the average 12-hour heat wave thermal lag. For the external insulation, Celenit offers the application of a composite panel, made of mineralised wood wool and bound with Portland cement coupled with a wood fibre panel, directly glued and anchored to the brickwork and lined with a thick plaster finish. The result is a highly resistant surface with practically endless longevity and extremely high thermal-sound insulation performance.



External wall - Exterior insulation

- 1 Plaster
- 2 Poroton
- 3 Celenit F2/C

• **Thermal trasmittance**
da 0,20 a 0,34 W/m²K

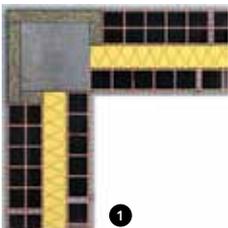
• **Phase lag**
da 20h12' a 15h37'



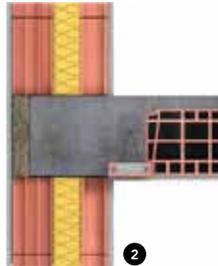


Thermal bridges

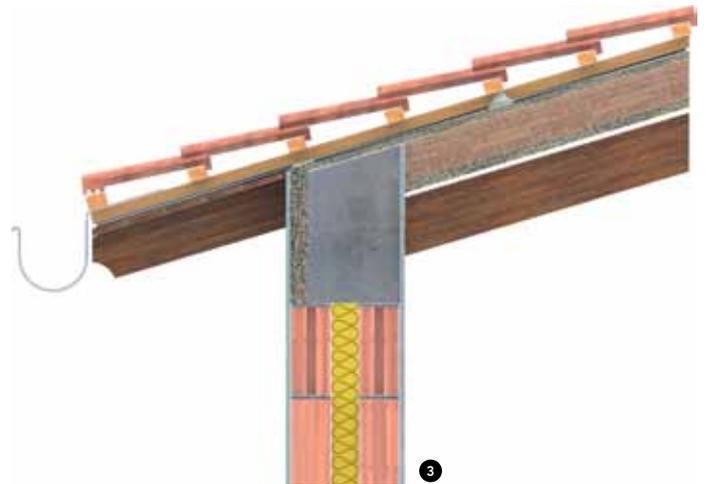
Heat losses through structural building elements: thermal bridges, can reach and exceed 20% of total dispersion and are the cause of internal condensation, stains and mould with the consequent decay of building parts. Thermal bridges mainly occur in buildings with materials that transmit energy differently, meaning with different thermal conductivity values, or at geometric type discontinuities. To enhance the insulating properties of brick and concrete parts, Celenit panels are used inside formworks or applied later. Polystyrene composite panels (Celenit P3, Celenit G3, Celenit E3) can also be used with plastic or metallic anchors to increase the grip to the casted concrete. Thermal bridges must be corrected to prevent the formation of surface condensation and mould inside living areas and to limit heat dispersion with a consequent increase in energy consumption.



1



2



3

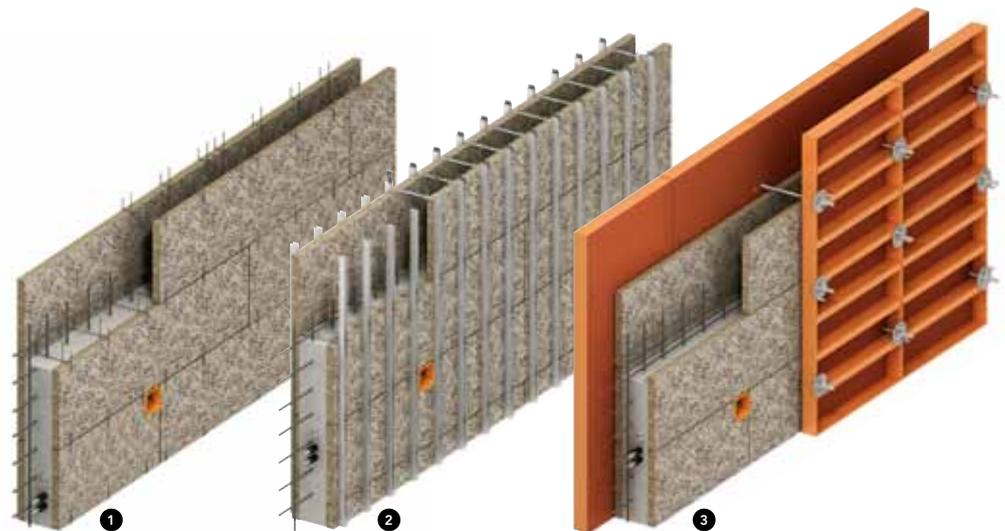
- 1 Insulation of pillars
- 2 Insulation of inter-floor beams
- 3 Insulation of roof beams





Insulated concrete

Concrete casting in a formwork is a construction system that offers many advantages: elements built this way are both structural elements and enclosures, can incorporate electrical cables and pipes and directly receive the finishing. Thus the use of wood wool and cement insulating panels as formwork for the cast becomes interesting. Walls with exceptional performance, combining all the advantages of concrete with those of Celenit panels, can be produced by coupling concrete with wood wool and cement panels. The system consists of creating bearing walls by casting concrete within the two parallel Celenit panels restrained by suitable elements (large formwork, spacers, brackets). This way the insulating panels remain incorporated in the cast, creating a single monolithic block and the properties of both materials are exploited: high insulation of Celenit panels; bending strength, traction and impact resistance, resistance to humidity, rot and every parasitic aggression of concrete.



- 1 Brackets
- 2 Spacers
- 3 Formworks

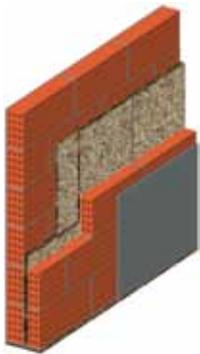




Partition wall sound insulation

Celenit has always placed high significance on developing new products, new systems and experimenting with them. The features that distinguish Celenit from low density insulation materials and make it an efficient sound insulation material are: high mass, open cell structure, low bending resistance, high internal sound absorption.

The excellent sound insulation performance is highlighted by a vast database of acoustic tests, the result of a broad experimental research campaign conducted by Celenit with the University of Padua Technical Physics department, that generated a set of thermal-sound insulation systems, all accompanied by sound insulation index certifications. Vertical partitions were analysed in different types of constructions: Brick, Poroton® blocks, cellular concrete, metal frame and wood structures (both frame and plywood structures); light roofing was also analysed with different construction methods.



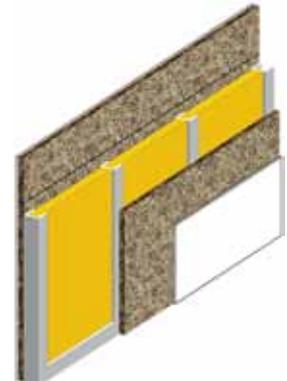
Acoustic insulation of double walls plastered on both sides

• Sound insulation index R_w until 56 dB



Acoustic insulation of Poroton® walls

• Sound insulation index R_w until 68 dB



Insulation of light walls

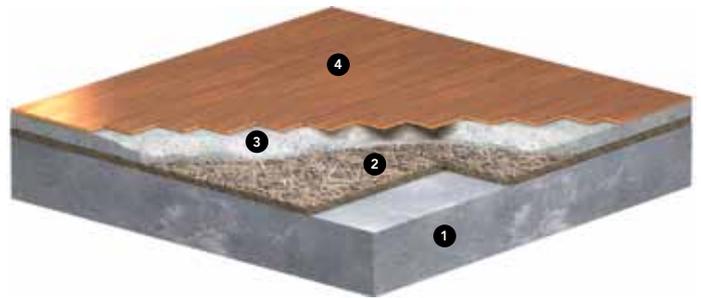
• Sound insulation index R_w until 70 dB





Impact insulation

Floating floors on Celenit panels. Impact noise reduction is equal to 22 dB for a 25 mm panel. A 20-25 mm thick strip as high as the floor must be applied along the entire floor perimeter to prevent lateral impact sound transmissions. Placing a continuous layer of Celenit panels between the ground and flooring not only interrupts sound transmission to the lower levels, but also allows the floor surface to reach a temperature near the room temperature with subsequent improved comfort. Recently, Celenit research is focusing on new horizontal partition thermal-sound insulation systems, analysing the sound behaviour of wood wool and cement panels placed horizontally and coupled with radiator system or dry construction systems.



