



AMORIM

ISOLAMENTOS

Amorim Isolamentos

WHO WE ARE

The Insulation Business Unit (Amorim Isolamentos, S.A.) is dedicated to the production of insulation agglomerates with excellent technical performance and strictly 100% natural.

Amorim Isolamentos 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.

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.

Amorim Isolamentos 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 Isolamentos 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.

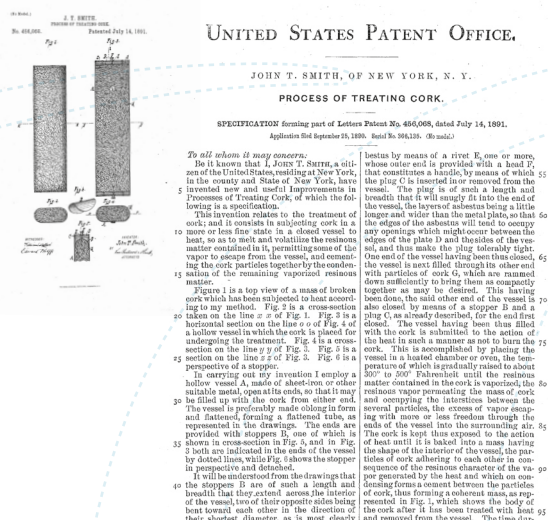
THE ORIGIN OF THE MATERIAL

Expanded Insulation Corkboard was discovered by accident.

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 lifejackets was done using a metal cylinder to keep the lifejacket 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.



WHY SHOULD WE USE CORK IN CONSTRUCTION

Why Cork

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.

Important 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 R-value / Lambda (thermal value) on temperature variations

Compared to other insulation products with declining performance values, Thermacork maintains a steady insulation value over time

In general:

100% Natural Product

Carbon Negative

Very Low Embodied Energy

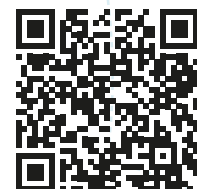
Promotes Thermal Lag

High level of stability ... coping with major Thermal variations.

Deals with temperatures of between:
-180C and +120C (- 292 F and 248 F).

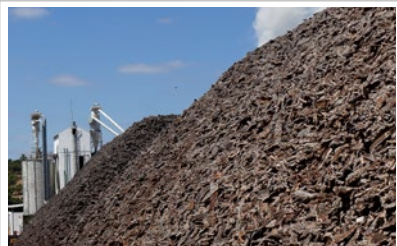
In case of fire, cork does not release toxic gases.

Unlimited durability, maintaining its technical characteristics (official tests demonstrate between 45 and 50 years).

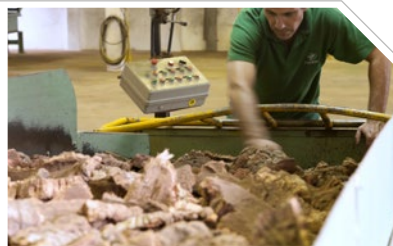


Amorim Isolamentos

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.



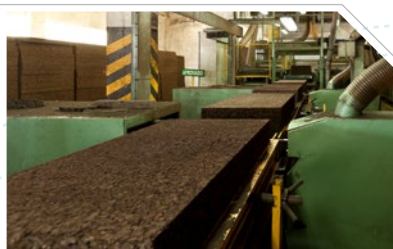
It is industrially produced without use of any additives. The process begins by grinding the cork into smaller cork granules.



Once placed into an autoclave and exposed to super-heated steam at 350 °C (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 Isolamentos 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***



DAPHABITAT SYSTEM

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;



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;



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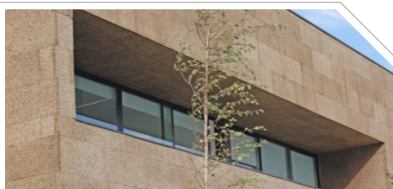
PRODUCTS

On the market with brands Amorim (corporate brand), Corkpan (Italy), Aglocork (Spain), Izora (Russia), Corktherm 040 (Austria, Germany and Switzerland), Corkisol (France) and Thermacork (USA).



