ACOUSTICORK

AMORIM
CORK COMPOSITES

Reinventing construction

Sustainable acoustic insulation

2017 EDITION

Construction

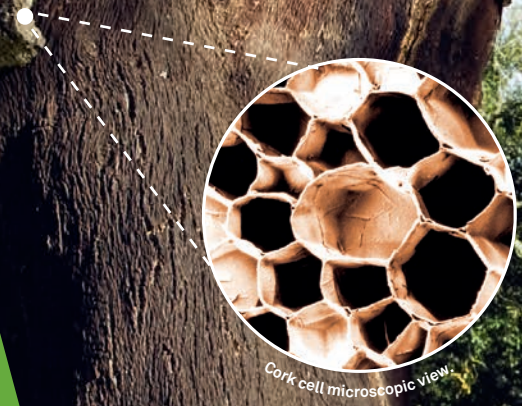
Cork, an exceptional raw material

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

It consists of a honeycomb-like structure of microscopic cells filled with an air-like gas and coated mainly with suberin and lignin. 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, airtight and watertight, resistant to acids, fuels and oils, and impervious to rot.

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.



Cork cell microscopic view

Excellent acoustic insulator

Excellent thermal insulator

Good resilience, excellent compressibility and recovery

Extremely light and buoyant

100% natural, reusable and recyclable

Efficiency, Resilience and Durability

ACOUSTICORK natural base materials for demanding applications

Amorim Cork Composites specific compound formulations for acoustic insulation and vibration control allow creating highly insulating or dampening materials able to comply with a wide range of environmental conditions and chemical resistances.

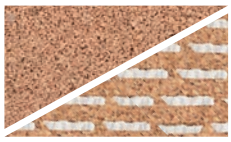
The combination of cork granules with diverse polymers provides added characteristics to different compounds or use as acoustic or vibration control materials.

ACOUSTICORK maximises energy efficiency

Cork absorbs energy due to its unique compressibility and recovery characteristics yielding higher loss factors that are essential for the dampening function, while its extremely low Poisson Ratio improves the behaviour of such material in dynamic loading applications.

Underlay

Acousticork has solutions for different types of final flooring.

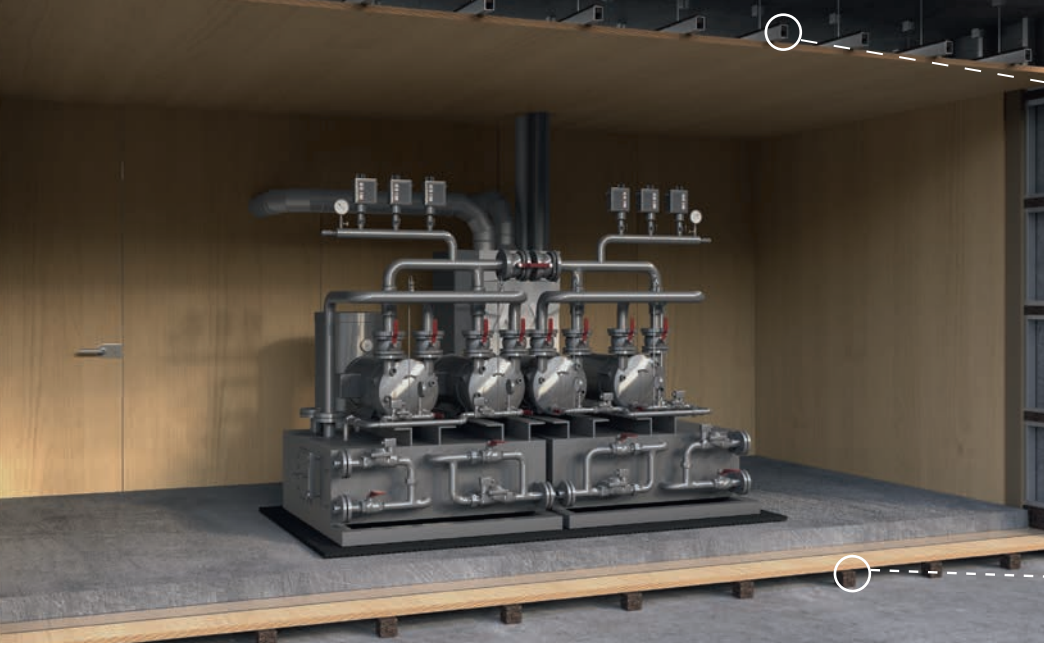
Flooring \ Underlay		T22	 T61*	T66	T85*
Non Glued Laminate	Thickness	-	2mm	3mm	2mm
	ΔLW	-	20dB	19dB	19dB
	IIC	-	54dB	47dB	49dB
Glued Down Wood	Thickness	4mm	3mm / 3mm perforated	3mm	2mm
	ΔLW	20dB	26dB / 18dB	16dB	14dB
	IIC	49dB	59dB / 51dB	50dB	49dB
Ceramic (Or Natural Stone)	Thickness	-	5mm	3mm / 4,5mm	2mm
	ΔLW	-	16dB	16dB / 18dB	12dB
	IIC	-	50dB	51dB / 52dB	46dB
LVT	Thickness	-	-	3mm	1,6mm / 2mm
	ΔLW	-	-	19dB	17dB / -
	IIC	-	-	51dB	52dB / 54dB

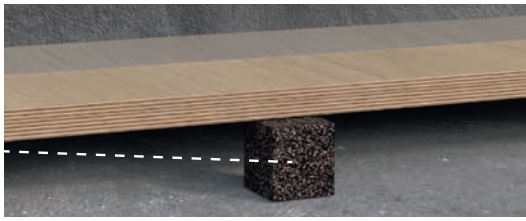
* Tested according to MMFA/EPLF requirements

Underscreed

Acousticork ensures high impact sound insulation in flooring screed applications.

