

Bringing  
nature back  
into play





# Corkeen is the revolutionary surfacing system for playgrounds made from natural cork

Developed and produced by Amorim, the world leader of the cork industry, Corkeen combines unparalleled sustainability credentials, safety, and accessibility in a single solution.

Made from cork, a 100% organic material, Corkeen is the eco-friendly, sustainable solution the world of playgrounds has been waiting for.



**Corkeen**<sup>®</sup>  
by Amorim



Bringing nature back into play  
through Cork

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## Cork, a gift from Nature

Cork is the bark of the cork oak tree (*Quercus Suber L*). It is a plant tissue which covers the trunk and branches.

Cork is an exceptional, 100% natural, organic raw material with incredible characteristics that give it unrivalled character and make it valuable in several industries and multiple applications.





Bringing nature back into play  
through Cork

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## Cork is sustainably harvested without felling the tree

The cork oak tree re-grows the outer bark layer and it can be stripped 15-18 times throughout its life.

### **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.





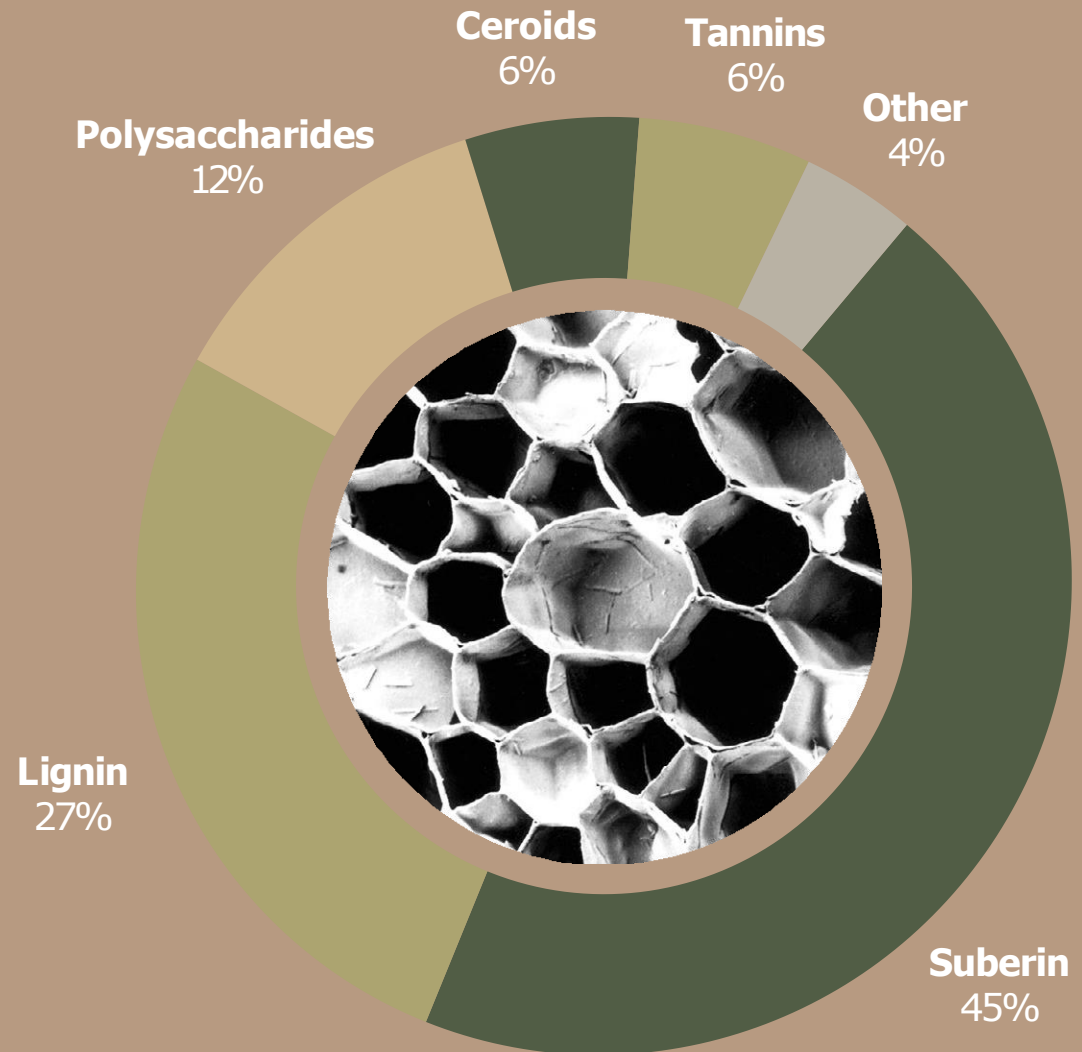
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through Cork

