







Amorim Cork Insulation
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www.amorimcorkinsulation.com

IT	Corkpan
ES	Aglocork
RU	Izora
AUT DE CH	Corktherm 040
FR	Corkisol
EUA	Thermacork

AMORIM CORK INSULATION



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OUR WORLD IS CORK

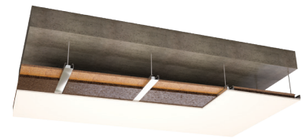
CORK HAS A SOUL



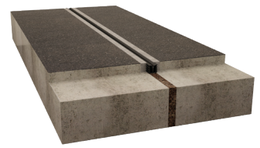
Ceilings + Other Applications
Formwork insulation



Ceilings + Other Applications
Acoustic false ceiling



Ceilings + Other Applications
Expansion joints



Ceilings + Other Applications
Pipe section



Ceilings + Other Applications
Heavy machinery vibration control



Ceilings + Other Applications
HVAC Vibration control



Ceilings + Other Applications
Door core insulation



Ceilings + Other Applications
Decoupling layer for window frames and core



100% Natural

The Insulation Business Unit (Amorim Cork Insulation) is dedicated to the production of insulation agglomerates with excellent technical performance and strictly 100% natural. Amorim Cork Insulation is integrated in Corticeira Amorim and has a strong foothold in the world market, arising from a rigorous commitment to compliance with the quality standards and demands required primarily by the sustainable construction sector.

AMORIM CORK INSULATION

History

In 1987 Corticeira Amorim S.A., as part of a strategic plan for the Group about insulation cork products, created Expocor, a company of Portuguese-British capital devoted to the production and marketing of expanded insulation cork whose goal was to promote and disseminate a product from which new markets and applications would arise, by customizing the expanded insulation cork, a natural product of unmatched features.

Its history dates back to 1963, having appeared this year as a test tube for the agglomerates industry, proving it is an industry that survives per se.

Brands

Amorim Cork Insulation appears in 1997 as a business unit Amorim Group, to produce expanded insulation cork and is market leader with brands Amorim (corporate brand), Corkpan (Italy), Aglocork (Spain), Izora (Russia), Corktherm 040 (Austria, Germany and Switzerland), Corkisol (France) and Thermacork (USA).

In order to achieve certification and total quality, Amorim Cork Insulation is a company seeking high levels of quality and productivity, where the protection of the environment and the preservation of natural resources are a constant, clearly demonstrating its position in the community in which it operates.

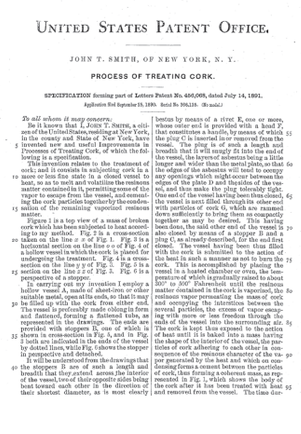
Why should we use cork in construction

The origin of the material

As early as 1891, U.S. Imports of cork were substantial. The cork was used for the manufacture of many materials: cork stoppers, buoys, life jackets, and other materials. One day in New York a discovery was made in the buoys and life jacket factory of John T. Smith. At that time, the filling of life jackets was done using a metal cylinder to keep the life jacket open while the worker filled the cylinder with granulated cork. One of the cylinders was clogged and was set aside and inadvertently rolled over a hot brazier. It went unnoticed until the next morning.

The next day, Smith with the help of a worker while cleaning the ash from the brazier noticed that the cork inside the cylinder had not been burned, and the heat was sufficient to bind the entire mass in a single form-brown chocolate.

The original process was repeated intentionally to be able to prove that the material could bind without any additive or foreign substance and thus registering a patent on the manufacturing process.



UNITED STATES PATENT OFFICE.

JOHN T. SMITH, OF NEW YORK, N. Y.

PROCESS OF TREATING CORK.

SPECIFICATION forming part of Letters Patent No. 456,068, dated July 14, 1891.

Application filed September 15, 1890. Serial No. 365,118. (No model.)