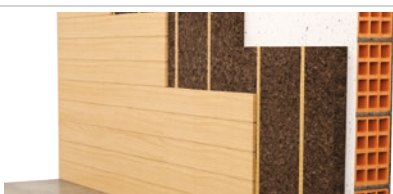
EXPANDED INSULATION CORKBOARD

Solution with high performance in thermal, acoustic and anti-vibration insulation, especially suitable for use in external, internal and cavity walls; slabs; flat and pitched roofs and radiant floor.



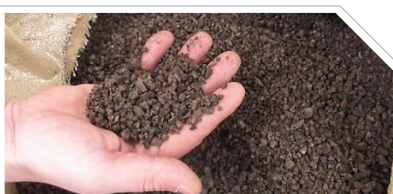
MDFACADE

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



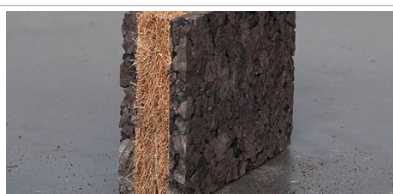
LAMBOURDE

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.



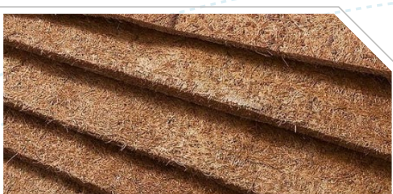
EXPANDED CORK GRANULES

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/m ³	110-120
Sizes	mm	1000x500, 1200x600 or 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	0,040 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.°C	1560
Global warming potential (GWP)	kg CO2 equiv./1m ³ of ICB	-1,98E+02
Total use of renewable primary energy resources (TRR)	MJ, P.C.I./1m ³ of ICB	6,79E+03

ICB MDFACADE	Unit	Value
Density	kg/m ³	140-160
Sizes	mm	1000x500
Thicknesses	mm	10-220

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/m ²

ICB HIGH DENSITY	Unit	Value
Density	kg/m ³	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	0,042 W/m.K/0,044 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/m ³	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	0,040 W/m.K
Acoustic Insulation	Airborne Sound Insulation	Rw (C;Ctr) = 51 (-2;-6) dB

LAMBOURDE	Unit	Value
Density	kg/m ³	110-120
Sizes	mm	1000x500
Thicknesses	mm	40-100

Essential features (EN 13170)	Performance	Result
Reaction to fire	Fire reaction	Euroclass E
Thermal resistance	Thermal Conductivity	0,040 W/m.K

CORKOCO	Unit	Value
Density	kg/m ³	100-140
Sizes	mm	1000x500
Thicknesses	mm	40
Lines		
Cork10/Coco20/Cork10 (2A+1C)	mm	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	0,043 - 0,045 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/m ³	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	0,043 - 0,045 W/m.K
Acoustic Insulation	Impact noise	ΔLW=32 dB



