



**AcoustiCORK®**  
by Amorim

# BUILDING COMFORT WITH SUSTAINABILITY

ACOUSTIC INSULATION SOLUTIONS



AMORIM CORK SOLUTIONS





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## CORK, AN EXCEPTIONAL RAW MATERIAL

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Cork is the outer bark of the cork oak tree (*Quercus Suber* L.), the 100% natural plant tissue covering the trunk and branches.

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It consists of a honeycomb-like structure of microscopic cells filled with an air-like gas and composed mainly with suberin, lignin, and polysaccharides. One cubic centimetre of cork contains about 40 million cells.

Cork is also known as "nature's foam" due to its alveolar cellular structure. It has a closed-cell structure making it lightweight.

It is sustainably harvested by specialised professionals without damaging the trunk, thus enabling the tree to grow another layer of outer bark that, in time, will be re-harvested. Over the course of the cork oak tree's life, that lasts 200 years on average, the cork may be stripped around 17 times. This means that cork is not only a natural raw material, it is also renewable and recyclable.

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### KEY FEATURES



Excellent  
acoustic insulator



Excellent  
thermal insulator



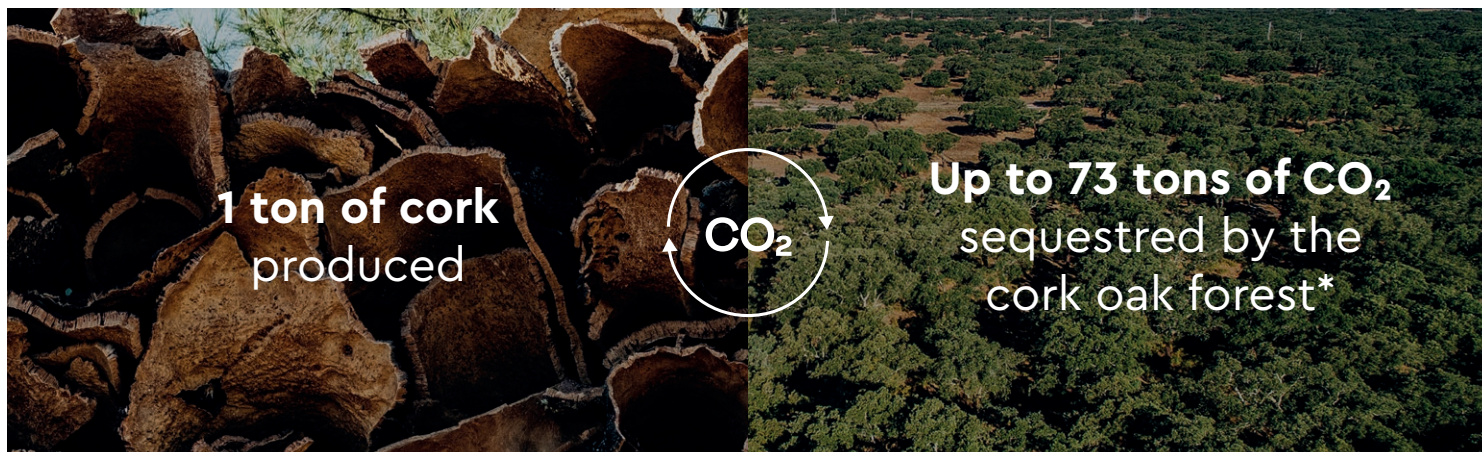
Good resilience  
Excellent compressibility  
and recovery



