

CORECORK®



AMORIM
CORK COMPOSITES

Reinventing panels & composites

Multilayer, core
& decking materials



2019/2020 EDITION

Cork, an exceptional raw material

Cork comes from the bark of the cork oak tree (*Quercus Suber* L). It is a plant tissue, 100% natural, which covers 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 known as “nature’s foam” due to its alveolar structure. Cork is lightweight, airtight, watertight, resistant to acids, fuels, and oils and impervious to rotting.

Cork is sustainably harvested by specialized professionals without damaging the trunk. The cork oak tree re-grows the outer bark layer and is harvested every 9 years. Over the course of its lifetime, which lasts about 200 years, the bark will be harvested 17-20 times. Cork is a natural material which is both renewable and recyclable.



Cork cell microscopic view.



Increasing comfort



Fire resistance



Lightweight



Vibration damping



Thermal insulation



Flexible, installation and process friendly



Acoustic isolation



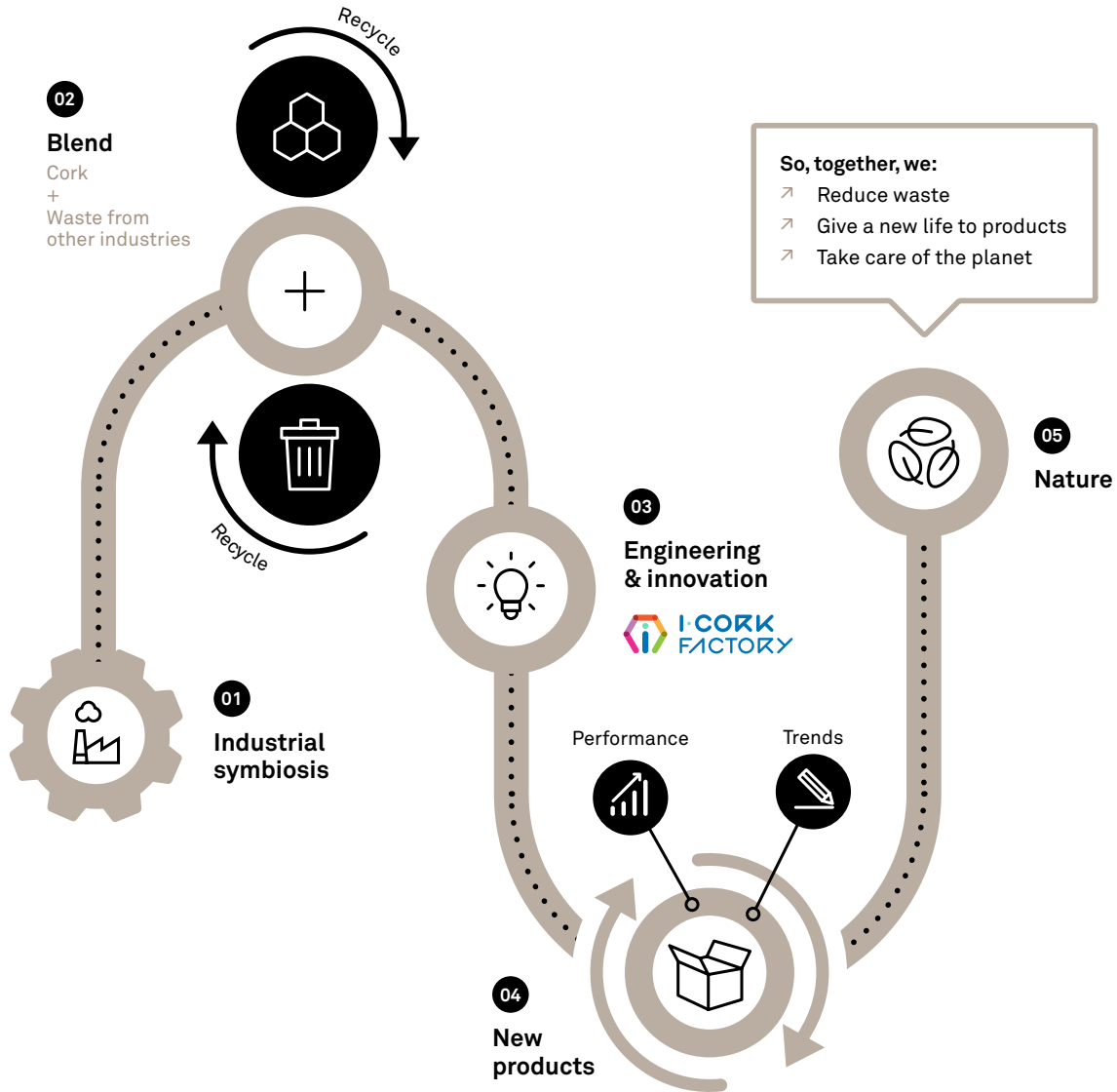
Sustainable and energy efficient

The circular economy at the heart of innovation

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

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

Over time, our expertise in cork has enabled us to create these new and high technological formulae that blend cork with other materials - thereby leveraging cork's attributes.