Floating floor

- 1 Concrete slab
- 2 Celenit N - 25 mm thick
- 3 Screed
- 4 Floor covering

• Reduce level of floor noises
 $\Delta L_w = 22 \text{ dB}$



Celenit and existing building renovation



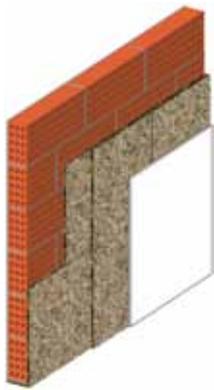
Increasing building energy efficiency is a great way to reduce CO₂ emissions in the air and is thus essential for the health of our environment. An investment that must be made not only for us, but also for future generations. Furthermore, it is an opportunity for market growth, considering that existent buildings are obsolete from the energy standpoint. Celenit has created specific solutions to improve energy efficiency that concern roofing, perimeter walls, partition walls and floors. Celenit solutions are not only technically reliable but also reduce the annoyances of a renovation to the minimum.





Partition wall sound insulation

Brick partitions often have large sound insulation problems and do not normally meet the benchmarks set by current regulations. Celenit panels both applied to the wall or in the interspaces between walls considerably improve sound insulation even at the most disturbing medium and low frequencies: music and conversation which are annoying noises typical of apartment buildings. Panels can be easily fixed to the wall with expansion screws and finished with plaster board to guarantee fast and clean installation suitable for lived-in homes.



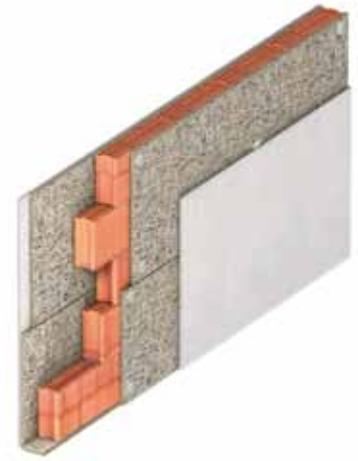
Hollow brickwork
wall covering

- Sound insulation index R_w
until 59 dB



Poroton® wall covering
on one side

- Sound insulation index R_w
until 57 dB



Poroton® wall covering
on both sides

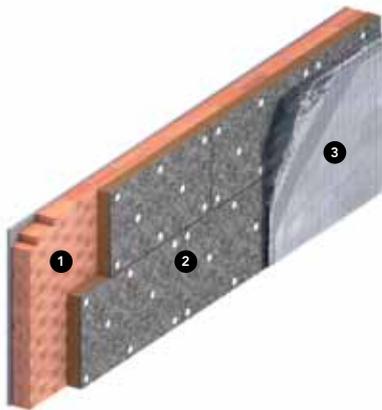
- Sound insulation index R_w
until 68 dB





Perimeter walls

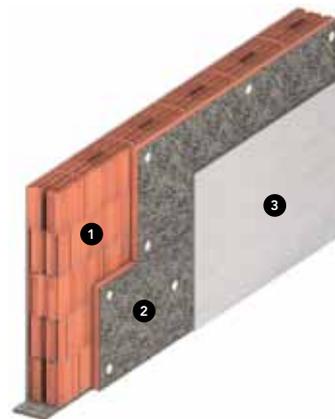
Perimeter wall external insulation is the most common application to increase existing building energy efficiency. Celenit panels grant the system unlimited longevity and high mechanical resistance. Furthermore, behaviour in the summer is improved with high performance in terms of thermal inertia and reduced overheating. When, for architectural or building regulation reasons external insulation cannot be applied in perimeter walls, Insulation can be applied to the interior wall. The use of Celenit panels significantly speeds up installation since these systems can be directly applied to the wall continuously without the need of sub-layers, offering a surface suited for plastering or easy finish with plaster board applied with glue.



Existing wall - External insulation

- 1 Existing wall
- 2 Celenit F2/C
- 3 Plaster

- **Thermal trasmittance**
from 0,21 to 0,34 W/m²K
- **Phase lag**
from 20h12' to 15h37'



Existing wall - Internal insulation

- 1 Existing wall
- 2 Celenit E3
- 3 Gypsum board

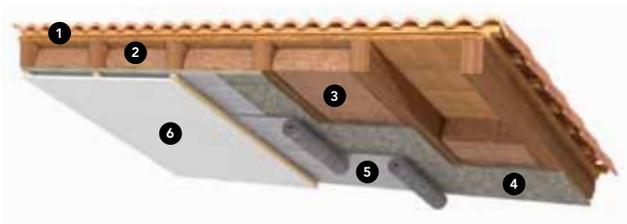
- **Thermal trasmittance**
from 0,25 to 0,36 W/m²K
- **Phase lag**
from 14h27' to 15h26'





Re-roofing

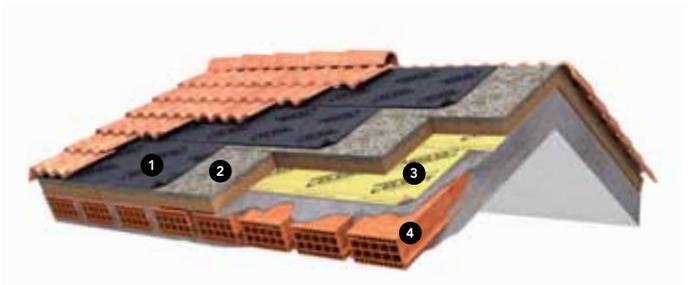
Roof insulation is the most significant operation to improve the energy efficiency of lived-in attics. Thanks to their mass and specific heat, Celenit panels have significant heat accumulation capacity, important and appreciated especially in the summer. If the finishing is matchboard or tile, or simply cement brick, panels are placed directly over the finishing to obtain a continuous insulation layer without thermal bridges: Celenit panel compression resistance allows them to bear the weight of any roof covering. It is also possible to flame a waterproof sheath directly on the panels. If, for building regulation or economic reasons, the roof covering cannot be altered, panels are placed under the beams; additional insulation can be added between beams. This achieves excellent results: it improves thermal inertia, room humidity regulation, fire protection, outdoor sound insulation, even weather noise such as rain, wind, hail.



Existing roof - Internal insulation

- 1 Water proofing
- 2 Wood planking
- 3 Celenit FL/45
- 4 Celenit N
- 5 DuPont™ AirGuard® Reflective
- 6 Gypsum board

- **Thermal trasmittance**
from 0,19 to 0,32 W/m²K
- **Phase lag**
from 9h51' to 7h5'



Existing roof - External insulation

- 1 Monier Divoroll Tech
- 2 Celenit F2
- 3 Klöber Wallint® T3 or existing vapour barrier
- 4 Concrete slab

- **Thermal trasmittance**
from 0,17 to 0,34 W/m²K
- **Phase lag**
from 21h1' to 14h18'