Extremely light



Natural, reusable  
and recyclable

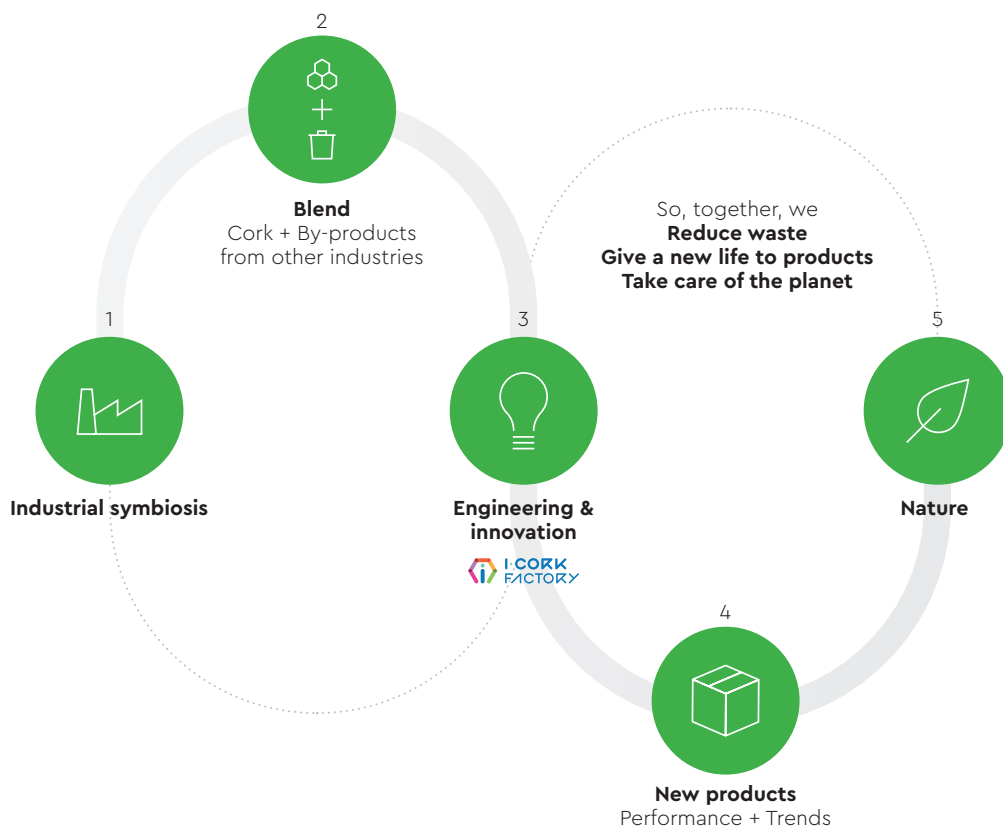


## THE COMMITMENT TO CREATE A POSITIVE IMPACT ON THE PLANET

Cork products maintain the CO<sub>2</sub> storage capacity throughout their life cycle, which makes it possible to reduce the carbon footprint of various cork-based products.

With cork at the core, blended with other materials that are by-products from other industries (industrial symbiosis), we give materials a new life by creating new products leveraging cork's attributes while taking care of the planet.

At the i.cork factory, our innovation hub, we achieve the perfect match between performance and sustainability. New, innovative and high performance products from circular economy are arising.



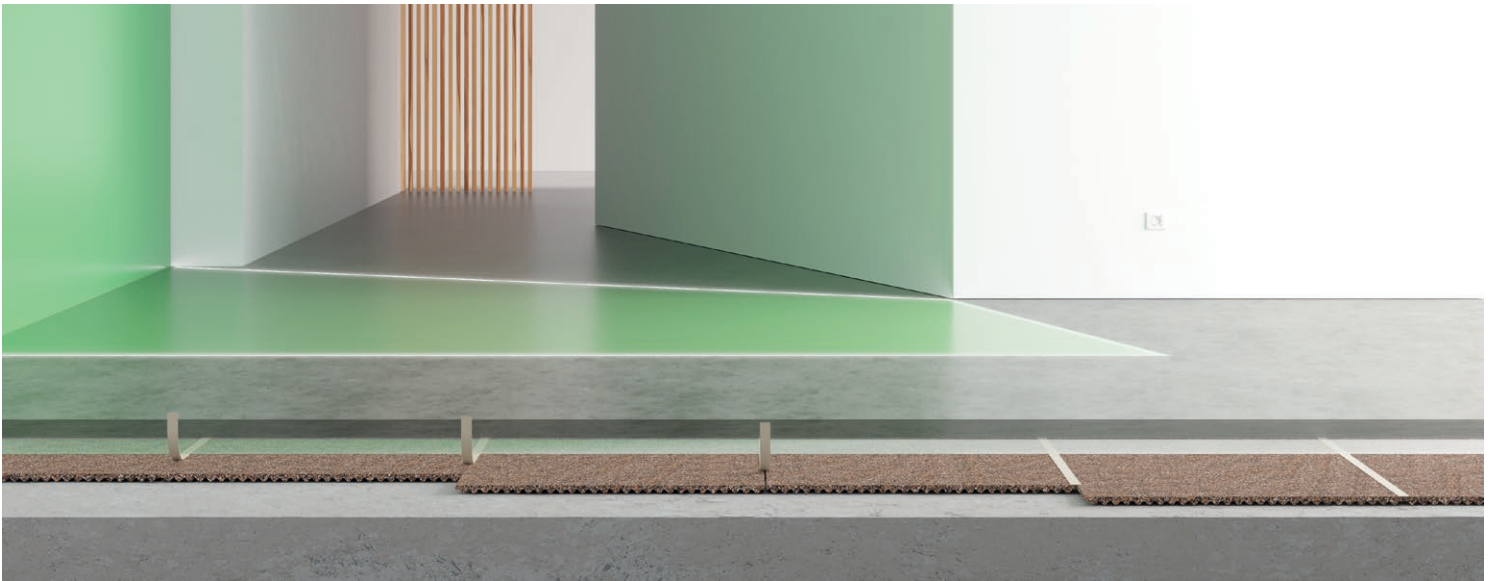
\* Source: Instituto Superior de Agronomia (ISA), 2016 (<http://uaonline.ua.pt/pub/detail.asp?lg=pt&c=45245>)