## Chemical composition of cork

Cork consists of a hive-like structure of microscopic cells filled with a gas similar to air and mostly coated with suberin and lignin.

The high gaseous content of each cell is responsible for cork's extraordinary lightness. The association of these cells, as if they were tiny aggregate cushions, is responsible for cork's compressibility and elasticity.

One single cubic centimeter of cork contains about 40 million cells. Cork is known as "nature's foam" due to its alveolar structure.





Bringing nature back into play  
through Cork

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## Cork's main features

Acoustic and  
anti-vibration insulation



Lightness and buoyancy



Thermal insulation



Elastic, compressible  
and resilient



Impermeability to  
liquids and gases



Soft touch



Resistance to fire and  
high temperatures



100% natural, reusable  
and recyclable



Resistance to friction





Bringing nature back into play  
through Cork

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## 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.

### Benefits of the cork oak

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





Bringing nature back into play  
through Cork

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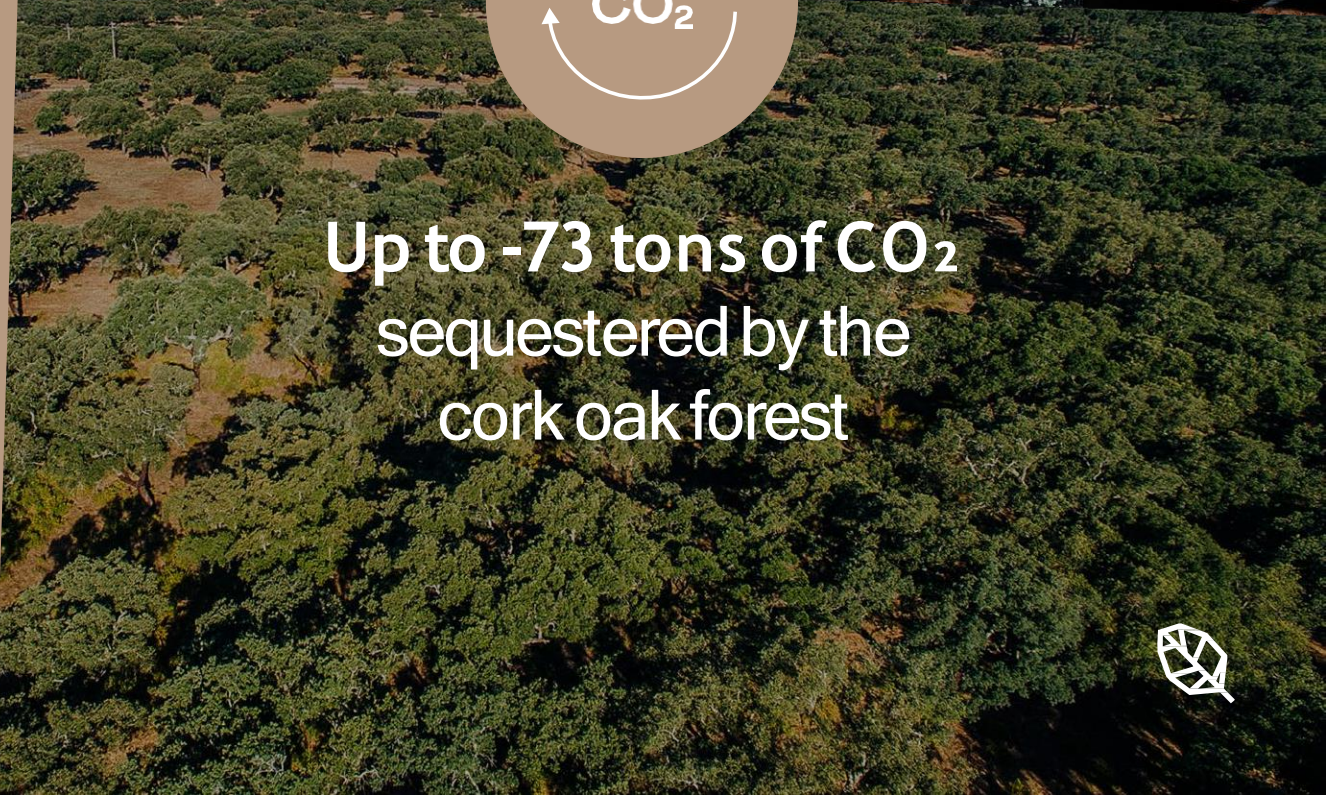
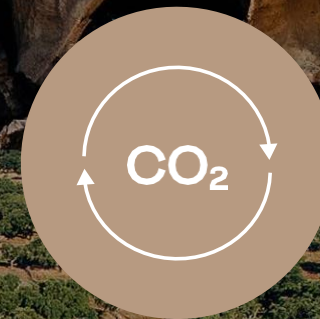
## Cork oak forest, a positive contribution for climate regulation

