

REINVENT

TING

HOW

CORK

ENGAGES

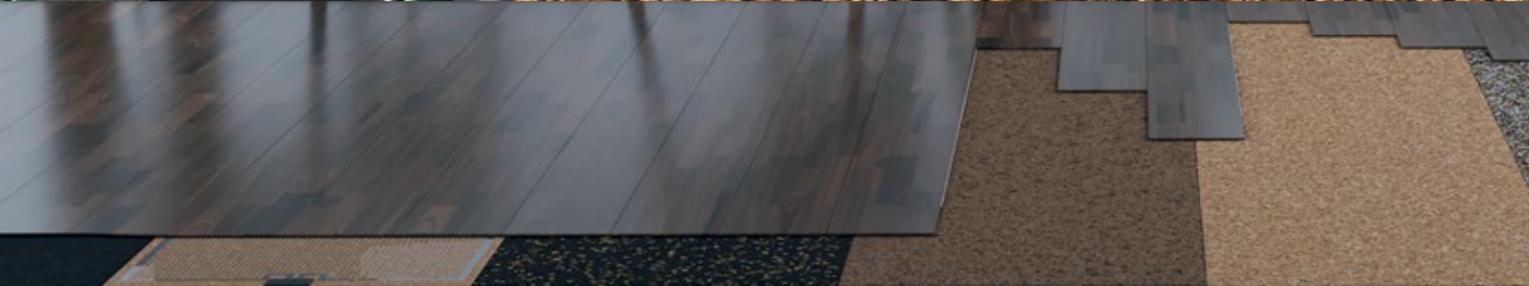
THE

WORLD



AMORIM

CORK COMPOSITES



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Shaping the **future** through **creativity**

Reinventing how cork engages the world



AMORIM

CORK COMPOSITES

At **Amorim Cork Composites**, we reinvent the world every day: we reuse and re-purpose natural and recyclable materials.

Cork is the main raw material for the development of a portfolio of high-performance materials for multiple industries such as aerospace, panels and composites, automotive, seals and gaskets, the power industry, construction, sports surfaces, flooring, consumer goods, furnishing, and footwear.

We value cork, a 100 percent natural, sustainable, and highly technological material, shaping it to meet the most demanding requirements. With cork, we create new formulas, new solutions, and we combine different materials that always guarantee the best performance of the final product.

Innovation is our attitude and our driving force.



Shaping
the **future** through
sustainability

OUR INDUSTRY CORE RAW MATERIAL IS 100 PERCENT NATURAL, WHICH ALLOWS US TO PROMOTE A CIRCULAR, SUSTAINABLE ECONOMY AT ALL STAGES OF THE INDUSTRIAL PROCESS.

Cork: a gift from nature

Cork is the outer bark of the cork oak tree (*Quercus suber* L.). It's a 100 percent natural, technological raw material, with unique properties that give it unrivaled character and make it valuable in several industries and multiple applications.

It is light and resistant to friction. Elastic and compressible. Impermeable to liquids and gases. Resistant to combustion. Fully biodegradable, renewable, and recyclable.

But perhaps cork's most extraordinary property can be found in its biological origins. In fact, extracting cork does not harm or even put at risk the tree that it comes from. It is removed every nine years, and not a single cork oak is cut down in the process.

Cork. Versatile. Sustainable. Technological. Matchless.

9 YEARS

The period of time between each cork oak harvesting.

25 YEARS

The average time before the cork oak is harvested for the first time.

200 YEARS

The average life expectancy of a cork oak.

Cork's main features



Acoustic
insulation

Cork is a poor conductor of sound and vibration. The gaseous elements contained in cork are enclosed in small, impermeable compartments and isolated from one another.



Thermal
insulation

The air contained in the cells makes cork an excellent insulator, resulting in low thermal conductivity in a wide range of temperatures.



Impermeability to
liquids and gases

Thanks to the suberin and ceroids in the cell's walls, cork is impermeable to liquids and gases. Its resistance to humidity allows it to age without deteriorating.



Resistance to
fire and high
temperatures

Cork is a natural fire retardant: it does not flame or release toxic gases during combustion.



Resistance to
friction

Cork is extremely resistant to abrasion and is highly resistant to friction.



Hypoallergenic

Because cork does not absorb dust, it helps protect against allergies.