Underscreed / Thickness (mm)		U22	U32	U85
4	ΔLW	22dB	19dB	19dB
	IIC	50dB	47dB	51dB
4/2	ΔLW	-	19dB	23dB
	IIC	-	47dB	52dB
6	ΔLW	22dB	20dB	20dB
	IIC	50dB	48dB	51dB
6/3	ΔLW	-	20dB	23dB
	IIC	-	48dB	52dB
8	ΔLW	23dB	-	-
	IIC	51dB	-	-
8/4	ΔLW	23dB	21dB	25dB
	IIC	51dB	42dB	52dB
10	ΔLW	23dB	20dB	–
	IIC	51dB	50dB	–
10/5	ΔLW	-	22dB	27dB
	IIC	-	47dB	52dB





Cork & Natural Rubber
Engineered Compound

Resin Bonded Cork
& Recycled Rubber

Resin Bonded
Recycled Rubber

Vibration Control

Acousticork's specific material formulations for vibration control combine performance with environmental concerns.

Cork & Natural Rubber
Engineered Compound

Features:

- Dynamic-to-static stiffness ratio (1,3 – 2,5)
- Low damping
- Low creep
- Low water absorption
- High Poisson ratio (shape factor dependency)
- UV/Ozone upon request

Benefits:

- High vibration insulation
- Low resonance frequency
- Long term durability
- Can be used in mats, strips or pads and with different backings, such as double-sided tape.

Resin Bonded Cork
& Recycled Rubber

Features:

- Dynamic-to-static stiffness ratio (2 – 3,5)
- High damping
- Low Poisson ratio (no shape factor dependency)
- Recycled products

Benefits:

- High vibration insulation
- Lower amplification at resonance
- Long term durability
- Good quality/Value ratio
- Can be used in pads

Resin Bonded
Recycled Rubber

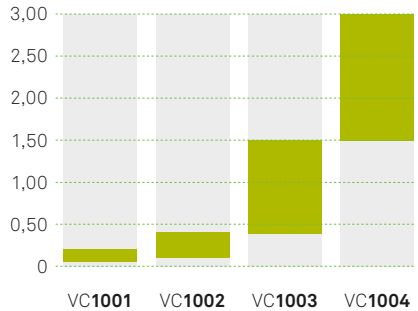
Features:

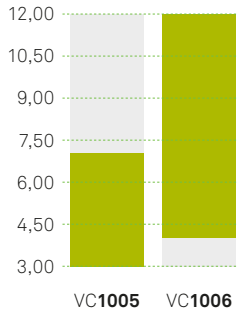
- Dynamic-to-static stiffness ratio (2 – 3)
- Low damping
- Fatigue resistance
- Low Poisson ratio (no shape factor dependency)
- Recycled products

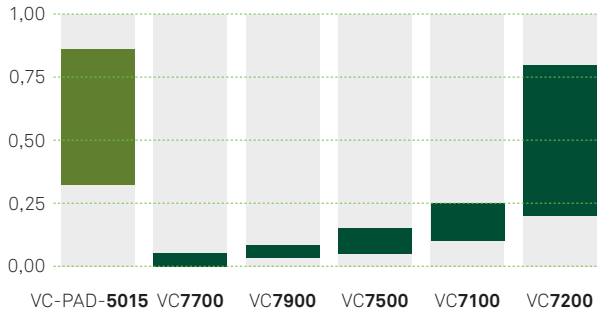
Benefits:

- High vibration insulation
- Long term durability
- Good quality/Value ratio
- Can be used in mats and strips

WORK LOAD RANGE (MPa)



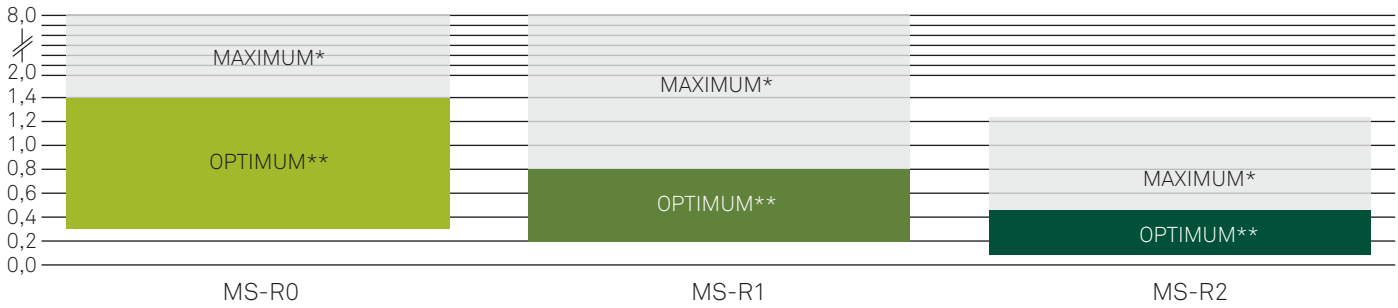




Wall Bearing

Acousticork 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.

LOAD RANGE (MPa)



* at <50% Deflection - ** at <25% Deflection

MS-R0
Cork and Recycled Rubber

MS-R1
Recycled Rubber

MS-R2
Cork Recycled Polyurethane

Materials available with different backings, such as double-sided tape, aluminum or polyester film.

ACC.620.6 | JUN 2017 | EN | EMEA and AROW

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For contractual purposes, please request our Product Specifications Sheet (PDA).

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

ITeCons

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