The cork oak forest provides an essential contribution to the air that we breathe, by absorbing carbon dioxide.

It is estimated that per each ton of cork produced, the cork oak forest can sequester up to 73 tons of CO<sub>2</sub>.\*



1ton of cork  
produced



Up to -73 tons of CO<sub>2</sub>  
sequestered by the  
cork oak forest

\* Source: [https://www.apcor.pt/wp-content/uploads/2015/10/Brochura\\_Ambiente\\_\\_EN.pdf](https://www.apcor.pt/wp-content/uploads/2015/10/Brochura_Ambiente__EN.pdf)





Bringing nature back into play  
through Leadership

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## Corkeen is produced by Amorim, the cork industry leader

Amorim holds a worldwide leadership position in five main areas: raw materials, cork stoppers, composites, flooring and wall coverings, and insulation.

With more than 150 years of history, Amorim has made an unparalleled investment in research, innovation, and design, developing a portfolio of products and solutions with high added value that anticipates market trends and exceeds the expectations of some of the most demanding industries worldwide.

1870  
AMORIM  
2020





Bringing nature back into play  
through Leadership

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## Amorim: Business Units



Raw materials



Cork stoppers



Floor and wall coverings



Cork composites



Insulation cork





# Bringing nature back into play through Leadership

● Geographic location

 Industrial plants

 Cork raw material preparation plants



## AMORIM



**20**

INDUSTRIAL PLANTS  
CORK SOLUTIONS

**63**

DISTRIBUTION  
COMPANIES



**10**

INDUSTRIAL PLANTS  
RAW MATERIALS

**8**

JOINT  
VENTURES

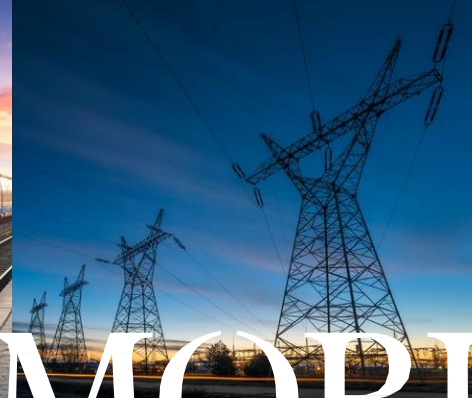
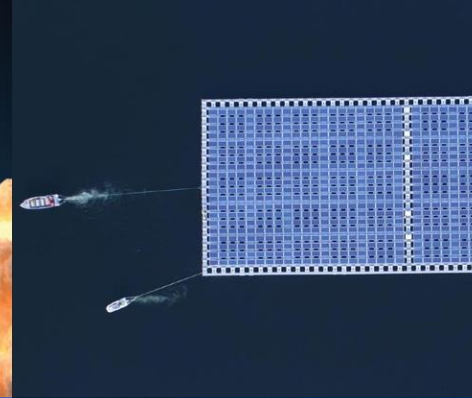


Bringing nature back into play  
through Innovation

## Innovation as a driver of competitiveness

Amorim is constantly challenging the infinite potential of cork, developing innovative solutions in strategic areas where the characteristics of cork are highly valued, such as the aerospace and automotive industries, panels and composites, seals and gaskets, the power industry, construction, sports surfaces, flooring, consumer goods, furnishing, and footwear.