Attic insulation

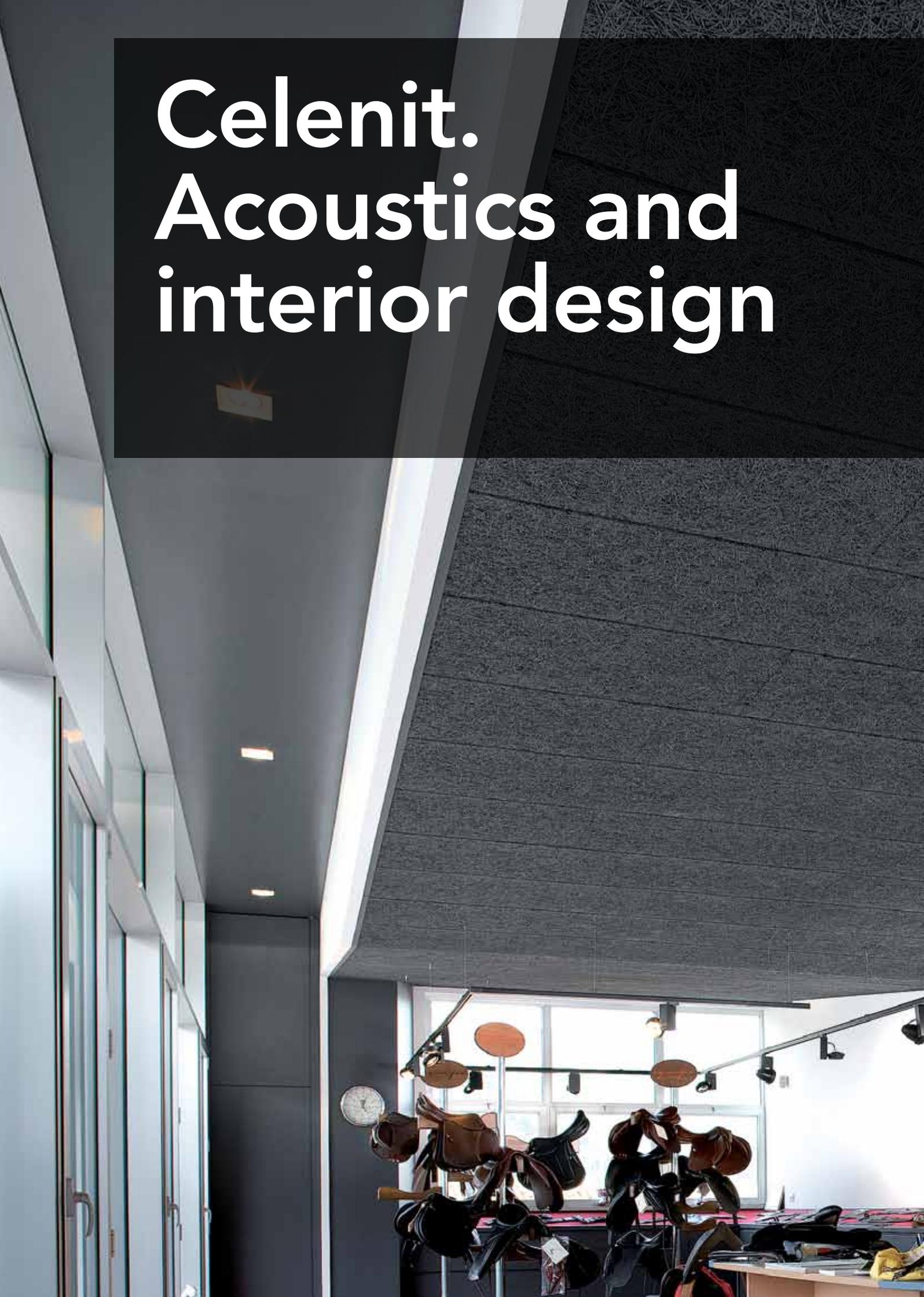
If the attic is not lived in, it is best to insulate the floor, limiting heat dispersion from the heated rooms below. Celenit P2 or Celenit F2/C panels can be simply installed, creating a floor that can be occasionally walked on. Note the correct position of the insulation that exploits the floor's thermal inertia. Panels can also be supplied with leaf edges for better coupling and improved thermal bridge correction.



- A** Attic floor insulation using Celenit F2/C, Celenit L2/C, Celenit F2 or Celenit L2.
- B** Attic floor insulation using Celenit N, Celenit P2 or Celenit G2 panels
- C** Roof pitch insulation using Celenit N, Celenit F2, Celenit L2, Celenit L3, Celenit P3, Celenit G3 panels, above the matchboard surface, in order to eliminate thermal bridges completely
- D** Roof pitch insulation using panels like Celenit N, Celenit AB, Celenit R, Celenit RA or Celenit RAB, instead of wooden board structures or hollow tiles



Celenit. Acoustics and interior design



Limiting echoes in crowded public establishments whether bars, restaurants, sporting arenas, multipurpose rooms or schools, is highly important to enjoying the activities held therein. This functional performance, sound wave absorption, can be provided by materials which, thanks to the textured shape, dimensions and colours, also contribute to sophisticated interior design solutions. Celenit panels can provide highly creative solutions for sound absorbing ceilings and walls.





Sound absorbing coverings

Texture 3 mm

Texture 2 mm

Texture 1 mm



Celenit panels can be classified as natural sound absorbers. They dissipate sound energy through their cellular structure by progressively reducing energy, which is converted into heat. They have a good level of sound absorption especially at higher frequencies (acute tones) which are the more common ones. Celenit panels absorption increases with thickness and when coupled with a layer of mineral wool. They also provide important features for sound absorption coverings: thermal inertia, breathability, the ability to absorb excess humidity, that guarantee a high level of room comfort; absolutely innocuous, lack of drips, dense fumes and toxic gas in the event of fire make the material safe; dimensional stability even with high humidity, sturdiness, unlimited longevity make it suited for heavy-duty use like at swimming pools, gyms, schools and industrial buildings.

Thanks to the characteristics of compactness and mechanical strength, CELENIT acoustic panels have been tested and certified according to EN 13964/Annex D and DIN 18032/Part 3, for impacts resistance, so they can be used on structures characterized also from some stresses, like hits of handball, due to impacts to the visible panels in false ceilings and in wall coverings in sports facilities and gyms.





Sound absorption values

Type of panel	Thickness	α_w	NRC	Class
Celenit AB	15 mm adhering	0.30	0.35	D
	15 mm with cavity and mineral wool	up to 0.85	up to 0.90	B
	25 mm adhering	0.35	0.45	D
	25 mm with cavity and mineral wool	up to 0.95	up to 0.90	A
	35 mm adhering	0.45	0.55	D
	35 mm with cavity and mineral wool	up to 0.95	up to 0.90	A
	50 mm adhering	0.60	0.65	C
Celenit AB/F	40 mm with cavity	up to 0.35	up to 0,45	D
Celenit ABE	15 mm adhering	0.30	0.40	D
	15 mm with cavity and mineral wool	up to 0.90	up to 0.90	A
	25 mm adhering	0.35	0.45	D
	25 mm with cavity and mineral wool	up to 0.95	up to 0.95	A
	35 mm adhering	0.35	0.45	D
	35 mm with cavity and mineral wool	up to 1.00	up to 0.95	A
Celenit AB/A2	25 mm adhering	0.30	0.35	D
	25 mm with cavity and mineral wool	up to 1.00	up to 0.95	A
Celenit ABE/A2	25 mm adhering	0.35	0.40	D
	25 mm with cavity and mineral wool	up to 0.95	up to 0.95	A

Impact resistance tests according to EN 13964/Annex D - DIN 18032/Part 3

Type of panel	Ceiling/Wall	Structure	Test Standard	Results
Celenit AB Thickness: 25 mm Dimension: 1200x600 mm Edge: Chamfered - S4	Ceiling	C metal section 27x60x27 mm Centre distance of cross joists: 600 mm Centre distance of main joists: 900 mm Number of screws per panel: 9	EN 13964	Class 1A
			DIN 18032-3	Visual examination Positive
Celenit AB Thickness: 35 mm Dimension: 1200x600 mm Edge: Chamfered - S4	Ceiling	C metal section 27x60x27 mm Centre distance of cross joists: 600 mm Centre distance of main joists: 900 mm Number of screws per panel: 9	EN 13964	Class 1A
			DIN 18032-3	Visual examination Positive
Celenit ABE Thickness: 25 mm Dimension: 1200x600 mm Edge: Chamfered - S4	Ceiling	Wooden battens size 60x30 mm Centre distance of cross joists: 600 mm Centre distance of main joists: 900 mm Number of screws per panel: 9	EN 13964	Class 1A
			DIN 18032-3	Visual examination Positive
Celenit AB Thickness: 25 mm Dimension: 1200x600 mm Edge: Chamfered - S4	Wall	C metal section 27x60x27 mm Centre distance of cross joists: 300 mm Centre distance of main joists: 600 mm Number of screws per panel: 15	DIN 18032-3	Visual examination Positive
			Celenit AB Thickness: 35 mm Dimension: 1200x600 mm Edge: Chamfered - S4	Wall
Celenit ABE Thickness: 35 mm Dimension: 1200x600 mm Edge: Chamfered - S4	Wall	Wooden battens size 60x30 mm Centre distance of cross joists: 600 mm Centre distance of main joists: 600 mm Number of screws per panel: 9		



Sound absorbing coverings

A careful acoustical design of rooms starts from the knowledge of materials, which should be selected and used according to the results to be achieved. It is therefore necessary to balance absorption characteristics taking into account the use of the rooms and any interactions with furniture and occupants. You can choose from a wide range of Celenit products for false ceilings or wall coverings to meet different design requirements or for rooms with special noise control requirements. The choice implies the definition of the panel surface texture which, according to type, can vary from 3 mm to 2 mm to 1 mm with of wood wool. Panel thickness and edge finishing are then defined, according to application requirements. Lastly, the colour: the painted panel is evenly coloured, while panels without paint enhance the natural ivory colour with consequent shades that soften in time. On request, Celenit panels can also be painted with different color systems such as RAL and NCS colors.

