Reinventing construction
Silence, comfort and durability

2018 EDITION
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.

Excellent thermal insulator
Excellent acoustic insulator
Excellent compressibility and recovery
Extremely light
Natural, reusable and recyclable
Good resilience
Acousticork, the sound of silence

Amorim Cork Composites develops specific compound formulations for acoustic insulation and vibration isolation which offer highly insulating or dampening materials in compliance with a wide range of environmental conditions and chemical resistance levels. See below the possible applications of Acousticork materials.

**Acoustic insulation**

- Underlay
- Wall bearing
- Underscreed
- Perimeter barrier

**Vibration isolation**

- Floating floor
- Elastic bearing of stairs and landings
- Box in box
- Separation of individual building parts
Underlay

**Acousticork** has solutions for different types of final flooring.

When a thicker solution is not an option, Acousticork offers high performance with reduced thickness: This durable and long-term resilient underlay will protect your floor:

- Compatible with underfloor heating systems;
- Able to withstand repeated loads of short duration;
- Resistant with very heavy loads at rest;
- Compatible with laminate boards with click-lock systems.

### Non glued or Natural stone LVT, vinyl, etc.


#### Test Apparatus:

- 140mm concrete slab + underlay + floor covering.

### T61

<table>
<thead>
<tr>
<th>Floor Covering</th>
<th>Thickness</th>
<th>ΔLw (4)</th>
<th>IIC (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laminate (1)</td>
<td>2 mm</td>
<td>20 dB</td>
<td>54 dB</td>
</tr>
<tr>
<td>Glue down wood</td>
<td>3 mm</td>
<td>26 dB</td>
<td>59 dB</td>
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<tr>
<td>Ceramic (2)</td>
<td>5 mm</td>
<td>16 dB</td>
<td>50 dB</td>
</tr>
<tr>
<td>Resilient (3)</td>
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### T66

<table>
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<th>IIC (5)</th>
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</thead>
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<tr>
<td>Laminate (1)</td>
<td>3 mm</td>
<td>19 dB</td>
<td>47 dB</td>
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<tr>
<td>Glue down wood</td>
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<td>18 dB</td>
<td>50 dB</td>
</tr>
<tr>
<td>Ceramic (2)</td>
<td>4,5 mm</td>
<td>18 dB</td>
<td>52 dB</td>
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### T22

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</thead>
<tbody>
<tr>
<td>Ceramic (2)</td>
<td>3 mm</td>
<td>19 dB</td>
<td>-</td>
</tr>
</tbody>
</table>

(1) Non glued
(2) Or natural stone
(3) LVT, vinyl, etc.
**Acousticork** ensures high impact noise insulation in flooring screed applications.

Cork brings static stiffness (and higher load capacity) to the underscreed mat, without a negative impact on its dynamic stiffness.

A cork-based underscreed guarantees the performance durability of the system equipped with this mat.

<table>
<thead>
<tr>
<th>ΔLw (dB) (1)</th>
<th>IIC (dB) (2)</th>
<th>Product</th>
<th>Thickness (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>49</td>
<td>U22</td>
<td>4</td>
</tr>
<tr>
<td>23</td>
<td>51</td>
<td>U22</td>
<td>5</td>
</tr>
<tr>
<td>24</td>
<td>52</td>
<td>U85</td>
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<td>25</td>
<td>52</td>
<td>U34</td>
<td>8/4</td>
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<td>27</td>
<td>52</td>
<td>U85</td>
<td>8/4</td>
</tr>
<tr>
<td>29</td>
<td>49</td>
<td>U34</td>
<td>10/5</td>
</tr>
</tbody>
</table>

The green solution for your projects. Cork is natural, reusable and recyclable.

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

<table>
<thead>
<tr>
<th>ΔLw (dB) (1)</th>
<th>IIC (dB) (2)</th>
<th>Product</th>
<th>Thickness (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>47</td>
<td>U32</td>
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<tr>
<td>20</td>
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<td>8/4</td>
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<tr>
<td>22</td>
<td>47</td>
<td>U32</td>
<td>10/5</td>
</tr>
</tbody>
</table>

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(3) Test procedure according ISO 9052-1 and ISO 7626-5 standards.
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)

- **MS-R0**
  - Cork and Recycled Rubber
  - **MAXIMUM**
  - **OPTIMUM**

- **MS-R1**
  - Recycled Rubber
  - **MAXIMUM**
  - **OPTIMUM**

- **MS-R2**
  - Cork Recycled Polyurethane
  - **MAXIMUM**
  - **OPTIMUM**

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

* at <50% Deflection  ** at <25% Deflection
# Vibration Isolation

**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

- **Benefits**
  - 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**
  - 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
  - Recycled products

- **Benefits**
  - Long term durability
  - Good Quality/Value ratio
  - Can be used in mats and strips

### Work load range (MPa)

<table>
<thead>
<tr>
<th>Material</th>
<th>VC1001</th>
<th>VC1002</th>
<th>VC1003</th>
<th>VC1004</th>
<th>VC1005</th>
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<th>VC1013</th>
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</table>

*VC1001 to VC1014 are specific material formulations for vibration control.*
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).

The visual appearance may vary since the products are based on recycled materials.

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

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