To all whom it may concern:

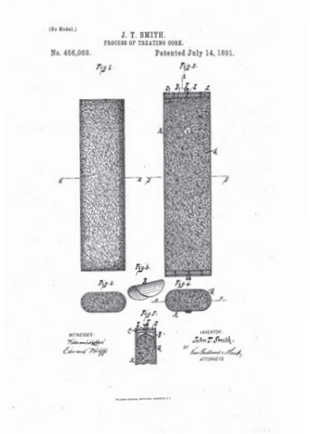
Be it known that I, JOHN T. SMITH, a citizen of the United States, residing at New York, in the county and State of New York, have invented new and useful Improvements in Processes of Treating Cork, of which the following is a specification.

The invention relates to the treatment of cork; and it consists in subjecting cork to a heat sufficient to close the vessel to heat, so as to melt and volatilize the resinous matter contained in it, permitting some of the vapor to escape from the vessel, and cementing the cork particles together by the condensation of the remaining vaporized resinous matter.

Figure 1 is a top view of a mass of broken cork which has been subjected to heat according to my process. Fig. 2 is a vertical section on the line x x of Fig. 1. Fig. 3 is a horizontal section on the line o o of Fig. 4 of a hollow vessel in which the cork is placed for undergoing the treatment. Fig. 4 is a cross-section on the line y y of Fig. 3. Fig. 5 is a section on the line z z of Fig. 3. Fig. 6 is a perspective of a stopper.

In carrying out my invention I employ a hollow vessel A, made of sheet-iron or other suitable metal, open at its ends, so that it may be filled with the cork to be treated. This vessel is preferably made oblong in form and flattened, forming a flattened tube, as represented in the drawings. The ends are provided with stoppers B, one of which is shown in cross-section in Fig. 4, and in Fig. 3 both are indicated in the ends of the vessel by dotted lines, while in Fig. 6 shows the stopper in perspective and detached.

It will be understood from the drawings that the stoppers B are of such a length and breadth that two-thirds or more of the interior of the vessel at their opposite ends will be heat toward each other in the direction of their shortest diameter, as is most clearly



(No Model.)

J. T. SMITH.

PROCESS OF TREATING CORK.

No. 456,068. Patented July 14, 1891.

Fig. 1. Fig. 2.

Fig. 3. Fig. 4. Fig. 5. Fig. 6.

WITNESSES: Thos. Lindsay, Edward Phillips.

INVENTOR: John T. Smith, by Van Santvoord & Hall, ATTORNEYS.



Cork is the outer bark of Quercus Suber L. (cork oak tree)

A noble tree that can live up to 200 years, during which time it may be harvested 15 to 18 times. The process of natural cork extraction is called harvesting, a highly specialized process that does not harm the tree. The bark renews itself.

Favourable impact on cork forests

• Total area 2.1 million hectares (5.2 million acres) of cork oak forests.
• The cork tree produces cork every nine years (a renewable raw material).
• Cork forests improve soil's organic matter and help regulate the hydrological cycle
• Provides local employment in the forestry sector hence prevent population desertification.
• lmportant in maintaining biodiversity (unique in Europe) - One of the 36 Biodiversity Hotspots.
• Cork oak forests are natural CO2 retainers (Up to 14 million tons of CO2/year), the major cause of global warming.

100% natural industrial process

• Only cork as a raw material.
• No additives, agglomeration with its own resins (suberin).
• 93% of energy consumption is biomass (waste of its own industrial process).
• The waste from the industrial process is 100% reusable (expanded cork granules + powder).

Natural Sustainability

• Practically unchanging thermal conductivity on temperature variations.
• Compared to other insulation products with declining performance values, maintains a steady insulation value overtime.

In General

• 100% natural product
• Carbon Negative
• Very low embodied energy
• Promotes thermal Lag
• High level of stability, coping with major thermal variations.
• Deals with temperatures of between: -180C and +120C (- 292 F and 248 F).
• ln case of fire, cork does not release toxic gases.
• Unlimited durability, maintaining its technical characteristics (official tests demonstrate between 45 and 50 years).

Manufacturing process 100% natural



Expanded insulation corkboard is derived from falca cork, a unique type of cork that is periodically harvested from the upper branches of the cork oak tree. Once removed, the falca cork is stored at the factory yard.



It is industrially produced without use of any additives. The process begins by grinding the cork into smaller cork granules.



Once placed into an autoclave and exposed to super-heated steam at 350 ºC (662F) the cork granules expand and release their own suberin, a natural binder within the cork. No binders or chemicals are added, since the cork is agglomerated into blocks using its own resin.



The blocks are then removed and subjected to a stabilization period.



The blocks are sawn-cut into expanded insulation corkboard, packed and shipped.