Edge detail

	Straight edges			Lowered edges for visible T-shaped profiles
	Chamfered	Length side only Width side only Both side		Lowered and chamfered edges for visible T-shaped profiles
	Shiplap edges	Length side only Width side only Both side		Chamfered edges mounted on foldaway profiles with mobile panels
	Straight edges only for visible T-shaped profiles (90° angle)			Chamfered edges mounted on foldaway profiles

Acrylic paints

Black Cod. S08/14	Anthracite Cod. S10/14	Tobacco Cod. S17/15	Medium grey Cod. S16/15	White Cod. S05/15	Light grey Cod. S12/15	Light green Cod. S02/14	Sea blue Cod. S02/15	Dark azure Cod. S14/15
Azure Cod. S01/15	Light azure Cod. S15/15	Sky blue Cod. S06/15	Dark brown Cod. S07/14	Light brown Cod. S11/14	Orange Cod. S04/14	Yellow ocre Cod. S07/15	Light yellow Cod. S12/14	M. yellow Cod. S06/14
Cream Cod. S13/15	Dark pink Cod. S11/15	Medium pink Cod. S09/15	Light pink Cod. S10/15	Light ocre Cod. S08/15				

Potassium silicate paints

Grey Cod. B30006	Light grey Cod. B30007	Azure Cod. B30008	Sky blue Cod. B30009	Green Cod. B30011	Light green Cod. B30012	Powder Cod. B30014	Pink Cod. B30015	Siena Cod. B30016
Yellow Cod. B30017	White Cod. B30018							





False ceilings and wall coverings

	Cement		Texture (mm)			Dimensions length (width 600 mm)				Reaction to fire		Application	
	Grey	White	3	2	1	600	1200	2000	2400	Euroclass B-s1,d0	Euroclass A2-s1,d0	Installed on concrete	Meccanical fastening
Wood wool													
Celenit NB		●	●			●	●	●	●	●		●	●
Celenit A	●			●		●	●	●	●	●		●	●
Celenit A/A2	●			●		●	●	●	●		●	●	●
Celenit AB		●		●		●	●	●	●	●		●	●
Celenit AB/A2		●		●		●	●	●	●		●	●	●
Celenit AE	●				●	●	●	●	●	●		●	●
Celenit AE/A2	●				●	●	●	●	●		●	●	●
Celenit ABE		●			●	●	●	●	●	●		●	●
Celenit ABE/A2		●			●	●	●	●	●		●	●	●
Composites - Plasterboard (fire certificate)													
Celenit AB/F		●		●			●			●			●
Composites - Mineral wool (2 layers)													
Celenit L2AB15		●		●			●			●			●
Celenit L2AB15/A2		●		●			●				●		●
Celenit L2ABE15		●			●		●			●			●
Celenit L2ABE15/A2		●			●		●				●		●
Celenit L2AB25		●		●			●			●			●
Celenit L2AB25/A2		●		●			●				●		●
Celenit L2ABE25		●			●		●			●			●
Celenit L2ABE25/A2		●			●		●				●		●
Celenit L2AB35		●		●			●			●			●
Celenit L2ABE35		●			●		●			●			●
Celenit L2ABE25C		●			●		●	●		●			●
Celenit L2ABE25C/A2		●			●		●	●			●		●
Composites - Mineral wool (3 layers)													
Celenit L3 ABE		●			●	●	●	●	●	●			●
Celenit L3 ABE/A2		●			●	●	●	●	●		●		●

Building panels



Roofing



Perimeter wall



Partition wall



Attic



Thermal bridges



Insulated concrete

Wood wool

Celenit N	●	●	●	●	●	●
Celenit N/C		●				
Celenit R	●					
Celenit RA	●					
Celenit RAB	●					

Composites - Wood fibre

Celenit F2	●			●		
Celenit F2/C		●	●	●		

Composites - Mineral wool (2 layers)

Celenit L2	●			●		
Celenit L2/C		●	●	●		
Celenit L2AB						●
Celenit L2AB/A2						●
Celenit L2ABE/A2						●

Composites - Mineral wool (3 layers)

Celenit L3	●	●	●			●
Celenit L3/C		●				
Celenit L3AB						●
Celenit L3AB/A2						●
Celenit L3AB10L						●
Celenit L3AB10L/A2						●
Celenit L3AB10						●
Celenit L3AB10/A2						●

Composites - Polystyrene

Celenit P2	●			●		
Celenit P3	●	●	●		●	●
Celenit G2	●			●		
Celenit G3	●	●			●	●
Celenit E3	●	●	●		●	

Product range

False ceilings and wall coverings



Thermal and acoustic insulation panel, consisting of mineralized thin fir wood wool bound with grey Portland cement. Wood wool is 2 mm wide. It complies with EN 13168 and EN 13964. Panels are selected to ensure the highest quality and appearance.



Thermal and acoustic insulation panel, consisting of mineralized ultra-thin fir wood wool bound with grey Portland cement. Wood wool is 1 mm wide. It complies with EN 13168 and EN 13964. Panels are selected to ensure the highest quality and appearance.

	Celenit A				Celenit AE			
Thickness	mm	15	25	35	50	15	25	35
Length	mm	2400 - 2000 - 1200 - 600		2400 - 2000 - 1200		2400 - 2000 - 1200 - 600		
Width	mm	600				600		
Weight	kg/m ²	7.8	11.5	15	20	7.8	11.5	15
Declared thermal conductivity λ_D	W/mK	0.070				0.075		
Declared thermal resistance R_D	m ² K/W	0.20	0.35	0.50	0.70	0.20	0.30	0.45
Compressive stress at 10% deformation σ_{10}	kPa	≥ 200				≥ 300		
Reaction to fire	-	Euroclass B-s1, d0				Euroclass B-s1, d0		
Light reflection	%	31.2				31.2		



Thermal and acoustic insulation panel, in Euroclass A2-s1, d0, consisting of mineralized thin fir wood wool bound with grey Portland cement and mineral powder. Wood wool is 2 mm wide. It complies with EN 13168 and EN 13964. Panels are selected to ensure the highest quality and appearance.



Thermal and acoustic insulation panel, in Euroclass A2-s1, d0, consisting of mineralized ultra-thin fir wood wool bound with grey Portland cement and mineral powder. Wood wool is 1 mm wide. It complies with EN 13168 and EN 13964. Panels are selected to ensure the highest quality and appearance.

	Celenit A/A2				Celenit AE/A2			
Thickness	mm	15	25	35	50	15	25	35
Length	mm	2400 - 2000 - 1200 - 600		2400 - 2000 - 1200		2400 - 2000 - 1200 - 600		
Width	mm	600				600		
Weight	kg/m ²	10.4	16	20	28	10.4	15.3	20
Declared thermal conductivity λ_D	W/mK	0.100				0.100		
Declared thermal resistance R_D	m ² K/W	0.15	0.25	0.35	0.50	0.15	0.25	0.35
Compressive stress at 10% deformation σ_{10}	kPa	≥ 300				≥ 300		
Reaction to fire	-	Euroclass A2-s1, d0				Euroclass A2-s1, d0		
Light reflection	%	31.2				31.2		



Composite thermal and acoustic insulation panel, EI 60 fire resistant, consisting of a layer of mineralized thin fir wood wool bound with white Portland cement according to EN 13168, 25 mm thick, coupled to a layer of plasterboard type F, according to EN 520, 15 mm thick. Wood wool is 2 mm wide. It complies with EN 13964. Panels are selected to ensure the highest quality and appearance.



Thermal and acoustic insulation panel, consisting of mineralized fir wood wool bound with white Portland cement. Wood wool is 3 mm wide. It complies with EN 13168 and EN 13964. Panels are selected to ensure the highest quality and appearance.

		Celenit AB/F				Celenit NB			
Thickness	mm	40 (25/15)				15	25	35	50
Length	mm	1200				2400 - 2000 - 1200 - 600			
Width	mm	600				600			
Weight	kg/m ²	25				8	11.5	14	18
Declared thermal conductivity λ_D	W/mK	WW 0.070 - Plasterboard 0.20				0.065			
Declared thermal resistance R_D	m ² K/W	0.40				0.20	0.35	0.50	0.75
Compressive stress at 10% deformation σ_{10}	kPa	-				≥ 200			≥ 150
Reaction to fire	-	Euroclass B-s1, d0				Euroclass B-s1, d0			
Light reflection	%	50.7 - 74.0 (Painted white 05/15)				50.7 - 74.0 (Painted white 05/15)			



Thermal and acoustic insulation panel, consisting of mineralized thin fir wood wool bound with white Portland cement. Wood wool is 2 mm wide. It complies with EN 13168 and EN 13964. Panels are selected to ensure the highest quality and appearance.



Thermal and acoustic insulation panel, consisting of mineralized ultra-thin fir wood wool bound with white Portland cement. Wood wool is 1 mm wide. It complies with EN 13168 and EN 13964. Panels are selected to ensure the highest quality and appearance.