Lightness and
buoyancy

More than 50 percent of cork's volume is air, which makes it very light and gives it the ability to float. It weighs only 0.16 grams per cubic centimeter.



Elasticity and
compressibility

Cork is the only solid that, when compressed on one side, does not increase in volume on the other. Cork's elastic memory allows it to adapt to temperature and pressure changes.



Soft touch

The natural texture of cork combines flexibility and smoothness to the touch.



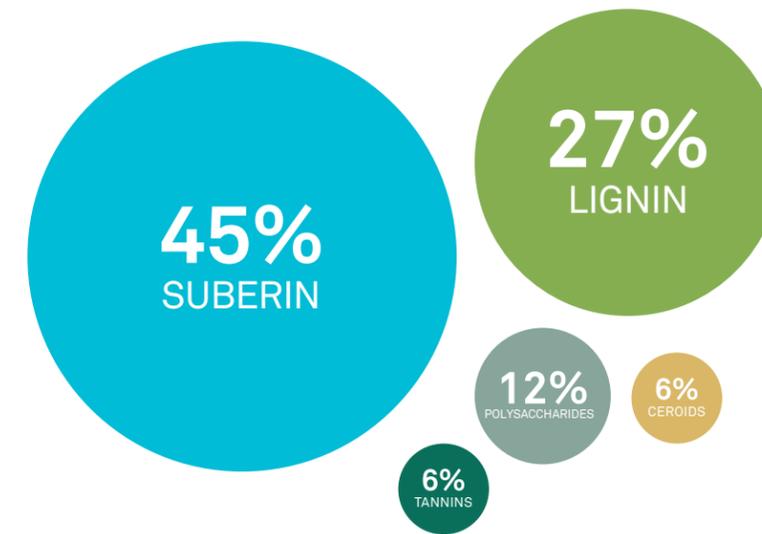
100% natural,
reusable and
recyclable

Cork is the outer bark of the cork oak tree and is a 100 percent natural plant tissue and completely biodegradable. It is also a renewable and recyclable raw material.

The cork oak: an extraordinary tree

The *Montado* (cork oak forest) is the basis of a biodiversity-generating ecosystem where the roots of the future are planted.

The cork oak tree prevents soil degradation, produces clean air, and stores carbon dioxide, a major cause of climate change.



Cork consists of a hive-like structure of microscopic cells filled with a gas similar to air and mostly coated with suberin and lignin. In its chemical composition, other compounds can also be identified, such as polysaccharides, ceroids, and tannins.

The high percentage of gas of each cell is responsible for cork's extraordinary lightness. The association of these cells, as if they were a kind of small aggregate cushions, is responsible for their compressibility and elasticity.

In a single cubic centimeter of cork, there are about 40 million cells.

Benefits of the cork oak

- > Prevents soil degradation
- > Improves soil productivity
- > Regulates the hydrological cycle
- > Fights desertification
- > Absorbs and stores carbon dioxide over very long periods of time
- > Fights climate change
- > Generates high levels of biodiversity



Shaping the **future** through **leadership**

CORTICEIRA AMORIM IS A GLOBAL MARKET LEADER,
CONTRIBUTING LIKE NO OTHER PLAYER IN THE
MARKET TO THE SUSTAINABILITY AND INNOVATION
OF THE CORK INDUSTRY.

Shaping the **future**
through **leadership**

We are worldwide leaders in cork

Amorim Cork Composites is part of Corticeira Amorim, which holds a consolidated worldwide leadership position in five main areas: raw materials, cork stoppers, composites, flooring and wall coverings, and insulation.