Any waste produced during the industrial process is 100% reusable. In fact, over 90% of energy consumption is obtained from biomass – as a by-product of the industrial process itself – which makes expanded insulation corkboard a very low-embodied energy material.

Quest for excellence and innovation

Amorim Cork Insulation is recognized by the constant search of excellence and innovation and has the support of and accreditation by the relevant authorities.

Certificate. ISO 9001 – APCER / IQNET

FSC Certificate

Sustainable Habitat Cluster . Gold Seal of Sustainability



Product quality control according to EN 13170 and consequent CE marking CE

DECLARATION NUMBER: DAP 002:2016

ECOPLATFORM DECLARATION NUMBER: 000464

By Centrohabitat. Associação Plataforma para a Construção Sustentável - Environmental Product Declaration.

Natureplus. The International Association for Future - Oriented Building and Accommodation (Germany) - The label identifies the best products for sustainable building.

Acermi. Association Pour La Certification Des Matériaux Isolants (France) - certifies specific insulation materials, assessing their technical performance.

ICEA. Instituto per la Certificazione Etica e Ambientale (Italy) certification of environmental and ethical aspects of products.

R0700144

ARGE kdR Positivlisten (Germany). Certifies energy consumption throughout the life cycle, resource depletion and emissions of materials.

MPA. Materials Testing Institute University of Stuttgart (Germany) - certification of construction materials in terms of their suitability and production process in accordance with existing standard.

LQAI. Laboratory of Indoor Air Quality (Portugal) Certifies the non-emissions of VOCs, formaldehyde and other compounds for the product.

LBC. International Living Future Institute's Living Building Challenge (USA) - the label certifies Living Building Challenge Red List Free products.

PCS. Portuguese Platform for Sustainable Construction (Portugal) – Certificate of Product Sustainability.

Ecologic Certification. Japan Environment Association (Japan) Certifies the environmental impacts of products.

Products

On the market with brands Amorim (corporate brand)

IT	Corkpan
ES	Aglocork
RU	Izora
AUT DE CH	Corktherm 040
FR	Corkisol
EUA	Thermacork



Expanded insulation corkboard. Solution with high performance in thermal, acoustic and anti-vibration insulation, especially suitable for use in external, internal and cavity walls, slabs and floors, roofs and ceilings



MDFacade. Special range of Expanded Insulation Corkboard with high technical performance for exterior wall cladding. Interior walls and ceilings – cork at sight.



Lambourdé. Quick application system designed for low thickness insulation solutions and buildings renovations. For mechanical fixing to the floor or wall, ensuring excellent thermal and acoustic insulation and subsequent a wood finish or plasterboard.



Expanded cork granules. Solution of lightweight filling with acoustic insulation properties for use in screeds, flooring and interior cavity walls.



Corkoco. Solution that uses two natural products with unique characteristics, cork and coconut, ensuring high performance acoustic insulation. It is especially suited for application in ceilings, walls and floors.



Coco. Natural solution of the family of the hard fibers with unmatched stiffness and hardness. It is a versatile product given its strength durability and resilience that ensures high performance in sound insulation.

Technical characteristics

ICB STANDARD	Unit	Value
Density	Kg/m³	± 110
Sizes	mm	1000x500/1200x600/915x610
Thicknesses	mm	10-300/40-300/12,5-300

Essential features (EN 13170)	Performance	Result
Reaction to fire	Fire reaction	Euroclass E
Thermal resistance	Thermal Conductivity	0,039 W/m.K
Water Permeability	Water Absorption	WS
Permeability to water vapor	Water vapor transmission	MU20
Compressive strength	Compressive strength at 10% deformation	CS(10)100
Durability of the reaction to fire with heat, weather agents, aging / degradation	Durability characteristics	Satisfy
Durability of thermal resistance to heat, weather agents, aging / degradation	Thermal resistance and thermal conductivity	Satisfy
	Durability characteristics	Satisfy
Tensile strength/bending	Tensile strength Perpendicular to surface	TR50
Compressive strength durability with aging / degradation	Fluency by compression	CC(0,8/0,4/10)5
Specific Heat	J/kg.ºC	1560
Global warming potential (GWP)	kg CO2 equiv./1m³ of ICB	-1,98E+02
Total use of renewable primary energy resources (TRR)	MJ, P.C.I./1m³ of ICB	6,79E+03