		Celenit AB				Celenit ABE			
Thickness	mm	15	25	35	50	15	25	35	
Length	mm	2400 - 2000 - 1200 - 600				2400 - 2000 - 1200 - 600			
Width	mm	600				600			
Weight	kg/m ²	7.8	11.5	15	20	7.8	11.5	15	
Declared thermal conductivity λ_D	W/mK	0.070				0.075			
Declared thermal resistance R_D	m ² K/W	0.20	0.35	0.50	0.70	0.20	0.30	0.45	
Compressive stress at 10% deformation σ_{10}	kPa	≥ 200				≥ 300			
Reaction to fire	-	Euroclass B-s1, d0				Euroclass B-s1, d0			
Light reflection	%	50.7 - 74.0 (Painted white 05/15)				50.7 - 74.0 (Painted white 05/15)			



Thermal and acoustic insulation panel, in Euroclass A2-s1, d0, consisting of mineralized thin fir wood wool bound with white Portland cement and mineral powder. Wood wool is 2 mm wide. It complies with EN 13168 and EN 13964. Panels are selected to ensure the highest quality and appearance.



Thermal and acoustic insulation panel, in Euroclass A2-s1, d0, consisting of mineralized ultra-thin fir wood wool bound with white Portland cement and mineral powder. Wood wool is 1 mm wide. It complies with EN 13168 and EN 13964. Panels are selected to ensure the highest quality and appearance.

		Celenit AB/A2				Celenit ABE/A2			
Thickness	mm	15	25	35	50	15	25	35	
Length	mm	2400 - 2000 - 1200 - 600				2400 - 2000 - 1200 - 600			
Width	mm	600				600			
Weight	kg/m ²	10.4	16	20	28	10.4	15.3	20	
Declared thermal conductivity λ_D	W/mK	0.100				0.100			
Declared thermal resistance R_D	m ² K/W	0.15	0.25	0.35	0.50	0.15	0.25	0.35	
Compressive stress at 10% deformation σ_{10}	kPa	≥ 300				≥ 300			
Reaction to fire	-	Euroclass A2-s1, d0				Euroclass A2-s1, d0			
Light reflection	%	50.7 - 74.0 (Painted white 05/15)				50.7 - 74.0 (Painted white 05/15)			



Composite thermal and acoustic insulation panel, consisting of a layer of mineralized thin fir wood wool bound with white Portland cement, thickness 15 mm, coupled to a layer of mineral wool with non woven glass fibre, according to EN 13162. Wood wool is 2 mm wide. It complies with EN 13168 and EN 13964. Panels are selected to ensure the highest quality and appearance.



Composite thermal and acoustic insulation panel, consisting of a layer of mineralized ultra-thin fir wood wool bound with white Portland cement, thickness 15 mm, coupled to a layer of mineral wool with non woven glass fibre, according to EN 13162. Wood wool is 1 mm wide. It complies with EN 13168 and EN 13964. Panels are selected to ensure the highest quality and appearance.

		Celenit L2AB15		Celenit L2ABE15	
Thickness	mm	40 (15/25)	55 (15/40)	40 (15/25)	55 (15/40)
Lenght	mm	1200		1200	
Width	mm	600		600	
Weight	kg/m ²	10.4	11.7	10.4	11.7
Declared thermal conductivity λ_D	W/mK	WW 0.070 - MW 0.033		WW 0.075 - MW 0.033	
Declared thermal resistance R_D	m ² K/W	0.95	1.40	0.95	1.40
Water vapour transmission μ	-	WW 5 - MW 1		WW 5 - MW 1	
Reaction to fire	-	Euroclass B-s1, d0		Euroclass B-s1, d0	
Light reflection	%	50.7 - 74.0 (Painted white 05/15)		50.7 - 74.0 (Painted white 05/15)	



Composite thermal and acoustic insulation panel, in Euroclass A2-s1, d0, consisting of a layer of mineralized thin fir wood wool bound with white Portland cement and mineral powder, thickness 15 mm, coupled to a layer of mineral wool with non woven glass fibre, according to EN 13162. Wood wool is 2 mm wide. It complies with EN 13168 and EN 13964. Panels are selected to ensure the highest quality and appearance.



Composite thermal and acoustic insulation panel, in Euroclass A2-s1, d0, consisting of a layer of mineralized ultra-thin fir wood wool bound with white Portland cement and mineral powder, thickness 15 mm, coupled to a layer of mineral wool with non woven glass fibre, according to EN 13162. Wood wool is 1 mm wide. It complies with EN 13168 and EN 13964. Panels are selected to ensure the highest quality and appearance.

		Celenit L2AB15/A2		Celenit L2ABE15/A2	
Thickness	mm	40 (15/25)	55 (15/40)	40 (15/25)	55 (15/40)
Lenght	mm	1200		1200	
Width	mm	600		600	
Weight	kg/m ²	14.7	16.1	14.7	16.1
Declared thermal conductivity λ_D	W/mK	WW 0.100 - MW 0.033		WW 0.100 - MW 0.033	
Declared thermal resistance R_D	m ² K/W	0.90	1.35	0.90	1.35
Water vapour transmission μ	-	WW 5 - MW 1		WW 5 - MW 1	
Reaction to fire	-	Euroclass A2-s1, do		Euroclass A2-s1, do	
Light reflection	%	50.7 - 74.0 (Painted white 05/15)		50.7 - 74.0 (Painted white 05/15)	



Composite thermal and acoustic insulation panel, consisting of a layer of mineralized thin fir wood wool bound with white Portland cement, thickness 25 mm, coupled to a layer of mineral wool with non woven glass fibre, according to EN 13162. Wood wool is 2 mm wide. It complies with EN 13168 and EN 13964. Panels are selected to ensure the highest quality and appearance.



Composite thermal and acoustic insulation panel, consisting of a layer of mineralized ultra-thin fir wood wool bound with white Portland cement, thickness 25 mm, coupled to a layer of mineral wool with non woven glass fibre, according to EN 13162. Wood wool is 1 mm wide. It complies with EN 13168 and EN 13964. Panels are selected to ensure the highest quality and appearance.

		Celenit L2AB25			Celenit L2ABE25		
Thickness	mm	43 (25/18)	50 (25/25)	65 (25/40)	43 (25/18)	50 (25/25)	65 (25/40)
Lenght	mm	1200			1200		
Width	mm	600			600		
Weight	kg/m ²	13.2	14.1	15.6	13.2	14.1	15.6
Declared thermal conductivity λ_D	W/mK	WW 0.070 - MW 0.037 (18 mm) 0.033 (25-40 mm)			WW 0.075 - MW 0.037 (18 mm) 0.033 (25-40 mm)		
Declared thermal resistance R_D	m ² K/W	0.80	1.10	1.55	0.80	1.05	1.50
Water vapour transmission μ	-	WW 5 - MW 1			WW 5 - MW 1		
Reaction to fire	-	Euroclass B-s1, d0			Euroclass B-s1, d0		
Light reflection	%	50.7 - 74.0 (Painted white 05/15)			50.7 - 74.0 (Painted white 05/15)		



Composite thermal and acoustic insulation panel, in Euroclass A2-s1, d0, consisting of a layer of mineralized thin fir wood wool bound with white Portland cement and mineral powder, thickness 25 mm, coupled to a layer of mineral wool with non woven glass fibre, according to EN 13162. Wood wool is 2 mm wide. It complies with EN 13168 and EN 13964. Panels are selected to ensure the highest quality and appearance.



Composite thermal and acoustic insulation panel, in Euroclass A2-s1, d0, consisting of a layer of mineralized ultra-thin fir wood wool bound with white Portland cement and mineral powder, thickness 25 mm, coupled to a layer of mineral wool with non woven glass fibre, according to EN 13162. Wood wool is 1 mm wide. It complies with EN 13168 and EN 13964. Panels are selected to ensure the highest quality and appearance.

		Celenit L2AB25/A2		Celenit L2ABE25/A2	
Thickness	mm	50 (25/25)	65 (25/40)	50 (25/25)	65 (25/40)
Length	mm	1200		1200	
Width	mm	600		600	
Weight	kg/m ²	18.8	20.1	18.8	20.1
Declared thermal conductivity λ_D	W/mK	WW 0.100 - MW 0.033		WW 0.100 - MW 0.033	
Declared thermal resistance R_D	m ² K/W	1.00	1.45	1.00	1.45
Water vapour transmission μ	-	WW 5 - MW 1		WW 5 - MW 1	
Reaction to fire	-	Euroclass A2-s1, d0		Euroclass A2-s1, d0	
Light reflection	%	50.7 - 74.0 (Painted white 05/15)		50.7 - 74.0 (Painted white 05/15)	



Composite thermal and acoustic insulation panel, consisting of a layer of mineralized thin fir wood wool bound with white Portland cement, thickness 35 mm, coupled to a layer of mineral wool with non woven glass fibre, according to EN 13162. Wood wool is 2 mm wide. It complies with EN 13168 and EN 13964. Panels are selected to ensure the highest quality and appearance.