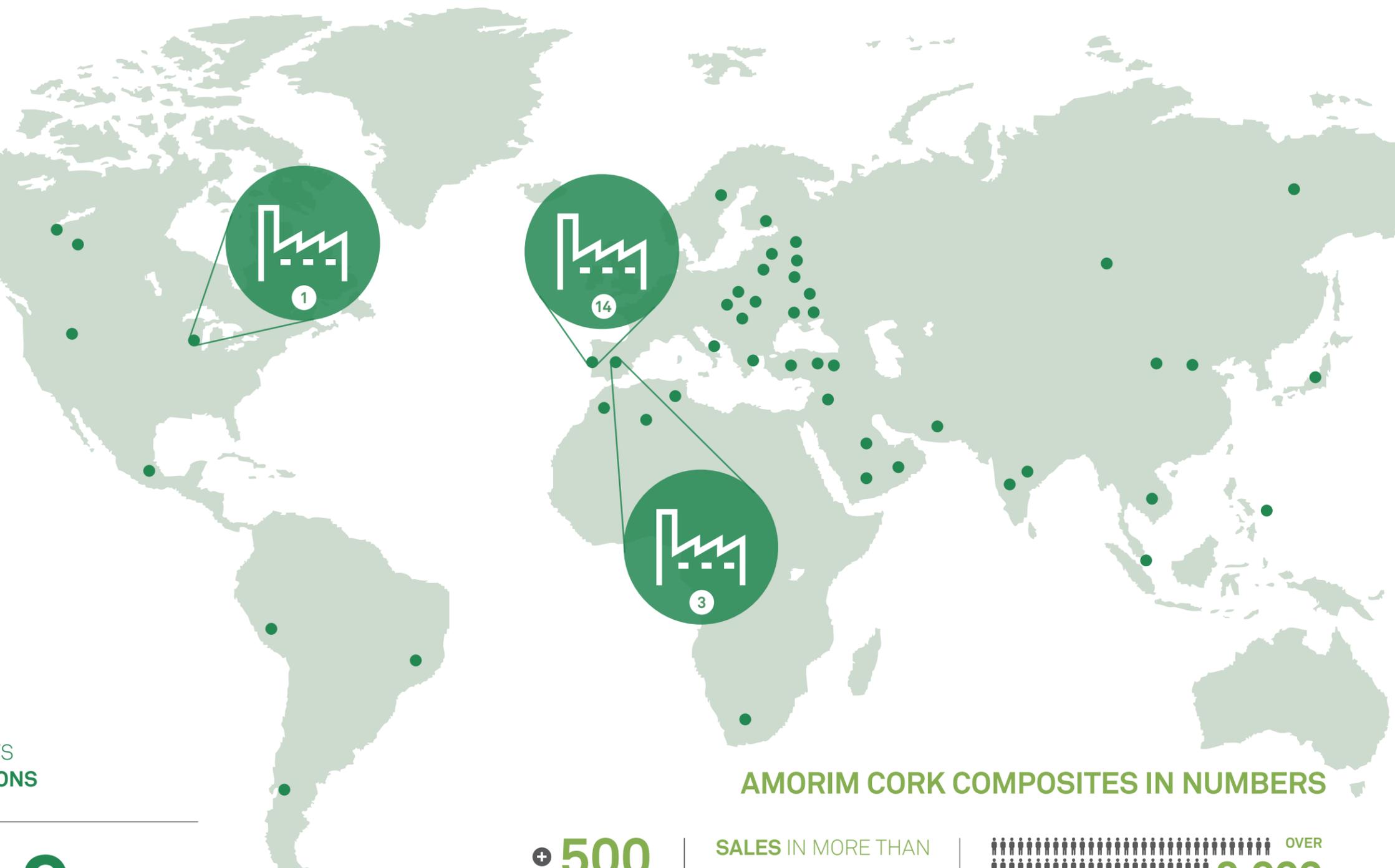
AMORIM

Corticeira Amorim, Amorim Group's cork holding company, is the world's largest cork company and the most international company in Portugal.

Corticeira Amorim has made an unparalleled investment in research, innovation, and design, developing a portfolio of products and solutions with high added value that anticipate market trends and exceed the expectations of some of the most demanding industries worldwide.

Corticeira Amorim's Worldwide Presence

Corticeira Amorim has a solid position on five continents.



CORTICEIRA AMORIM

18 INDUSTRIAL UNITS
CORK APPLICATIONS

10 INDUSTRIAL UNITS
RAW MATERIALS

9 JOINT
VENTURES

45 DISTRIBUTION
COMPANIES

231 MAIN
AGENTS

AMORIM CORK COMPOSITES IN NUMBERS

+ 500
APPLICATIONS
• PRODUCTS

SALES IN MORE THAN
80 COUNTRIES

OVER 2,000
CUSTOMERS

+ 30,000
TONS OF CORK
CONSUMED PER YEAR

+ 40,000
CYLINDERS PRODUCED
PER YEAR

+ 200,000
BLOCKS PRODUCED
PER YEAR



Shaping the **future** through **performance**

WE ARE CONSTANTLY CHALLENGING THE INFINITE POTENTIAL OF CORK WITH APPLICATIONS AND HIGH-PERFORMANCE USES BY ANTICIPATING MARKET TRENDS AND EXCEEDING THE EXPECTATIONS OF SOME OF THE WORLD'S MOST DEMANDING INDUSTRIES.