ICB MD FACADE	Unidade	Value
Density	kg/m³	140 +/-10
Sizes	mm	1000x500
Thicknesses	mm	10-200

Essential features	Performance	Result
Reaction to fire	Fire reaction	Euroclass E
Thermal resistance	Thermal Conductivity	0,043 W/m.K
Compressive strength	Compressive strength at 10% deformation	220 kPa
Water permeability	Water Absorption	0,17 kg/m²

ICB HD	Unidade	Value
Density	kg/m³	140-160/170-190
Sizes	mm	1000x500 or 915x610
Thicknesses	mm	10-220

Essential features	Performance	Result
Reaction to fire	Fire reaction	Euroclass E
Thermal resistance	Thermal Conductivity	0,043 W/m.K/0,045 W/m.K
Compressive strength	Compressive strength at 10% deformation	223 Kpa/332 kPa
Compressive strength	Compression modulus of elasticity	3506 Kpa/6747 kPa

EXPANDED CORK GRANULES	Unit	Value
Density	Kg/m³	60-70
Sizes	mm	0-3/3-5/3-10/3-15

Essential features	Performance	Result
Reaction to fire	Fire reaction	Euroclass E
Thermal resistance	Thermal Conductivity	0,041 W/m.K
Acoustic Insulation	Airborne Sound Insulation	Rw (C;Ctr) = 51 (-2;-6) dB

LAMBOURDÉ	Unit	Value
Density	Kg/m³	± 110
Sizes	mm	1000x500
Thicknesses	mm	40-100

Essential features	Performance	Result
Reaction to fire	Fire reaction	Euroclass E
Thermal resistance	Thermal Conductivity	0,041 W/m.K

CORKOCO	Unit	Value
Density	Kg/m³	100-140
Sizes	mm	1000x500
Thicknesses	mm	40
Lines	-	-
Cork10/Coco20/ Cork10 (2A+1C)	m m	10+20+10
Coco10/Cork20/ Coco10 (2C+1A)	mm	10+20+10
Cork20/Coco20 (1+1)	mm	20+20

Essential features	Performance	Result
Thermal resistance	Thermal Conductivity	0,044 W/m.K
Acoustic Insulation	Airborne Sound Insulation (false ceiling)	Rw (C;Ctr) = 58 (-2;-9) dB
Acoustic Insulation	Airborne Sound Insulation (interior partition)	55 dB

COCO	Unit	Value
Density	Kg/m³	100-140
Lines	-	-
Coco stripes	mm	1250x60/80/100/ 120x [10-13]
Coco boards	mm	1250x625x [variable thickness]
Coco reels	mm	10.000x1000x [variable thickness]

Essential features	Performance	Result
Thermal resistance	Thermal Conductivity	0,045 W/m.K
Acoustic Insulation	Impact noise	ΔLW=32 dB

Roofs Applications

Thermal insulation
Anti-vibration insulation
Acoustic insulation

100% natural choice. Expanded insulation corkboard is a sustainable material for a sustainable insulation.



Roofs Green roof



Roofs Traditional flat roof



Roofs Pitched roof with corrugated roofing system



Roofs Pitched roof with roof membrane



Roofs Pitched roof with rigid insulation over slab



Roofs Pitched roof with loose fill insulation between joists



Roofs Pitched roof with internal insulation between rafters



Roofs Pitched roof with above rafter insulation



Roofs Flat tapered roof



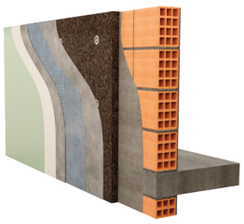
External walls Applications

Thermal insulation
Anti-vibration insulation
Acoustic insulation

100% natural choice. Expanded insulation corkboard is a sustainable material for a sustainable insulation.



External walls ETICS / EIFS



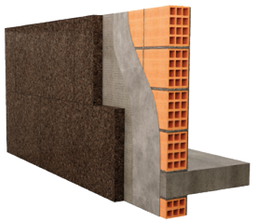
External walls Double wall with insulation partially filling the cavity



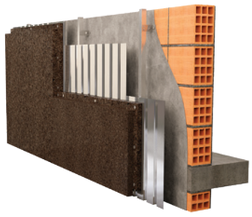
External walls Ventilated facade



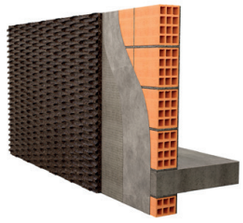
External walls Exterior cladding - cork at sight