## BUILDING COMFORT WITH SUSTAINABILITY

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## WHY ACOUSTICORK?

Ensuring peace and quiet isn't a mere luxury. It's already a human need  
- to guarantee quality of life and work in our fast-moving era.

### FAST-MOVING TIMES REQUIRE ACOUSTIC COMFORT

Growing urbanization and rising populations in urban areas are leading to more stringent noise and vibration standards and norms. As a result, is higher demand for high-quality and efficient sound insulation and vibration isolation (from internal or external sources in each building).

Every day, new buildings are being erected on plots of land subject to vibrations, in areas with dense infrastructures. Sources of disturbance are often located near railway lines, roads or industrial complexes. Unless appropriate action is taken, buildings are defenceless against such vibrations.

Many apartments blocks also have underground car parks, commercial establishments on the ground floor (such as a shopping mall) or even a gym on an intermediate floor. In these situations, various factors may subject buildings to shocks, which have an impact on their structure and are perceived by residents as noticeable vibrations or secondary airborne noise.

### ACOUSTICORK NATURAL BASE MATERIALS FOR DEMANDING APPLICATIONS

Amorim Cork Solutions develops specific compound formulations, which offer highly insulation or damping materials in compliance with a wide range of environmental conditions.

Cork absorbs energy due to its unique compressibility and recovery characteristics, yielding higher loss factors that are essential for the damping function. Cork's extremely low Poisson Ratio improves the behaviour of such materials in dynamic loading applications. Cork also brings durability to the applied solution.

### DURABILITY AND WARRANTY

The Acousticork products have a warranty for 10 years. For the underscreeds materials, this is sustained by extrapolated compressive creep measurements carried out using the procedure described in EN 1606:2013 standard.

### CORK INSIDE

When cork isn't so visible, this seal assures that cork is present in the optimal amount - guaranteeing the performance of the material.

Cork Inside formulations combine cork with other materials from other industries and are developed and rigorously tested by Amorim Cork Solutions' innovation, quality and engineering teams. Cork Inside responds to stringent requirements and guarantees the needed performance required for the application.





## UNDERSCREED

Acousticork underscreeds range offers the right product for medium to high acoustic demands. The product properties and profiling of the Acousticork floor mats are specially designed for high and variable loads, with low deflection.

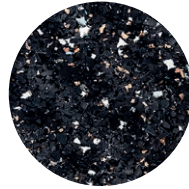
Considering this, their use can be extended to multi-use buildings (hotels, refurbishments, assembly rooms, shopping centers, supermarkets, etc.) with stable material properties over the entire service life of the product.