Aerospace

Reinventing thermal protection in the aerospace industry

The chemical and physical structure of cork makes it the ideal material for ablative protection systems. This is due to its excellent insulation properties, lightness, and low thermal conductivity.

Ablative materials made with cork have the capacity to absorb a large amount of heat, forming a layer that acts as an insulator. This protects the interior material and slows down the degradation of the shield.

The integration of cork in launchers and rockets began with the Apollo 11 mission, which took the first human being to the moon. Since then, cork has been used in various space programs.



Excellent thermal insulation



Lightness



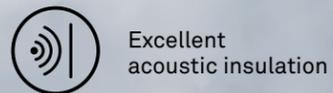
Ablative



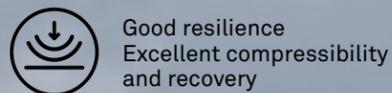
Flexibility



High performance



Excellent acoustic insulation



Good resilience
Excellent compressibility
and recovery



Solid rocket boosters



Launchers



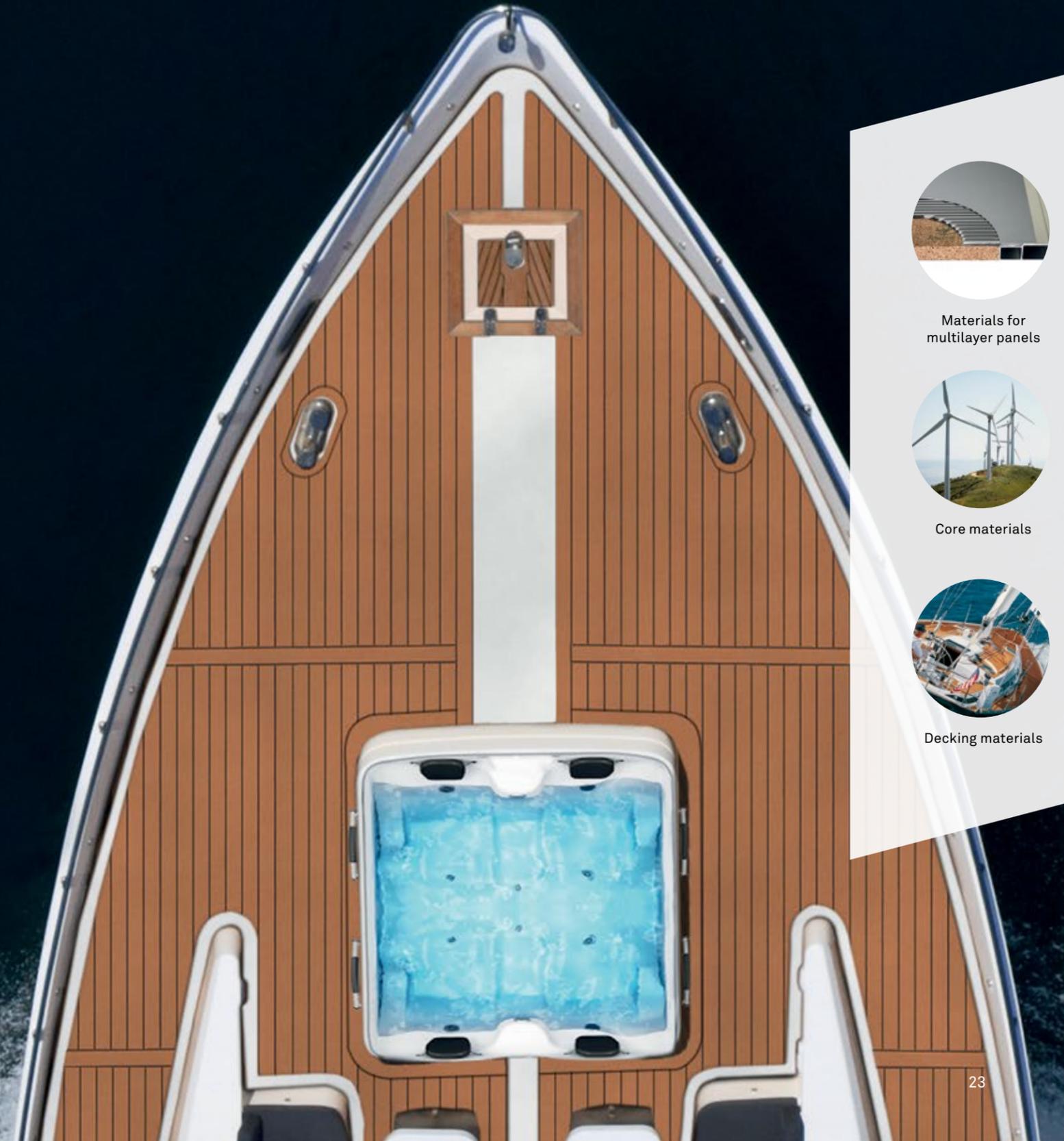
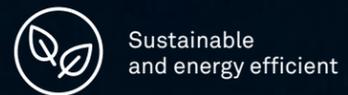
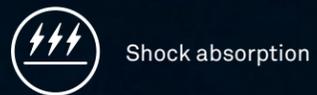
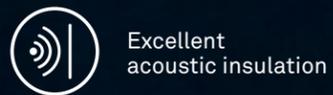
Rocket engines