External walls Exterior cladding with shiplap system - cork at sight



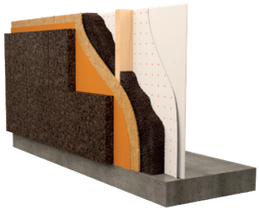
External walls Exterior cladding - cork at sight wave facade s1



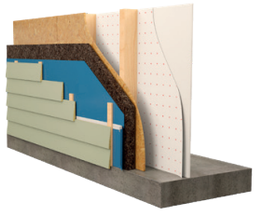
External walls External cladding over insulation – cork at sight



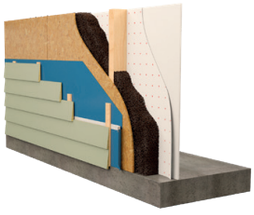
External walls Exterior cladding over wooden substrate – cork at sight



External walls Standard lap siding with exterior rigid insulation



External walls Standard lap siding with cavity insulation



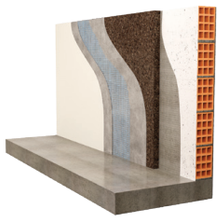
Interior solutions for exterior walls Support for gypsum board



Interior solutions for exterior walls Support for wooden wainscot



Interior solutions for exterior walls Internal insulation for external walls



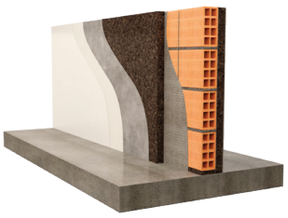
Internal partitions
Applications

Thermal insulation
Anti-vibration insulation
Acoustic insulation

100% natural choice. Expanded insulation corkboard is a sustainable material for a sustainable insulation.



Internal partitions Internal partitions with insulation lined on both sides



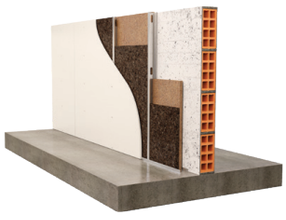
Internal partitions Double wall with insulation fully filling the cavity



Internal partitions Metal stud over masonry wall with insulation



Internal partitions Metal stud over masonry wall with corkoco insulation



Internal partitions Metal stud partition wall with insulation



Internal partitions Filling the internal double walls with expanded cork granules



Internal partitions Metal-stud wall and slab discontinuity



Internal partitions Masonry wall and slab discontinuity



Decorative Solutions Applications

Thermal insulation
Anti-vibration insulation
Acoustic insulation

100% natural choice. Expanded insulation corkboard is a sustainable material for a sustainable insulation.



Decorative Solutions
Decorative board cork at sight



Decorative Solutions
Decorative cork at sight taper



Decorative Solutions
Decorative cork at sight wave S1



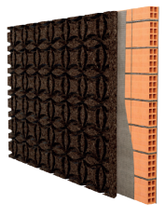
Decorative Solutions
Decorative cork at sight wave L1



Decorative Solutions
Decorative cork at sight wave L2



Decorative Solutions
Decorative cork at sight circle



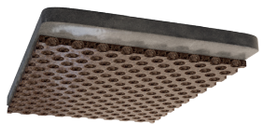
Decorative Solutions
Decorative cork at sight barcode

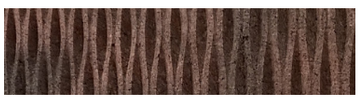
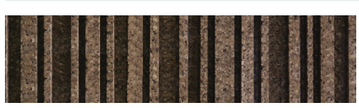