®

When cork isn't so visible, the **Cork Inside** seal guarantees that the product contains cork in its formulation, a 100% natural and recyclable material with unique technical properties.





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



Multilayer Panel Materials

Amorim Multilayer Panel Materials were developed through the combination of polymers, cork granules and engineered compounding to achieve acoustic, fire, lightweight or thermal properties, adding comfort and performance to everyday life.

Corecork technology is used in several applications where the need for noise reduction, structural damping, thermal barriers or weight reduction is a requirement; such as massive doors, windows, partitions, outdoor noise barriers, roofs or other metal structures.

Key benefits	ACM15 	ACM16 	ACM17 	ACM18 	ACM40
Lightweight	••••	••••	••••	••••	•••••
Acoustic performance	•••••	•••••	•••••	•••••	•••••
Thermal insulation	••••	••••	••••	••••	•••••
Main applications	Multilayer & Door Panels	Multilayer & Door Panels	Multilayer Panels	Multilayer Panels	Multilayer & Door Panels

* Refer to Material Data Sheet





Composite Core Materials

The scope of Amorim Composite Core Materials enhances composite structures with unique properties. Its composition delivers features such as noise attenuation and vibration damping as well as thermal insulation.

The benefits go beyond function and into the manufacturing process.

Amorim Composite Core Materials provide low resin consumption, high flexibility with effective print through blocking which leads to a quality surface finish.

Our Composite materials, can be used also as transportation floor panels (Alucork)⁽¹⁾ where the need for weight reduction, thermal and acoustic insulation and control of costs and CO₂ emissions are requested.

Key guidelines	NL10	NL20
Hand lay-up	•••••	•••••
Vacuum bagging	•••••	•••••
Resin infusion	•••••	•••••
RTM/LITE RTM resin transfer molding	•••••	•••••
Prepregs pre-impregnated	•••••	•••••
RFI resin film infusion	•••••	•••••