Panels and Composites

Reinventing materials for multilayer panels and composites

Thermal and acoustic insulation, low environmental impact, lightness, and durability are some of the advantages that cork brings to industries that use panels and composites in their production processes.

Our materials are part of the composition of multilayer panels and core materials used in a myriad of areas and industries. They are applied on modular flooring systems for trains, partitions, frames, doors and windows, as well as in deck construction, swimming pools, and spas.



Materials for multilayer panels



Core materials



Decking materials

Shaping the **future**
through **performance**



Automotive

Reinventing sustainable sealing

Unique blends of cork and rubber allowed us to develop high-performance sealing and gasket solutions for the automotive industry: oil pans, valve covers, radiators, and automatic transmissions.

In addition to the joints used in engines, our products are also present in damping and noise insulation as well as vibration applications for gearing and windshield systems.



Chemical resistance



High resilience



Impermeability to liquids



High performance



Soft gasket sealing

 **Seals and Gaskets**

Reinventing solutions for gaskets and sealing

High thermal, chemical, and mechanical resistance are the essential characteristics of a good sealant.

The same unique properties of cork that are used for the high-performance automotive industry can also be used in other industries and in numerous other applications that are subject to extreme tests of resistance, heat, and pressure.

We use unique blends of cork and rubber specially designed to produce the best materials for sealing. This guarantees, among other things, electrical insulation and the prevention of gas leakage.

The secret to obtaining the best sealing results lies in the perfect combination of three vectors: nature, industry, and science.



Chemical resistance



Impermeability to gases



High performance



Impermeability to liquids



High resilience



Reinventing energy transmission and distribution

Power transmission and storage structures have to withstand harsh conditions and are built to pass the test of time. The use of cork composite agglomerates makes it possible to extend the life of the components used in power plants and distribution networks.

We have been manufacturing materials and joints for the transformer industry for over four decades. We provide engineering solutions in sealing, noise control, and vibration.

Amorim Transmission & Distribution (T&D) products are performance-driven and renowned globally thanks to their long, and lasting use in transformers, reactors, capacitors, insulators, and other components.



Vibration control



Noise control



Condensers and insulators



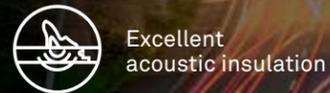
Seals and gaskets

 **Construction**

Reinventing building and infrastructure construction

Efficiency, resilience, and durability make cork the ideal material for the creation of technically demanding yet sustainable solutions in the field of building construction and infrastructure.

The blend of cork granulates and various polymers results in a diversified portfolio of materials for acoustic insulation and vibration control. We also provide solutions for absorbing the expansions and contractions of different building materials.



Excellent acoustic insulation



Excellent resilience



Sustainability



Excellent thermal insulation



Lightness



Compressibility and "elastic memory"



Vibration control



Wall bearing



Underlay



Underscreed



Expansion joint

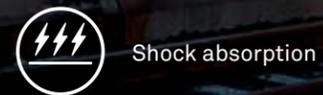
 **Construction**

Reinventing the construction of railway infrastructure

In addition to being lightweight, natural, and ideal for acoustic and thermal insulation, cork is compressible, flexible and has an “elastic memory” that allows it to adapt to extreme temperature and pressure variations.