Decorative Solutions
Decorative cork at sight point cloud



Decorative Solutions
Decorative ceiling

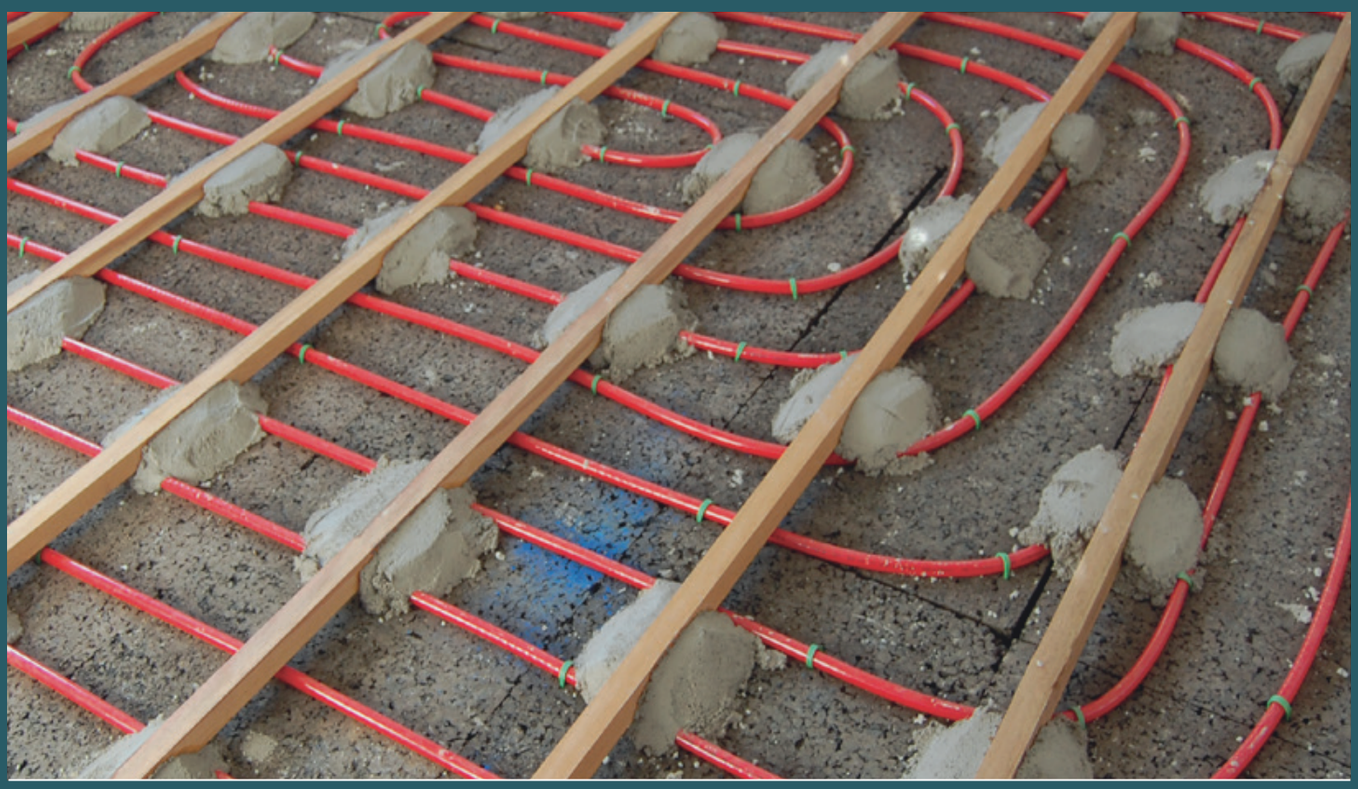


Product	Reference	Dimension	Boards	Packing (m^2)	Packing (m^3)
	**Wave S1** 40mm	1.000x500mm x40mm Min.Thickness	8	4	0,16
	**Wave L1** 50mm	1.000x500mm x50mm Min.Thickness	6	3	0,15
	**Wave L2** 70mm	1.000x500mm x70mm Min.Thickness	4	2	0,14
	**Pointcloud** 50mm	1.000x500mm x50mm Min.Thickness	6	3	0,15
	**Circle** 40mm	1.000x500mm x40mm Min.Thickness	8	4	0,16
	**Barcode** 50mm	1.000x500mm x50mm Min.Thickness	6	3	0,15

Slab and Floors Applications

Thermal insulation
Anti-vibration insulation
Acoustic insulation

100% natural choice. Expanded insulation corkboard is a sustainable material for a sustainable insulation.



Slab and Floors Floating slab with wood flooring



Slab and Floors Floating slab with mosaic flooring



Slab and Floors Foating slab with coco fiber



Slab and Floors Support for nailed flooring



Slab and Floors Flooring joists cavity filling



Slab and Floors Between joists loose fill



Slab and Floors Lightweight concrete - screed filling



Slab and Floors Unlinking screed filler to the wall



Slab and Floors Traditional underfloor heating



Slab and Floors Electric underfloor heating



Slab and Floors Resilience on nailed hardwood floor over coconut fiber



Slab and Floors Rustic decorative floor



Ceilings + Others Applications

Thermal insulation
Anti-vibration insulation
Acoustic insulation

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