

ACOUSTIC**CORK**



AMORIM
CORK COMPOSITES

Reinventing construction

Sustainable
acoustic
insulation



2017 EDITION



Construction

Cork an exceptional raw material

Cork, is commonly described as being the bark of the cork oak (*Quercus Suber L.*), which means that it is the 100% natural plant tissue that covers its 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 the “nature’s foam” due to its alveolar structure. It has a closed cell structure making it lightweight, airtight and watertight, resistant to acids, fuels and oils, and impervious to rotting.

It is sustainably harvested by specialized professionals without damaging the trunk, meaning that the tree itself lives to grow another bark layer that, in time, will be harvested once again. Over the course of its lifetime, which on average lasts 200 years, it may be stripped around 17 times meaning that cork is not only a natural material, but also a renewable and recyclable one.



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

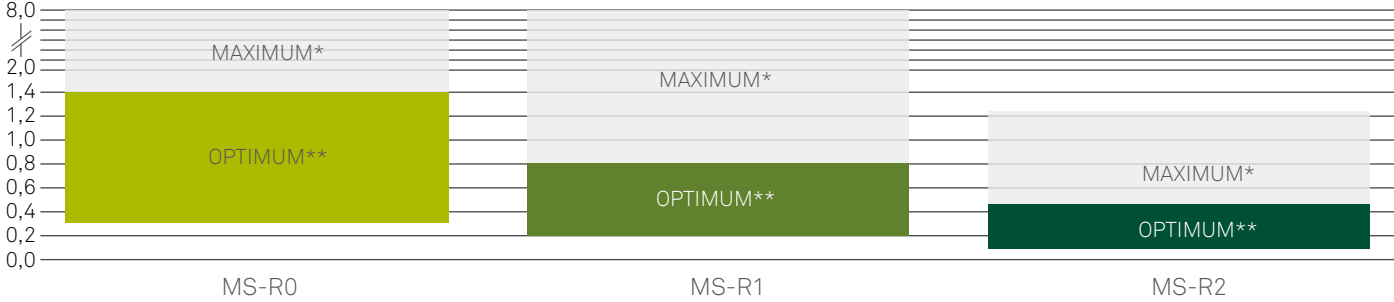
Cork absorbs energy due to its unique compressibility and recovery characteristics yielding higher loss factors that are essential for the dampening function, while its extremely low Poisson Ratio improves the behaviour of such material in dynamic loading applications.



Wall Bearing

Acousticork MS 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.



Underscreed
Acousticork ensures high impact sound insulation in flooring screed applications.

Underscreed				
		U22	U32	U85
Thickness (mm)				
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

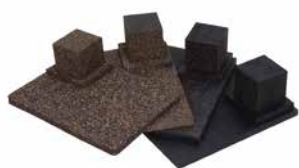


Underlay

Acousticork has solutions for different types of final flooring.

Underlay / Flooring					
		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	2mm
	ΔLW	20dB	26dB	18dB	14dB
	IIC	49dB	59dB	51dB	49dB
Ceramic (Or Natural Stone)	Thickness	-	5mm	3mm	2mm
	ΔLW	-	16dB	16dB	12dB
	IIC	-	50dB	51dB	46dB
LVT	Thickness	-	-	3mm	1,6mm 2mm
	ΔLW	-	-	19dB	17dB -
	IIC	-	-	51dB	52dB 54dB

* Tested according to MMFA/EPLF requirements



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)