APPLICATIONS

ROOFS



100% NATURAL CHOICE

EXPANDED
INSULATION
CORKBOARD IS
A SUSTAINABLE
MATERIAL FOR
A SUSTAINABLE
INSULATION

THERMAL INSULATION
ACOUSTIC INSULATION
ANTI-VIBRATION INSULATION



PITCHED ROOF WITH
CORRUGATED ROOFING
SYSTEM



PITCHED ROOF
WITH ROOF MEMBRANE



PITCHED
ROOF WITH RIGID
INSULATION OVER SLAB



PITCHED ROOF WITH
LOOSE FILL INSULATION
BETWEEN JOISTS



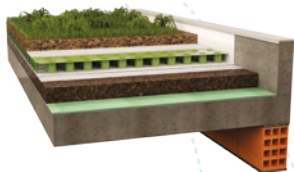
PITCHED ROOF WITH
INTERNAL INSULATION
BETWEEN RAFTERS



PITCHED ROOF WITH
ABOVE RAFTER
INSULATION



FLAT TAPERED
ROOF



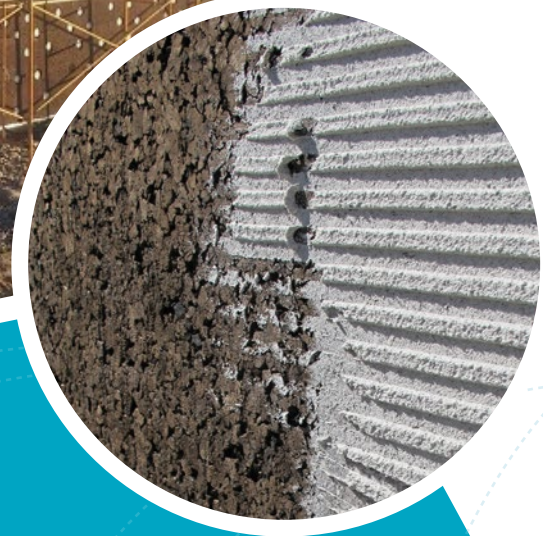
GREEN ROOF



TRADITIONAL
FLAT ROOF

APPLICATIONS

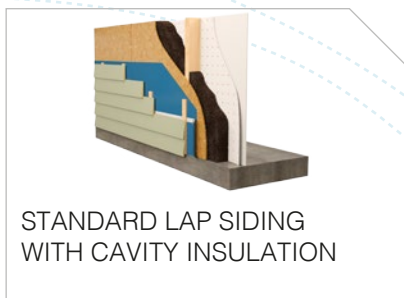
EXTERNAL WALLS



100% NATURAL CHOICE

EXPANDED
INSULATION
CORKBOARD IS
A SUSTAINABLE
MATERIAL FOR
A SUSTAINABLE
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THERMAL INSULATION
ACOUSTIC INSULATION
ANTI-VIBRATION INSULATION



INTERNAL SOLUTIONS FOR EXTERNAL WALLS



APPLICATIONS

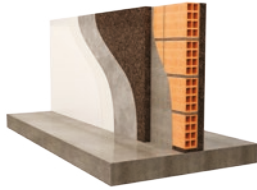
INTERNAL PARTITIONS



100% NATURAL CHOICE

EXPANDED
INSULATION
CORKBOARD IS
A SUSTAINABLE
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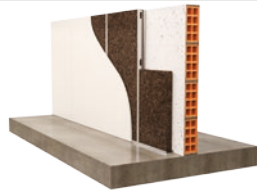
THERMAL INSULATION
ACOUSTIC INSULATION
ANTI-VIBRATION INSULATION