Similarly, Corkeen stands out as an example of an innovative revolution in fall protection systems for playgrounds, pioneering the use of cork in this type of application.



# AMORIM





Bringing nature back into play  
through Circular Economy

# Corkeen is made according to the principles of circular economy

We give materials a new life by creating new products while taking care of the planet.

To produce Corkeen, we guarantee full utilization of harvested material, ensuring that, just as in Nature nothing is lost and everything is transformed.

Even the smallest cork granules are used as a valuable energy source.

Over 60% of our energy needs are met through the use of biomass (cork dust), which is a CO<sub>2</sub> neutral source of energy.

Raw materials / Industrial symbiosis





Bringing nature back into play  
through Purpose

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## Our mission: Creating safe and sustainable spaces for play and recreation for everyone

In commercial and public spaces (schools, parks,...), Corkeen is a playground with a purpose, since the future is now.

Our children deserve a better, safer, and healthier planet. This starts with a better, safer and healthier way to play. In tune with nature, creating communities and respecting the planet.

Corkeen is the revolutionary surfacing system for playgrounds that brings nature into contemporary playgrounds and a breath of fresh air to the way we play.

A new sense of communion, positivity and hope for the future.





Bringing nature back into play  
through Purpose

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## Parents are happy when their children are playing in a safe way

While the world needs greener spaces and healthier environments, the majority of playground surfacing systems only partially respond to the challenge, since they focus on environmental sustainability but fail to address accessibility.

The market is calling for cleaner, more environmentally conscious solutions that are also accessible to all. That's where Corkeen by Amorim comes in.





Bringing nature back into play  
through Purpose

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## Unparalleled credentials in a single solution

Corkeen is an innovative solution that combines safety, accessibility, and sustainability, meeting the most demanding requirements of any project.

Installed by certified companies, Corkeen has been designed with children's safety as the top priority, complying with stringent safety standards.





Bringing nature back into play  
through Purpose

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## The three S's: safe, stable, and sustainable

### Safe

Produced by Amorim, the world leader of the cork industry, in compliance with the strictest safety standards, offering state-of-the-art technical performance and maximum safety for children.

### Stable

Since Corkeen is in a bound form, fall protection is permanent. It does not move, nor is it blown away, but it remains in place and protects — year after year. Unlike playgrounds with loose-fill surfaces such as sand, bark, and wood chips, Corkeen is also fully accessible, even with a wheelchair or other mobility aids.

### Sustainable

It's made of cork, a 100% natural, recyclable, and renewable material with negative CO<sub>2</sub> emissions. Completely free of all types of toxins and chemicals. The kind of material we all want our children to play on.





Bringing nature back into play  
through Performance

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## Why Corkeen?

**Lower surface temperatures**

**High impact absorption**

**High elasticity**

**Odorless**

**Sustainable and eco-friendly**

**Excellent drainage capacity**

**Decay resistant**

**Lightweight**

**Free of chemical contamination**

**Easy maintenance**

**Fire-retardant**

**Weatherproof**

**Hypoallergenic**

**Resists indentations**

**Fully accessible, even with a  
wheelchair or other mobility aids**





Bringing nature back into play  
through Performance

## Fully accessible

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Corkeen means that children play on stable ground, accessible to all. Unlike playgrounds with loose-fill surfaces such as sand, bark and wood chips, Corkeen is fully accessible, even with a wheelchair or other mobility aids.





Bringing nature back into play  
through Performance

## Retained fall protection

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With Corkeen, fall protection is permanent. It does not move, nor is it blown away, but it remains in place and protects, year after year.

Corkeen has two cork layers: a flexible base layer, and a firm top layer. This means that the coating will maintain its characteristics even after years of use, protecting against falls.





Bringing nature back into play  
through Performance

## Free from harmful substances

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The surface is based on pure, natural cork. Completely free of all types of toxins and chemicals (heavy metals, EDCs, T-VOCs, formaldehyde or PAHs).





Bringing nature back into play  
through Performance

## Under the sun

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Because cork is a natural insulator, Corkeen could lower surface temperature by more than 20% compared to other playground surfacing materials. Children can walk barefoot on its smooth surface.