* Refer to Material Data Sheet



⁽¹⁾AluCork® - Cork/Aluminum floating floor system



Decking Materials

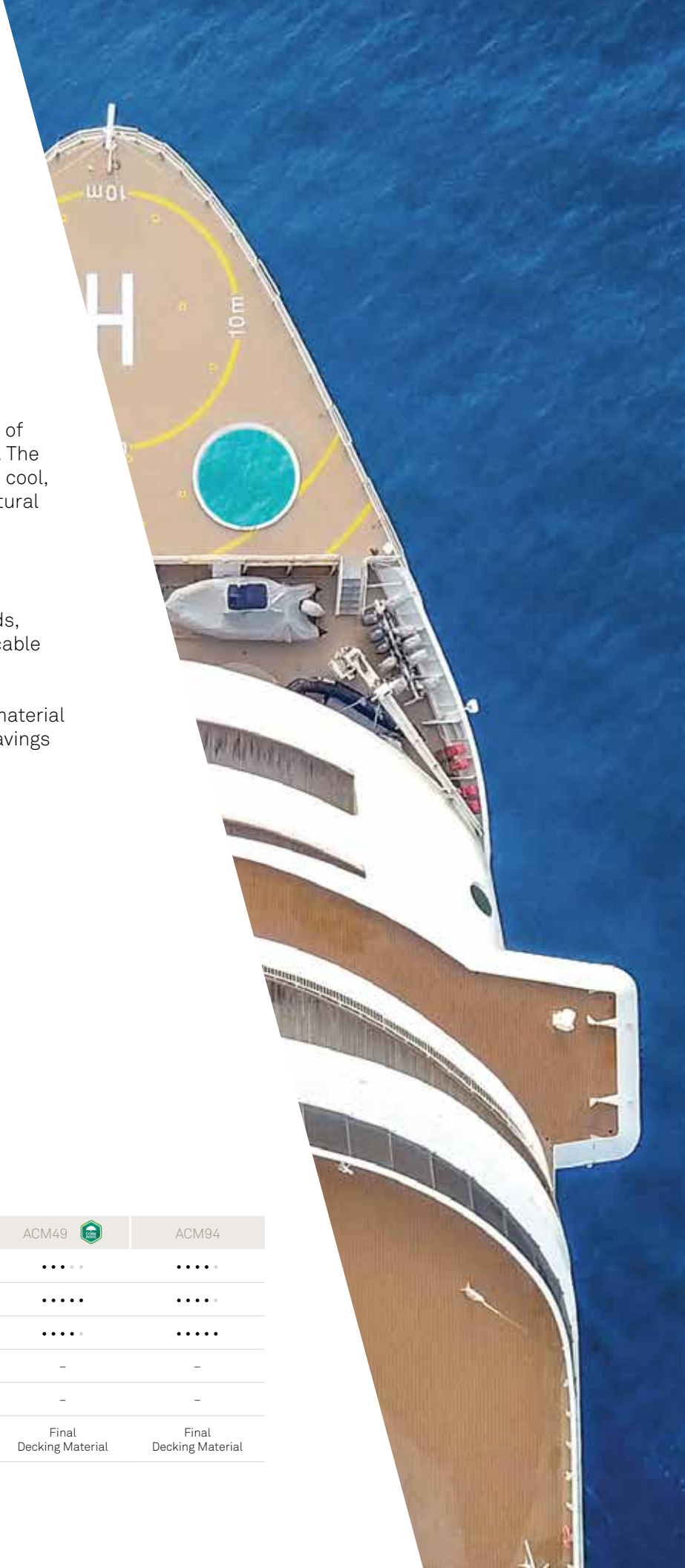
Final Decking materials

Amorim final decking materials are a combination of incomparable functionality and luxury aesthetics. The material offers passenger comfort through a soft, cool, under-foot feeling and non slip surface, with a natural aesthetics.

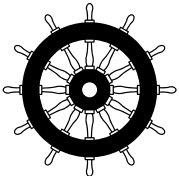
Primary decking materials

Amorim's primary decking material for fairing and levelling is certified to maritime industry standards, IMO/MED Wheel mark & USCG certification applicable to flagged ships and sea-going vessels.


Our engineered cork composite primary decking material provides thermal and acoustic benefits, energy savings and contributes for a green construction.



ACM30 / ACM52



0038/19
USCG-EU MRA

Key benefits	ACM30 ⁽¹⁾	ACM52 ⁽¹⁾	ACM49 	ACM94
Lightweight	•••••	•••••	•••••	•••••
Acoustic performance	•••••	•••••	•••••	•••••
Thermal insulation	•••••	•••••	•••••	•••••
Fire performance	Part 5*	Part 5*	-	-
Smoke performance	-	Part 2*	-	-
Main applications	Exterior Primary Decking Material	Interior Primary Decking Material	Final Decking Material	Final Decking Material





⁽¹⁾ IMO Certified * Part 5 & Part 2 (2010 FTP Code)

Product Range



MULTILAYER PANEL MATERIALS

Core materials for laminated sandwich structures and panels.

Characteristics	ACM15 	ACM16 	ACM17 	ACM18 	ACM40
Density (lb/ft ³) ⁽¹⁾	36–42	38–46	56–62	56–64	12–16
Thermal Conductivity (Btu/hr ft °F) ⁽²⁾	0,051*	0,077*	0,102*	0,105*	0,027*
Loss Factor (20°C @ 1Hz) ⁽³⁾	0,12*	0,13*	0,15*	0,14*	NA

⁽¹⁾ ASTM F1315 ⁽²⁾ ISO 8302 ⁽³⁾ ASTM E756 * Typical Values



COMPOSITE CORE MATERIALS

Core materials for composite structures and panels.

Key properties	NL10	NL20
Density (lb/ft ³) ⁽¹⁾	7–11	11–15
Thermal Conductivity (Btu/hr ft °F) ⁽²⁾	0,024*	0,025*
Loss Factor (20°C @ 1Hz) ⁽³⁾	0,022*	0,043*


⁽¹⁾ ASTM F1315 ⁽²⁾ ASTM E1530 ⁽³⁾ ASTM E756 * Typical Values

Corecork®
adding comfort
and performance
to everyday life



DECKING MATERIALS

Primary and final decking materials.

Key properties	ACM30	ACM52	ACM49 	ACM94
Density (lb/ft ³) ⁽¹⁾	20–26	20–26	37–47	> 28
Thermal Conductivity (Btu/hr ft °F) ⁽²⁾	0,038*	0,038*	0,089*	0,079*
Loss Factor (20°C @ 1Hz) ⁽³⁾	0,11*	0,11*	0,19*	0,17*

⁽¹⁾ ASTM F1315 ⁽²⁾ ISO 8302 ⁽³⁾ ASTM E756 * Typical Values

The data provided in this brochure refers to typical figures. This information is not intended to be used as a purchasing specification and does not imply suitability for use in any specific application. Failure to select the proper product may result in either product damage or personal injury. Please contact Amorim Cork Composites regarding recommendations for specific applications. Amorim Cork Composites expressly disclaims all warranties, including any implied warranties of merchantability or of fitness for any particular purpose. Amorim Cork Composites shall not be liable for any indirect, special, incidental, consequential or punitive damages as a result of using the information listed in this brochure, any of its material specification sheets, its products or any future use or re-use of them by any person or entity. **For contractual purposes, please request our Product Specifications Sheet (PDA).**

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