Composite thermal and acoustic insulation panel, consisting of a layer of mineralized ultra-thin fir wood wool bound with white Portland cement, thickness 35 mm, coupled to a layer of mineral wool with non woven glass fibre, according to EN 13162. Wood wool is 1 mm wide. It complies with EN 13168 and EN 13964. Panels are selected to ensure the highest quality and appearance.

		Celenit L2AB35		Celenit L2ABE35	
Thickness	mm	53 (35/18)	75 (35/40)	53 (35/18)	75 (35/40)
Length	mm	1200		1200	
Width	mm	600		600	
Weight	kg/m ²	16.7	18.9	16.7	18.9
Declared thermal conductivity λ_D	W/mK	WW 0.070 - MW 0.037 (18 mm) 0.033 (40 mm)		WW 0.075 - MW 0.037 (18 mm) 0.033 (40 mm)	
Declared thermal resistance R_D	m ² K/W	0.95	1.70	0.95	1.65
Water vapour transmission μ	-	WW 5 - MW 1		WW 5 - MW 1	
Reaction to fire	-	Euroclass B-s1, d0		Euroclass B-s1, d0	
Light reflection	%	50.7 - 74.0 (Painted white 05/15)		50.7 - 74.0 (Painted white 05/15)	



It is also available in Euroclass A2-s1, d0, **Celenit L3ABE/A2**

Composite thermal and acoustic insulation panel, consisting of two layers (thickness 7/10 mm and 3/5 mm) of mineralized ultra-thin fir wood wool bound with white Portland cement, coupled to an internal layer of high density mineral wool according to EN 13162. Wood wool is 1 mm wide. It complies with EN 13168 and EN 13964. Panels are selected to ensure the highest quality and appearance.



It is also available in Euroclass A2-s1, d0, **Celenit L2ABE25C/A2**

		Celenit L3ABE			Celenit L2ABE25C				
Thickness	mm	25 (7/15/3)	35 (10/20/5)	50 (10/35/5)	50 (25/25)	75 (25/50)	100 (25/75)	125 (25/100)	150 (25/125)
Length	mm	2000 - 1200 - 600			2000 - 1200				
Width	mm	600			600				
Weight	kg/m ²	9.2	13.5	15.5	15	17	19.3	21	23.2
Declared thermal conductivity λ_D	W/mK	WW 0.071 - MW 0.040			WW 0.075 - MW 0.035				
Declared thermal resistance R_D	m ² K/W	0.50	0.70	1.05	1.00	1.75	2.45	3.15	3.90
Water vapour transmission μ	-	WW 5 - MW 1			-				
Reaction to fire	-	Euroclass B-s1, d0			Euroclass B-s1, d0				
Light reflection	%	50.7 - 74.0 (Painted white 05/15)			50.7 - 74.0 (Painted white 05/15)				

Product range

Building panels

Wood wool panels



Thermal and acoustic insulation panel, consisting of mineralized fir wood wool bound with grey Portland cement. Wood wool is 3 mm wide. It complies with EN 13168.



Thermal and acoustic insulation panel, specific for external insulation covering, consisting of mineralized fir wood wool bound with grey Portland cement. Wood wool is 3 mm wide. It complies with EN 13168.

		Celenit N								Celenit N/C			
Thickness	mm	15	20	25	30	35	40	50	75	25	35	50	75
Length	mm	2400 - 2000	2000	2400 - 2000	2000	2400 - 2000	2000	2400 - 2000	2000	1200		1000	
Width	mm	600								600			
Weight	kg/m ²	8	10	11.5	13	14	16	18	26	11.5	14	18	26
Declared thermal conductivity λ_D	W/mK	0.065								0.065			
Declared thermal resistance R_D	m ² K/W	0.20	0.30	0.35	0.45	0.50	0.60	0.75	1.15	0.35	0.50	0.75	1.15
Compressive stress at 10% deformation σ_{10}	kPa	≥ 200						≥ 150		≥ 200		≥ 150	
Water vapour transmission μ	-	5								5			
Reaction to fire	-	Euroclass B-s1, d0								Euroclass B-s1, d0			
Specific heat c_p	kJ/kgK	1.81								1.81			



Thermal and acoustic insulation panel, specific for roofing insulation, consisting of mineralized fir wood wool bound with grey Portland cement, reinforced with three strips of stabilized wood. Wood wool is 3 mm wide. It complies with EN 13168.



Thermal and acoustic insulation panel, specific for roofing insulation, consisting of mineralized thin fir wood wool bound with white Portland cement, reinforced with three strips of stabilized wood. Wood wool is 2 mm wide. It complies with EN 13168. Panels are selected to ensure the highest quality and appearance. It is also available with grey Portland cement, **Celenit RA**.

		Celenit R				Celenit RAB							
Thickness	mm	50				75				50			
Length	mm	2400 - 2000				2000				2400 - 2000			
Width	mm	600				600				600			
Weight	kg/m ²	18				26				21			
Declared thermal resistance R_D	m ² K/W	0.75				1.10				0.70			
Compressive stress at 10% deformation σ_{10}	kPa	≥ 150				≥ 150				≥ 200			
Water vapour transmission μ	-	5				5				5			
Reaction to fire	-	Euroclass B-s1, d0				Euroclass B-s1, d0				Euroclass B-s1, d0			
Specific heat c_p	kJ/kgK	1.81				1.81				1.81			

Product range

Building panels

Composites wood wool panels with wood fibre or mineral wool



Composite thermal and acoustic insulation panel consisting of a layer of mineralized fir wood wool bound with grey Portland cement, thickness 50 mm, coupled to a layer of wood fibres according to EN 13171. It complies with EN 13168.

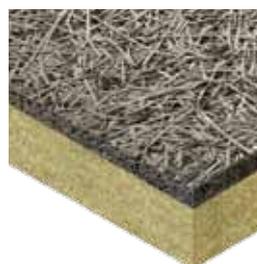


Composite thermal and acoustic insulation panel consisting of a layer of mineralized fir wood wool bound with grey Portland cement, thickness 50 mm, coupled to a layer of mineral wool according to EN 13162. It complies with EN 13168.

		Celenit F2						Celenit L2					
Thickness	mm	110 (50/60)	130 (50/80)	150 (50/100)	170 (50/120)	190 (50/140)	210 (50/160)	110 (50/60)	130 (50/80)	150 (50/100)	170 (50/120)	190 (50/140)	210 (50/160)
Length	mm	1200						1200					
Width	mm	600						600					
Weight	kg/m ²	28.8	31.4	34	36.6	39.2	42	25.1	27.3	29.5	31.7	33.9	36.1
Declared thermal conductivity λ_D	W/mK	WW 0.065 - WF 0.037						WW 0.065 - MW 0.038					
Declared thermal resistance R_D	m ² K/W	2.35	2.90	3.45	4.00	4.55	5.05	2.35	2.85	3.40	3.90	4.45	4.95
Compressive strength σ_m	kPa	≥ 75						≥ 50					
Water vapour transmission μ	-	WW 5 - WF 3						WW 5 - MW 1					
Reaction to fire	-	Euroclass B-s1, d0						Euroclass B-s1, d0					
Specific heat c_p	kJ/kgK	WW 1.81 - WF 2.00						WW 1.81 - MW 1.03					
Tensile strength perpendicular To faces σ_{nt}	kPa	≥ 10						≥ 5					



Composite thermal and acoustic insulation panel, specific for external insulation covering, consisting of a layer of mineralized fir wood wool bound with grey Portland cement, thickness 25 mm, coupled to a layer of wood fibres according to EN 13171. It complies with EN 13168.



Composite thermal and acoustic insulation panel, specific for external insulation covering, consisting of a layer of mineralized fir wood wool bound with grey Portland cement, thickness 25 mm, coupled to a layer of mineral wool according to EN 13162. It complies with EN 13168.