Bringing nature back into play  
through Performance

## Corkeen preserves our ecosystems

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Many of today's fall protection materials contain plastic and rubber granules that end up in nature.

Corkeen is made of cork, which reduces the spread of microplastics.





Bringing nature back into play  
through Performance



## Let it rain

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Corkeen system has excellent drainage capacity. Even after rainfall, children can play again!





Bringing nature back into play  
through Performance

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# Corkeen Play Original

Applications: playgrounds  
& multipurpose fields

Installed in situ as a two-layer system  
(shock absorbing base layer + wear  
resistant top layer)

Complies with EN1176 and EN1177

5-year warranty

Patented





## Bringing nature back into play through Sustainability

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Amorim adopts sustainable development practices.

Amorim Cork Composites (ACC) is certified both by the Forest Stewardship Council® (FSC) chain of custody certification and certification issued by the Programme for the Endorsement of Forest Certification Schemes (PEFC).

ACC holds a range of system management certificates, including NP EN ISO 9001 (Quality Management System), NP EN ISO 14001 (Environmental Management System), NP EN ISO 45001 (Occupational Health and Safety Management System) and NP EN ISO 50001 (Energy Management System).



The mark of responsible forestry





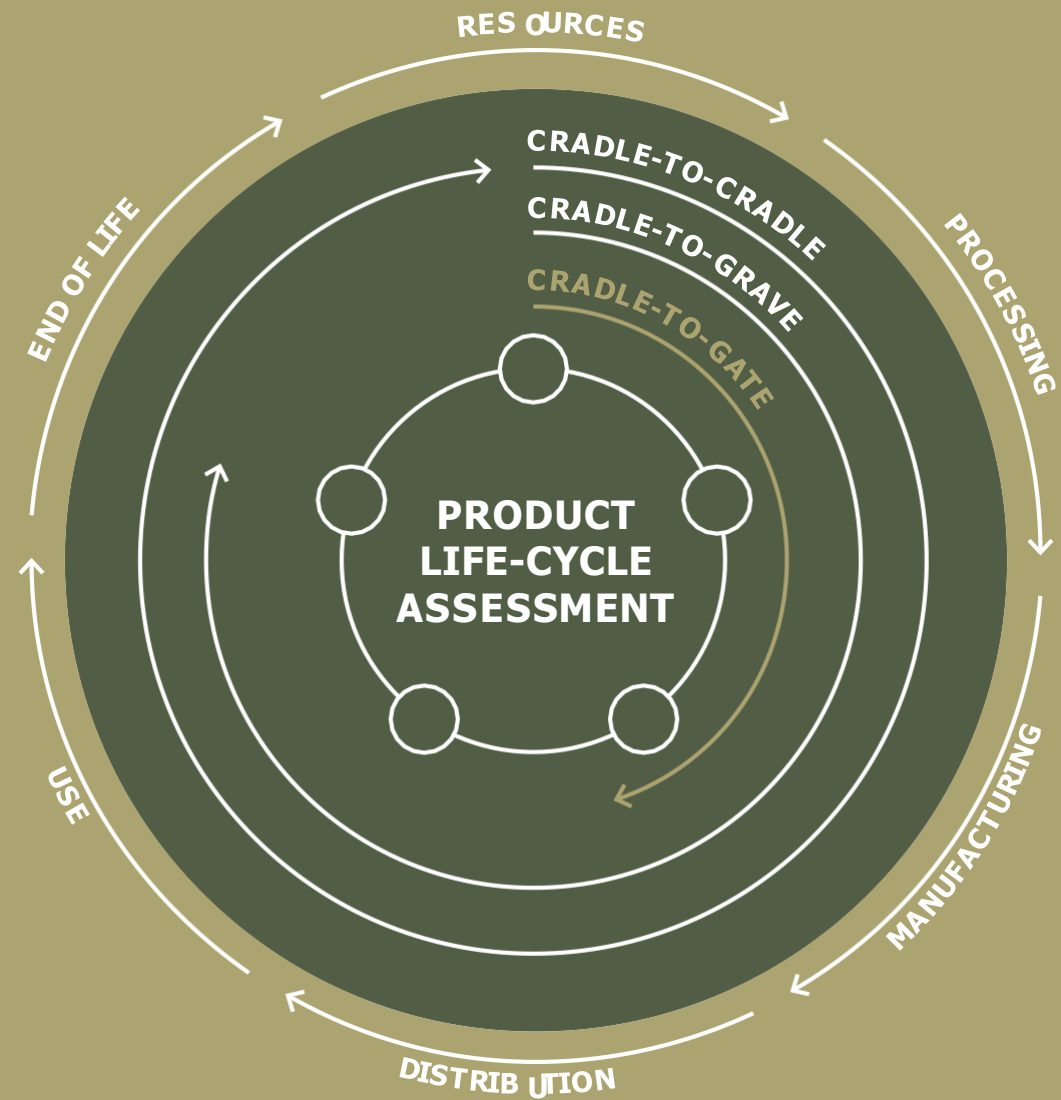
Bringing nature back into play  
through Sustainability