It is the perfect raw material for the development of vibration control solutions for railway systems, high-speed urban and metropolitan trains.

Our range of products includes rail pads, baseplates, and ballast mats. Available in a wide range of thicknesses, these materials provide different degrees of impact attenuation, for light and heavy rail applications, in slab and ballast track, and are also used in special track works such as turnouts, crossings, and crossovers.



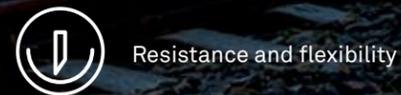
Shock absorption



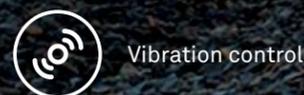
Electrical insulation



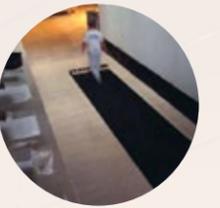
High resistance to friction



Resistance and flexibility



Vibration control



Ballast mats



Baseplates



Rail pads

Shaping the **future**
through **performance**

Sports Surfaces

Reinventing sports surfaces

Our range of sports flooring solutions are the perfect choice for surfaces that require high levels of resilience, while optimizing levels of comfort and safety during sports or leisure activities.

Gyms, running tracks, and sports centers all around the world are already using our solutions. Reebok CrossFit gyms, where our Sportsfloor product has become the official flooring and has been installed in at least 10 countries, is such an example.

Sportsfloor is an effective solution for all sports surfaces. This is due to the various combinations of elastomers that are part of its composition resulting in outstanding flexibility, resistance to use and high-impact absorption.



High resistance to friction



Shock absorption



Compressibility
and "elastic memory"

 **Sports Surfaces**

Reinventing artificial turf systems

Cork is an option that brings the concept of “natural” back to synthetic turf systems. It is a solution that combines high performance with sustainability, benefiting not only athletes but also the owners of sports surfaces.

In addition to being 100 percent environmentally friendly, sustainable, and non-toxic, its thermal insulation properties make it possible to reduce the high temperatures caused by exposure to the sun, resulting in much lower water consumption during the irrigation process. On the other hand, its high shock-absorption capacity and resilience guarantee greater comfort, safety, and performance.

Our range of products includes cork infills and shock pads. The use of shock pads allows the construction of an optimized drainage system that will contribute to greater comfort without undermining the high absorption of impact energy and the low energy rebound to players’ muscles and ligaments. The combination of cork infills with a shock pad is a positive contribution to the system’s drainage, resulting in a high-performance artificial turf system even in adverse climatic conditions.



 Better performance

 Reduction of surface temperature

 More comfort, avoiding muscle injuries

 Sustainability

 More safety



Reinventing the flooring industry

We provide unique solutions for the production processes of flooring manufacturers.

We develop and design components and materials for use in the production of each layer that makes up a floor (top layer, inlay, core layer and pre-attached underlayment). This is based upon the needs and requirements of our clients.

Using cork as a raw material, our solutions are manufactured with Noise Reduction Technology (NRT) for improved noise reduction and greater thermal comfort, thus offering added value to our customers' end products and to the flooring industry itself.



More comfort



Design versatility



Sustainability



Excellent
acoustic insulation



Excellent
thermal insulation



NRT top layer



NRT inlay



NRT core layer



NRT pre-attached
underlayment



Reinventing flooring accessories

Cork is a common denominator in the production of our accessories and supporting materials for flooring, such as, underlayment. When applied under a floor, an underlayment provides more comfort, protection, and longevity to the final floor, guaranteeing even greater energy efficiency and acoustic insulation.

Underlayment may consist only of cork agglomerate or contain other recycled materials, such as PUR or EVA.

Compared to synthetic materials, cork is the right choice when looking for a solution that guarantees performance, but is also sustainable from an environmental point of view.



Durability and flexibility



Excellent thermal insulation



Excellent acoustic insulation



More comfort

Shaping the **future**
through **performance**

 **Consumer goods**

Reinventing home and office decoration

Thanks to its aesthetic qualities, its soft and comfortable feel, its thermal and acoustic insulation properties, cork is an increasingly strong and captivating ally for anyone who wants to decorate or renovate their home or office.