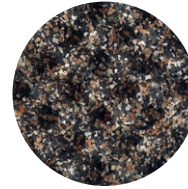
U32



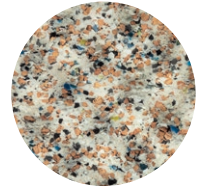
U85



U34C



U36



U38

Product	CC	Thickness (mm)	$\Delta Lw$ (dB) <sup>①</sup>	IIC (dB) <sup>②</sup>
U32		6/3	20	48 <sup>③</sup>
U32		8/4	21	42 <sup>③</sup>
U32		10/5	22	47 <sup>③</sup>
U85		3	21	50
U85		4/2	23	52
U34C		6/3	24	50
U34C		8/4	26	50
U36	•	6/3	25	53
U36	•	8/4	27	53
U38	•	12/6	29	61
U38	•	17/8	31	63

① Test procedure according to ISO 10140-1:2010; ISO 10140-3:2010; ISO 10140-4:2010 and ISO 717-2:2013 standards. Test Apparatus: 140mm concrete slab + underscreed + 70mm screed. ② Test procedure according to ISO 10140-1:2010; ISO 1040-3:2010 and ISO 10140-4:2010 standards. Normalized impact sound pressure level and IIC rating determined according ASTM E492-09 and ASTM E989-06 standards. Test Apparatus: 140mm concrete slab + underscreed + 70mm screed. ③ IIC for 8/4 mm is validated to ASTM E2179-03 and ASTM E492-09; IIC for 6/3 mm and 10/5 mm are extrapolated-based according to the correlation between ISO 140-6 and ASTM E492. Practical tests are being performed.

### U32



The green solution for your projects. 100% cork-based, natural, reusable and recyclable.

The perfect solution to strike a balance between energy efficiency, acoustic and thermal comfort, affordability and sustainability.





## WALL BEARING

Acousticork wall bearing prevents low frequency propagation on the wall/floor interface. It also increases the lifetime of the building, avoiding the appearance of cracks due to decoupling of elements.

Part of the Acousticork range, wall bearing products are an excellent solution for acoustic and vibration issues. These materials are available with different backings, such as double-sided tape, aluminium or polyester film.

### MS-RO CORK AND RECYCLED RUBBER



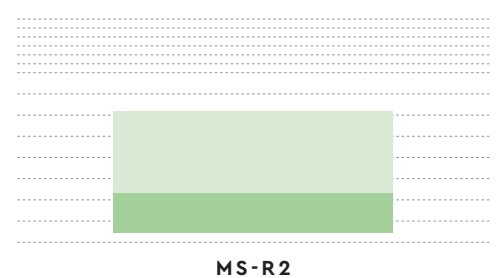
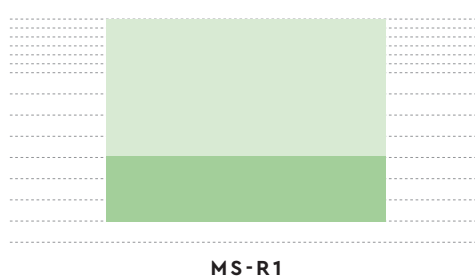
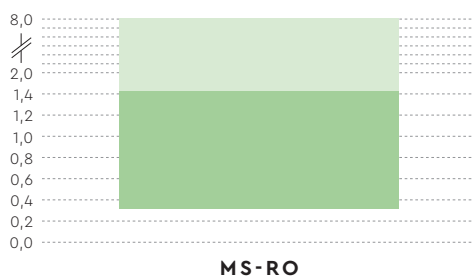
### MS-R1 RECYCLED RUBBER



### MS-R2 CORK RECYCLED POLYURETHANE



## LOAD RANGE (MPa)



● Maximum at <50% Deflection ● Optimum at <25% Deflection

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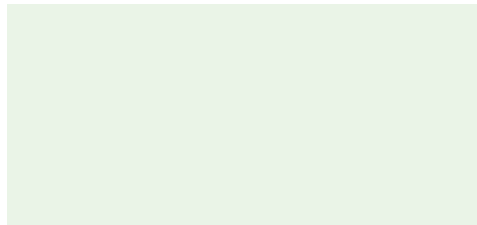
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**www.acousticork.com**

Representative



Acousticork solutions are tested at ITECONS in a highly qualified environment.

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