		Celenit F2/C					Celenit L2/C				
Thickness	mm	65 (25/40)	85 (25/60)	105 (25/80)	125 (25/100)	145 (25/120)	65 (25/40)	85 (25/60)	105 (25/80)	125 (25/100)	145 (25/120)
Length	mm	1200					1200				
Width	mm	600					600				
Weight	kg/m ²	16.4	18.6	20.8	23	25.2	16.4	18.6	20.8	23	25.2
Declared thermal conductivity λ_D	W/mK	WW 0.065 - WF 0.037					WW 0.065 - MW 0.038				
Declared thermal resistance R_D	m ² K/W	1.45	2.00	2.55	3.05	3.60	1.40	1.95	2.45	3.00	3.50
Compressive strength σ_m	kPa	≥ 75					≥ 50				
Water vapour transmission μ	-	WW 5 - WF 3					WW 5 - MW 1				
Reaction to fire	-	Euroclass E					Euroclass B-s1, d0				
Specific heat c_p	kJ/kgK	WW 1.81 - WF 2.00					WW 1.81 - MW 1.03				
Tensile strength perpendicular To faces σ_{nt}	kPa	≥ 10					≥ 5				

Product range

Building panels

Composites wood wool panels with mineral wool

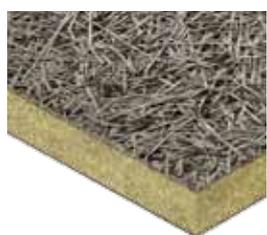


Composite thermal and acoustic insulation panel, consisting of two layers (thickness 5 mm each) of mineralized fir wood wool bound with grey Portland cement coupled to an internal layer of high density mineral wool according to EN 13162. Wood wool is 3 mm wide. It complies with EN 13168.



Composite thermal and acoustic insulation panel, consisting of two layers (thickness 5 mm each) of mineralized thin fir wood wool bound with white Portland cement, coupled to an internal layer of high density mineral wool according to EN 13162. Wood wool is 2 mm wide. It complies with EN 13168. Panels are selected to ensure the highest quality and appearance.

		Celenit L3							Celenit L3AB					
Thickness	mm	35 (5/25/5)	50 (5/40/5)	75 (5/65/5)	100 (5/90/5)	125 (5/115/5)	150 (5/140/5)	175 (5/165/5)	50 (5/40/5)	75 (5/65/5)	100 (5/90/5)	125 (5/115/5)	150 (5/140/5)	175 (5/165/5)
Length	mm	1000 - 2000							2000 - 1000					
Width	mm	600							600					
Weight	kg/m ²	10.8	12.3	15.4	18.7	22.1	25.5	28.8	12.8	15.9	19.2	22.6	25.9	29.2
Declared thermal conductivity λ_D	W/mK	WW 0.071 - MW 0.039												
Declared thermal resistance R_D	m ² K/W	0.75	1.15	1.80	2.45	3.05	3.70	4.35	1.15	1.80	2.45	3.05	3.70	4.35
Water vapour transmission μ	-	WW 5 - MW 1							WW 5 - MW 1					
Reaction to fire	-	Euroclass B-s1, do							Euroclass B-s1, d0					
Compressive strength σ_m	kPa	≥ 50							≥ 50					
Tensile strength perpendicular to faces σ_{mt}	kPa	≥ 15			≥ 20				≥ 15		≥ 20			



Composite thermal and acoustic insulation panel, specific for external insulation covering, consisting of two layers (thickness 5 mm each) of mineralized fir wood wool bound with grey Portland cement coupled to an internal layer of high density mineral wool according to EN 13162. Wood wool is 3 mm wide. It complies with EN 13168.



Composite thermal and acoustic insulation panel, in Euroclass A2-s1, d0, consisting of two layers (thickness 5 mm each) of mineralized thin fir wood wool bound with white Portland cement and mineral powder, coupled to an internal layer of high density mineral wool according to EN 13162. Wood wool is 2 mm wide. It complies with EN 13168. Panels are selected to ensure the highest quality and appearance.

		Celenit L3/C			Celenit L3AB/A2					
Thickness	mm	50 (5/40/5)	75 (5/65/5)	100 (5/90/5)	50 (5/40/5)	75 (5/65/5)	100 (5/90/5)	125 (5/115/5)	150 (5/140/5)	175 (5/165/5)
Length	mm	1000			2000 - 1000					
Width	mm	60			600					
Weight	kg/m ²	12.3	15.4	18.7	13	16.4	19.7	23.1	26.5	29.9
Declared thermal conductivity λ_D	W/mK	WW 0.071 - MW 0.039								
Declared thermal resistance R_D	m ² K/W	1.15	1.80	2.45	1.10	1.75	2.40	3.05	3.70	4.30
Water vapour transmission μ	-	WW 5 - MW 1			WW 5 - MW 1					
Reaction to fire	-	Euroclass B-s1, d0			Euroclass A2-s1, d0					
Compressive strength σ_m	kPa	≥ 50			≥ 50					
Tensile strength perpendicular to faces σ_{mt}	kPa	≥ 15		≥ 20	≥ 15		≥ 20			



Composite thermal and acoustic insulation panel, consisting of two layers (thickness 10 mm and 5 mm) of mineralized thin fir wood wool bound with white Portland cement, coupled to an internal layer of mineral wool according to EN 13162. Wood wool is 2 mm wide. It complies with EN 13168. Panels are selected to ensure the highest quality and appearance.



Composite thermal and acoustic insulation panel, consisting of a layer (thickness 10 mm) of mineralized thin fir wood wool bound with white Portland cement, coupled to a layer of mineral wool according to EN 13162. Wood wool is 2 mm wide. It complies with EN 13168. Panels are selected to ensure the highest quality and appearance.

It is also available in Euroclass A2-s1, d0, **Celenit L3AB10L/A2**

		Celenit L3AB10L						Celenit L2AB					
Thickness	mm	50 (10/35/5)	75 (10/60/5)	100 (10/85/5)	125 (10/110/5)	150 (10/135/5)	175 (10/160/5)	50 (10/40)	75 (10/65)	100 (10/90)	125 (10/115)	150 (10/140)	175 (10/165)
Length	mm	2000						1000					
Width	mm	600						600					
Weight	kg/m ²	13.7	15.9	18.2	20.4	22.7	24.9	11.8	14.1	16.3	18.6	20.8	23.1
Declared thermal conductivity λ_D	W/mK	WW 0.071 - MW 0.035						WW 0.071 - MW 0.035					
Declared thermal resistance R_D	m ² K/W	1.20	1.90	2.60	3.35	4.05	4.75	1.25	2.00	2.70	3.40	4.10	4.85
Water vapour transmission μ	-	WW 5 - MW 1						WW 5 - MW 1					
Reaction to fire	-	Euroclass B-s1, d0						Euroclass B-s1, d0					
Compressive strength σ_m	kPa	≥30						≥30					
Tensile strength perpendicular to faces $\sigma_{m\perp}$	kPa	≥7,5						≥7,5					



Composite thermal and acoustic insulation panel, consisting of two layers (thickness 10 mm and 5 mm) of mineralized thin fir wood wool bound with white Portland cement, coupled to an internal layer of high density mineral wool according to EN 13162. Wood wool is 2 mm wide. It complies with EN 13168. Panels are selected to ensure the highest quality and appearance.



Composite thermal and acoustic insulation panel, in Euroclass A2-s1, d0, consisting of a layer (thickness 10 mm) of mineralized thin fir wood wool bound with white Portland cement and mineral powder, coupled to a layer of mineral wool according to EN 13162. Wood wool is 2 mm wide. It complies with EN 13168. Panels are selected to ensure the highest quality and appearance.

		Celenit L3AB10						Celenit L2AB/A2					
Thickness	mm	50 (10/35/5)	75 (10/60/5)	100 (10/85/5)	125 (10/110/5)	150 (10/135/5)	175 (10/160/5)	50 (10/40)	75 (10/65)	100 (10/90)	125 (10/115)	150 (10/140)	175 (10/165)
Length	mm	2000						1000					
Width	mm	600						600					
Weight	kg/m ²	15.2	18.6	22.1	25.4	28.8	32.2	12.8	15.1	17.3	19.6	21.8	24.1
Declared thermal conductivity λ_D	W/mK	WW 0.071 - MW 0.039						WW 0.091 - MW 0.035					
Declared thermal resistance R_D	m ² K/W	1.05	1.70	2.35	3.00	3.65	4.30	1.25	1.95	2.65	3.40	4.10	4.82
Water vapour transmission μ	-	WW 5 - MW 1						WW 5 - MW 1					
Reaction to fire	-	Euroclass B-s1, d0						Euroclass A2-s1, d0					
Compressive strength σ_m	kPa	≥50						≥30					
Tensile strength perpendicular to faces $\sigma_{m\perp}$	kPa	≥15		≥20				≥7,5					



Composite thermal and acoustic insulation panel, in Euroclass A2-s1, d0, consisting of two layers (thickness 10 mm and 5 mm) of mineralized thin fir wood wool bound with white Portland cement and mineral powder, coupled to an internal layer of high density mineral wool according to EN 13162. Wood wool is 2 mm wide. It complies with EN 13168. Panels are selected to ensure the highest quality and appearance.