Very easy to install, our DIY product range includes design solutions and materials for application in walls, ceilings, and floors.

Cork's unique sensorial features allow us to create and shape objects for the home and office, without neglecting their functionality.



Soft touch



Resistance and flexibility



Sustainability



Aesthetic versatility



Hypoallergenic
properties

 **Furnishing**

Reinventing the furnishing industry

The sensory and functional attributes of cork make it a highly versatile and durable material of choice for some of the world's top brands in the furnishing industry.

The constant need to develop new applications with cork has led us to develop new molding and machining techniques. This gives the furnishing industry the possibility to use cork in different types of finishes and shapes, and takes full advantage of its great strength and flexibility.



Soft touch



Design versatility



Resistance and flexibility



Lightness

 **Footwear**

Reinventing the footwear industry

Lightweight and resistant. Natural and sophisticated. Traditional and timeless. Cork has been the choice of footwear manufacturers for hundreds of years.

From more specialized orthopedic models to contemporary looks combining fashion, health, and comfort, designers and the footwear industry alike have been able to reinvent the application of this material. Once integrated in a shoe, cork guarantees a better distribution of body weight, dampens impact, controls the temperature, and allows the foot to breathe.

Cork is also recognized for enabling easy adaptation to transformation processes (machining, molding, and thermoforming).



Walking comfort



Excellent resilience



Hypoallergenic properties



Excellent thermal insulation



Lightness



Sustainability



Fashion



Health



Comfort

Shaping the **future**
through **performance**

Researching, developing and innovating for the future

We know better than anyone that cork is a unique and irreplaceable material.

New products, new markets, new applications, and creating an added value for cork, taking advantage of its characteristics, are, therefore, our development vectors.

We are constantly carrying out research and development projects that, in addition to the development of these strategic axis, allow us to broaden our competence base.

We work collaboratively with an eye to the future to create new composite materials, develop new production technologies, and break down performance boundaries in different applications by using the accumulated knowledge of Corticeira Amorim, as well as an extensive innovation network.

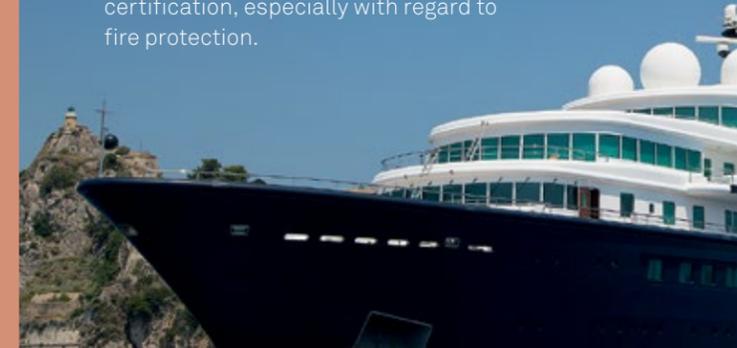


Cork in the cosmetics industry

Due to its extraordinary properties, it is possible to incorporate cork into various products in the cosmetic industry, such as exfoliating products.

ACM 30, a certified cork composite for the shipbuilding industry

This cork composite was designed to be used as a primary deck on large ships, complying with IMO - International Maritime Organization certification, especially with regard to fire protection.



Cork in 3D molding

We've designed a cork composite for 3D molding, allowing for the creation of complex shapes and guaranteeing the desired technical performance in the furniture industry.



Cork in artificial turf

Cork infill is part of a new generation of organic material and is a composite that is used in synthetic turf, reducing water consumption in field maintenance and ensuring the high biomechanical performance of the surface.

Cork for Garrett McNamara's surfboard

We developed a surfboard with cork that was specially designed to meet the demands of world record holder Garrett McNamara and strong enough to withstand the pressure of giant waves that have never been surfed.



Cork in the aerospace industry

From the Scout rockets in the 1960s to the iconic Space Shuttle, the Falcon, Delta, Ariane and Vega programs, we consistently deliver innovative, high-performance products for the aerospace industry with the goal of ensuring thermal protection.



Shaping the **future** through **creativity**

INSPIRED BY IMAGINATION, CORK
EXPRESSES ITSELF IN THE DESIGN WORLD.