# Life Cycle Assessment: measuring Corkeen's environmental impact

A Life Cycle Assessment (LCA) was conducted by EY to quantify the potential environmental impacts of the Corkeen system.

Corkeen's LCA study used a cradle-to-gate approach, which considers all activities, from extraction of the raw material to the finished product at the factory gate. It also included the distribution and installation stages, since Corkeen is an in situ system and its layers are only assembled during installation.

This Life Cycle Assessment was based on the ISO 14040/44 set of standards, complemented with the guidelines from the International Reference Life Cycle Data System (ILCD).





Bringing nature back into play  
through Sustainability

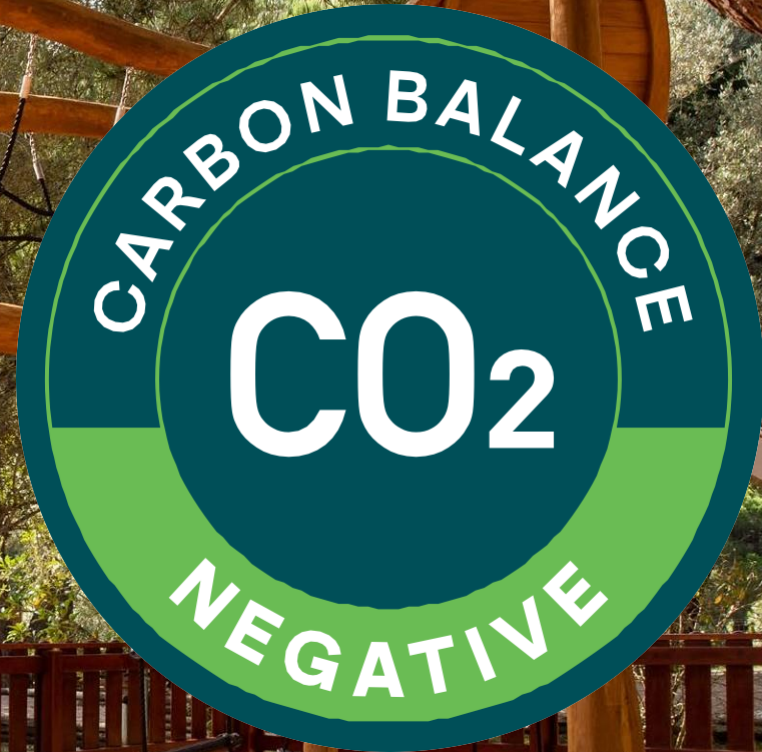
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## The Corkeen system has a negative carbon balance

Corkeen has a negative carbon balance when considering the carbon sequestration of cork oak forests and production-related emissions.

The Corkeen system fosters carbon sequestration in the cork oak forest that exceeds the CO<sub>2</sub> emissions from its production process.

**Corkeen's carbon balance reaches up to  
-102 kg CO<sub>2</sub>eq/m<sup>2</sup>\***



\*In a 40 mm thickness, 25 mm base layer and 15 mm top layer





Bringing nature back into play  
through strong Partnerships

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## Corkeen Brand Masters

Our business model is based on partnerships with our Corkeen Brand Masters, who represent the brand and its exclusive system.

Corkeen Brand Masters are companies with recognized experience in the installation of playgrounds, certified by Corkeen to install and train other installers of Corkeen system within their geographic territory.