Composite thermal and acoustic insulation panel, in Euroclass A2-s1, d0, consisting of a layer (thickness 10 mm) of mineralized ultra-thin fir wood wool bound with white Portland cement and mineral powder, coupled to a layer of mineral wool according to EN 13162. Wood wool is 1 mm wide. It complies with EN 13168. Panels are selected to ensure the highest quality and appearance.

		Celenit L3AB10/A2						Celenit L2ABE/A2					
Thickness	mm	50 (10/35/5)	75 (10/60/5)	100 (10/85/5)	125 (10/110/5)	150 (10/135/5)	175 (10/160/5)	50 (10/40)	75 (10/65)	100 (10/90)	125 (10/115)	150 (10/140)	175 (10/165)
Length	mm	2000						1000					
Width	mm	600						600					
Weight	kg/m ²	18.3	21.7	25.1	28.5	31.9	35.4	13.3	15.6	17.8	20.1	22.3	24.6
Declared thermal conductivity λ_D	W/mK	WW 0.091 - MW 0.039						WW 0.091 - MW 0.035					
Declared thermal resistance R_D	m ² K/W	1.05	1.65	2.30	2.95	3.60	4.25	1.25	1.95	2.65	3.40	4.10	4.80
Water vapour transmission μ	-	WW 5 - MW 1						WW 5 - MW 1					
Reaction to fire	-	Euroclass A2-s1, d0						Euroclass A2-s1, d0					
Compressive strength σ_m	kPa	≥50						≥30					
Tensile strength perpendicular to faces $\sigma_{m\perp}$	kPa	≥15		≥20				≥7,5					

Product range

Building panels

Composites wood wool panels with expanded polystyrene



Composite thermal and acoustic insulation panel, consisting of a layer (thickness 10 mm) of mineralized fir wood wool bound with grey Portland cement coupled to a layer of expanded polystyrene according to EN 13163. It complies with EN 13168.



Composite thermal and acoustic insulation panel, consisting of two layers (thickness 5 mm each) of mineralized fir wood wool bound with grey Portland cement coupled to a layer of expanded polystyrene according to EN 13163. It complies with EN 13168.

		Celenit P2					Celenit P3				
Thickness	mm	30 (10/20)	40 (10/30)	50 (10/40)	75 (10/65)	100 (10/90)	25 (5/15/5)	35 (5/25/5)	50 (5/40/5)	75 (5/65/5)	100 (5/90/5)
Length	mm	2000					2000				
Width	mm	600					600				
Weight	kg/m ²	8.3	8.4	8.5	9.0	9.4	8	8.2	8.5	9.0	9.4
Declared thermal conductivity λ_D	W/mK	WW 0.071 - EPS 0.038					WW 0.071 - EPS 0.038				
Declared thermal resistance R_D	m ² K/W	0.65	0.90	1.15	1.85	2.50	0.50	0.80	1.15	1.85	2.50
Compressive stress at 10% deformation σ_{10}	kPa	≥ 50					≥ 50				
Water vapour transmission μ	-	WW 5 - EPS 20/40					WW 5 - EPS 20/40				
Reaction to fire	-	Euroclass E					Euroclass E				
Tensile strength perpendicular to faces σ_{nt}	kPa	≥ 20					≥ 20				



Composite thermal and acoustic insulation panel, consisting of a layer (thickness 10 mm) of mineralized fir wood wool bound with grey Portland cement coupled to an internal layer of silver-grey expanded polystyrene according to EN 13163. It complies with EN 13168.



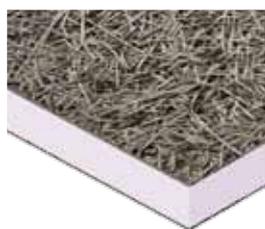
Composite thermal and acoustic insulation panel, consisting of two layers (thickness 5 mm each) of mineralized fir wood wool bound with grey Portland cement coupled to an internal layer of silver-grey expanded polystyrene according to EN 13163. It complies with EN 13168.

		Celenit G2					Celenit G3							
Thickness	mm	50 (10/40)	75 (10/65)	100 (10/90)	125 (10/115)	150 (10/140)	175 (10/165)	25 (5/15/5)	35 (5/25/5)	50 (5/40/5)	75 (5/65/5)	100 (5/90/5)	125 (5/115/5)	150 (5/140/5)
Length	mm	1000 - 2000					1000 - 2000							
Width	mm	600					600							
Weight	kg/m ²	8.5	9.0	9.4	9.7	10.1	10.5	8	8.2	8.5	9.0	9.4	9.8	10.2
Declared thermal conductivity λ_D	W/mK	WW 0.071 - EPS 0.031					WW 0.071 - EPS 0.031							
Declared thermal resistance R_D	m ² K/W	1.40	2.20	3.00	3.85	4.65	5.45	0.60	0.90	1.40	2.20	3.00	3.85	4.65
Compressive stress at 10% deformation σ_{10}	kPa	≥ 50					≥ 50							
Water vapour transmission μ	-	WW 5 - EPS 20/40					WW 5 - EPS 20/40							
Reaction to fire	-	Euroclass E					Euroclass E							
Tensile strength perpendicular to faces σ_{nt}	kPa	≥ 20					≥ 20							

Product range

Building panels

Composites wood wool panels with extruded polystyrene



Composite thermal and acoustic insulation panel, consisting of two layers (thickness 5 mm each) of mineralized fir wood wool bound with grey Portland cement coupled to an internal layer of extruded polystyrene according to EN 13164. It complies with EN 13168.

		Celenit E3			
Thickness	mm	35 (5/25/5)	50 (5/40/5)	75 (5/65/5)	100 (5/90/5)
Length	mm	2000			
Width	mm	600			
Weight	kg/m ²	8.5	9.0	9.8	10.5
Declared thermal conductivity λ_D	W/mK	WW 0.071 - XPS 0.032 / 0.035			
Declared thermal resistance R_D	m ² K/W	0.90	1.35	2.05	2.70
Compressive strength σ_m	kPa	≥ 300			
Water vapour transmission μ	-	WW 5 - XPS 80			
Reaction to fire	-	Euroclass E			
Tensile strength perpendicular to faces σ_{nt}	kPa	≥ 20			

Credits



CE

CELENIT products are CE marked according to EN 13168, the norm specifies the requirements for wood wool products used for thermal insulation of buildings and to EN 13964 for suspended ceilings.

Celenit manufacturing system is supervised by Istituto Giordano Notified Body under System 1 (product - type determination according to product-type testing, production plant, procedures and controls initial inspection plus continuous production monitoring). The Notified Body has issued a certificate of constancy of performance relevant to reaction to fire. For other declared technical data the Notified Bodies have issued a test report under System 3.



DoP

Regulation (EU) No. 305/2011 concerning the CE marking of construction products, obliges the manufacturer to issue the Declaration of Performance (DoP) for products falling within the scope of a harmonized standard or if they comply with a European Technical Assessment. CELENIT boards DoP's can be downloaded from download area, in our website www.celenit.com.



ACERMI

The French Association for the Certification of insulating materials ACERMI, validates through factory inspections and laboratory test, the characteristics of thermal insulation products. Some CELENIT products are ACERMI certified for French market.



FSC®

The Association promotes the preservation and improvement of the environment and natural resources around the world, through the management of forests and plantations that is environmentally sustainable, socially beneficial and economically sustainable, in harmony with the international mission of the Forest Stewardship Council FSC®. All the wood wool panels can be realized in our production process with FSC® certified wood.



PEFC™

One of the world's leading forest certification organization, PEFC is an international no-profit, non-governmental organization dedicated to promoting sustainable forest management, and CELENIT is in compliance with PEFC standards for the production of its wood wool panels. When you see the certification mark PEFC next to a product you know that the wood used in the production process of that product is part of the chain of custody for the preservation of the raw material "wood". All wood wool panels are manufactured in our production process with PEFC® certified wood.



LEED

LEED, managed by the US Green Building Council (GBC), is an US and international system of measurement of environmental performance and sustainability of the buildings thanks its certification schemes. Through ICEA certification, CELENIT products can contribute to LEED credits, giving to the designer tools to design sustainable buildings.



SB TOOL

A tool for assessment of environmental and energy efficiency sustainability of buildings is SB Tool (means Sustainability Tool), managed by international guidelines of IISBE. They orientate to a sustainable design, providing the tools for measuring the quality and performance of the choices of energy saving and environmental sustainability. Using CELENIT products, the designer can increase the total score of the SB Tool, favoring therefore the design and development of sustainable buildings.

CELENIT SPA

THERMAL AND ACOUSTIC
INSULATION PANELS FOR
THE BUILDING INDUSTRY

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