Serpentine Gallery Pavillion

By Herzog & de Meuron and Ai Weiwei

In 2012, cork was the chosen material for the Serpentine Gallery Pavilion in London, an architectural project designed by Herzog & de Meuron and Ai Weiwei.

Cork was chosen as the raw material for its acoustic properties and sensory characteristics (especially those that are linked to touch and smell).

In this 12th edition, Herzog & de Meuron and Ai Weiwei opted for an archaeological approach and designed a pavilion that inspired visitors to observe a complex multilevel circular structure in which more than 80 cubic meters of cork were used.

“What Ai Weiwei and Herzog & de Meuron have proposed is not a grand building, a tribute to themselves, but instead a tribute to all.”

Julia Peyton-Jones
Director of Serpentine Gallery



Materia Collection

Combining the sensorial characteristics and unique personality of a millenary material, cork, to the challenging perspective of design, the Materia collection brings together a set of objects that are effortlessly integrated into our surroundings and daily life.

Materia is curated by Experimentadesign and includes original objects that explore the unique properties of cork, using the most diverse production technologies.

A collection where cork is enhanced (although combined with other materials), under the aesthetical inspiration and know-how of internationally renowned designers Big-Game, Daniel Caramelo, Fernando Brizio, Filipe Alarcão, Inga Sempé, James Irvine, Keiji Takeuchi, Marco Sousa Santos, Miguel Vieira Baptista, Nendo, Pedrita and Raw Edges.



The “Metamorphosis” of cork

Cork has inspired artists from all around the globe and is therefore synonymous with art and design.

The Metamorphosis project was created to stimulate the use of cork in a bold and innovative way, extending the boundaries of this raw material.

Cork triggered a reflection in the minds of the winners of the Pritzker Prize, Álvaro Siza, Eduardo Souto de Moura, and Herzog & de Meuron, along with architects Alejandro Aravena, Amanda Levete, João Luís Carrilho da Graça, and Manuel Aires Mateus and product designers James Irvine, Jasper Morrison, and Naoto Fukasawa.



STOOL
Álvaro Siza

DOOR HANDLES
Eduardo Souto de Moura



STOW IT
James Irvine



CORK BENCH
Naoto Fukasawa

CORK SHOES
Jasper Morrison



Shaping the **future**
through **creativity**



CORK CLOGS
Alejandro Aravena



**THE METAMORPHOSIS OF
CORK INTO CONCRETE**
João Luís Carrilho da Graça



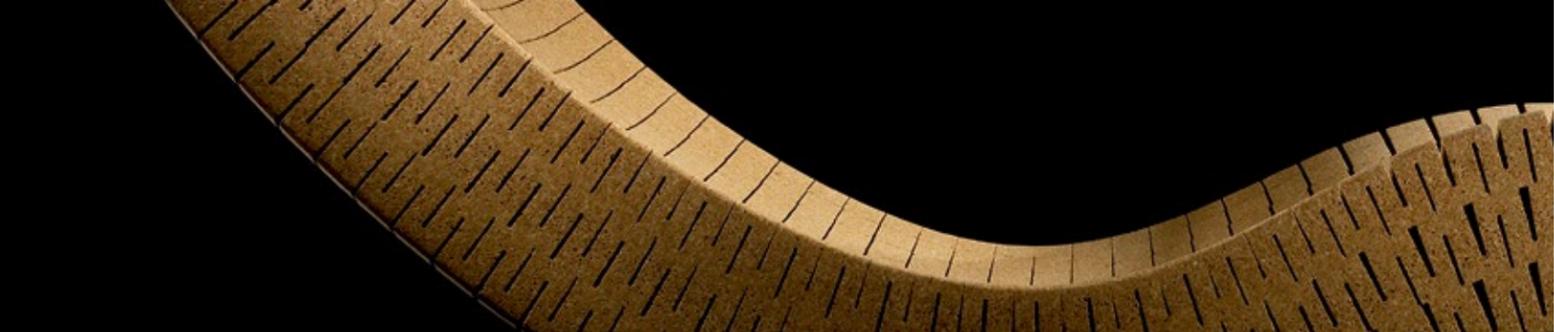
**ELBPHILHARMONIE HAMBURG,
PHILHARMONIC HALL, SCALE 1:20**
Herzog & de Meuron



CORK SPACE
Manuel Aires Mateus



CORK KIT
Amanda Levete



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Certification Amorim Cork Composites (Portugal):



The mark of responsible forestry