INTERNAL PARTITIONS
WITH INSULATION LINED
ON BOTH SIDES



DOUBLE WALL WITH
INSULATION FULLY
FILLING THE CAVITY



METAL STUD OVER
MASONRY WALL WITH
INSULATION



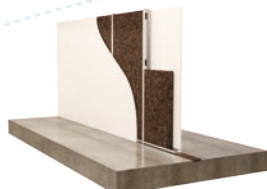
METAL STUD OVER
MASONRY WALL WITH
CORKOCO INSULATION



METAL STUD PARTITION
WALL WITH INSULATION



FILLING THE INTERNAL
DOUBLE WALLS WITH
EXPANDED CORK GRANULES



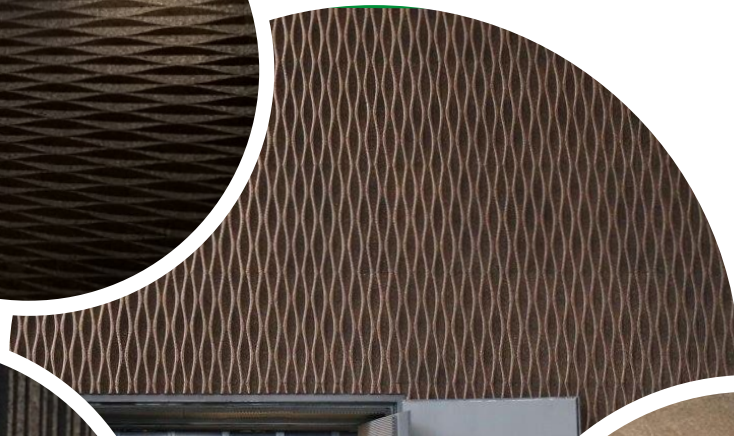
METAL-STUD
WALL AND SLAB
DISCONTINUITY



MASONRY
WALL AND SLAB
DISCONTINUITY

APPLICATIONS

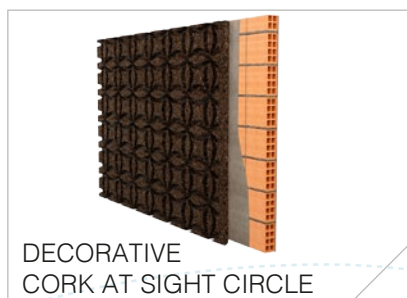
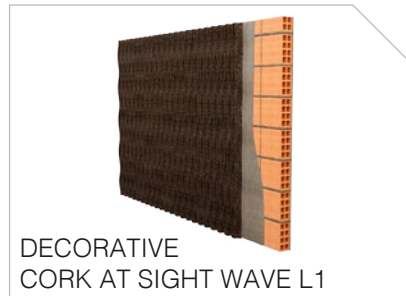
DECORATIVE SOLUTIONS



100% NATURAL CHOICE

EXPANDED
INSULATION
CORKBOARD IS
A SUSTAINABLE
MATERIAL FOR
A SUSTAINABLE
INSULATION

THERMAL INSULATION
ACOUSTIC INSULATION
ANTI-VIBRATION INSULATION



APPLICATIONS

SLAB AND FLOORS



100% NATURAL CHOICE

EXPANDED
INSULATION
CORKBOARD IS
A SUSTAINABLE
MATERIAL FOR
A SUSTAINABLE
INSULATION

THERMAL INSULATION
ACOUSTIC INSULATION
ANTI-VIBRATION INSULATION



FLOATING SLAB
WITH WOOD FLOORING



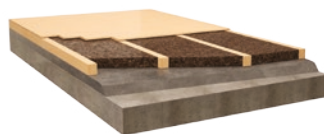
FLOATING SLAB
WITH MOSAIC FLOORING



FLOATING SLAB
WITH COCO FIBER



SUPPORT FOR
NAILED FLOORING



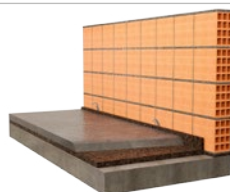
FLOORING
JOISTS CAVITY FILLING



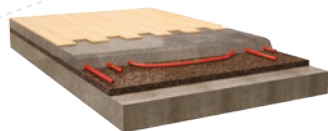
BETWEEN JOISTS
LOOSE FILL



LIGHTWEIGHT CONCRETE
- SCREED FILLING



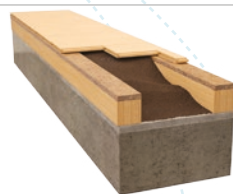
UNLINKING SCREED
FILLER TO THE WALL



TRADITIONAL
UNDERFLOOR HEATING



ELECTRIC
UNDERFLOOR HEATING



RESILIENCE ON NAILED
HARDWOOD FLOOR OVER
COCONUT FIBER



RUSTIC
DECORATIVE FLOOR

APPLICATIONS

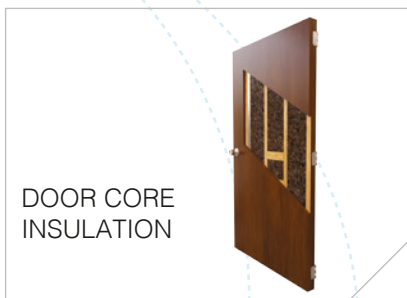
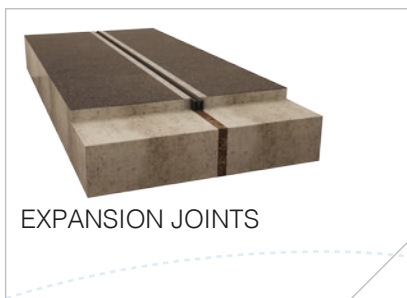
CEILING + OTHER APPLICATIONS



100% NATURAL CHOICE

EXPANDED
INSULATION
CORKBOARD IS
A SUSTAINABLE
MATERIAL FOR
A SUSTAINABLE
INSULATION

THERMAL INSULATION
ACOUSTIC INSULATION
ANTI-VIBRATION INSULATION





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