

ECO21dB

Material Data Sheet



Material Description & Properties

Agglomerated Cork & recycled HD EVA underlay for impact noise and thermal insulation.

KEY FEATURES

- Highly resistant to residual indentation.
- Produced from Recycled and Natural Materials.
- Resistant against very heavy loads.
- Helps to protect LVT flooring from damage the click-system joints.
- Independently tested on EOTA certified laboratory under controlled conditions.
- Tested according to MMFA/EPLF requirements groups 1+2.

PHYSICAL AND MECHANICAL PROPERTIES

Specific Weight ⁽¹⁾	540 — 650 Kg/m ³
Tensile Strength Longitudinal ⁽¹⁾	800 kPa
Compression at 0.7MPa ⁽¹⁾	10-20 %
Recovery after 0.7MPa ⁽¹⁾	≥ 70 %

⁽¹⁾ISO 7322

THERMAL INSULATION

Thermal Conductivity ⁽¹⁾	0,1036 W/mK
Thermal Resistance	0,015 (m ² ·°C/W)
Tog Rating	0,15

⁽¹⁾EN 8301

ACOUSTICAL RESULTS

Flooring	Resilient Floor (LVT) - Hydrocork (6mm) ⁽²⁾
Thickness (mm)	1.6
ΔL_w (dB) ⁽¹⁾	21

⁽¹⁾ISO 10140-3 and ISO 717-2 ⁽²⁾Ref. Test Report - ACL 047/17

STANDARD DIMENSIONS

Thickness (mm)	1,6
Width (m) x Length (m)	1 x 15

Others sizes available upon request

PROTECTION AGAINST LOADS AND USAGE

Dynamic Load (DL) ⁽¹⁾	≥ 10.000 cycles
Compressive Strength (CS) ⁽²⁾	≥ 400 kPa ⁽⁵⁾
Compressive Creep ⁽³⁾	≥ 35 kPa
Residual Indentation ⁽⁴⁾	≤ 0,2 mm

⁽¹⁾EN 13793 ⁽²⁾EN 826 ⁽³⁾EN 1606 ⁽⁴⁾ISO 24343-1

⁽⁵⁾ECO21dB: 867KPa @ 0,5mm deflection

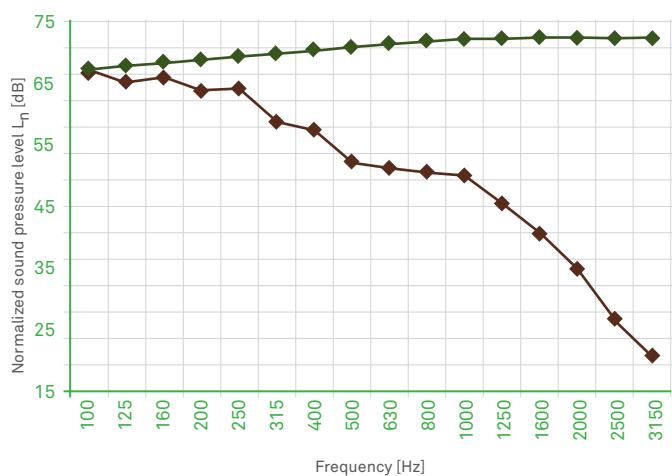
PUNCTUAL CONFORMABILITY (PC)

≥0,5 mm⁽¹⁾

⁽¹⁾ISO 868

ACOUSTICAL RESULTS

Test procedure according to ISO 10140-1:2010; ISO 10140-3:2010; ISO 10140-4:2010 and ISO 717-2:2013 standards.



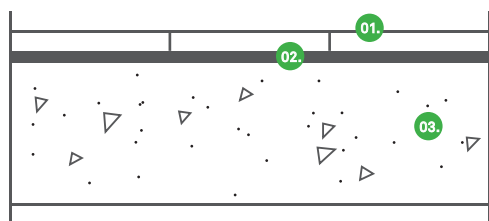
$L_{n,r,0}$ (dB)
 $L_{n,r}$ (dB) - 1,6 mm + LVT

$L_{n,r}$ - Normalized impact sound pressure level of the reference floor with the floor covering under test;
 $L_{n,r,0}$ - Normalized impact sound pressure level of the Lab reference floor;
 ΔL_w - Impact sound pressure level reduction index of the covering under test, on a normalized floor;

Frequency (Hz)	$L_{n,o}$ 1/3 oct. (dB)	ΔL 1/3 oct. (dB)
50	62,3	1,7
63	63,8	-1,3
80	64,6	1,0
100	60,9	5,9
125	65,6	5,2
160	65,2	7,1
200	64,9	3,2
250	64,4	1,6
315	66,6	6,1
400	66,8	8,0
500	67,3	9,6
630	67,3	13,8
800	67,7	21,9
1000	68,7	30,7
1250	68,9	35,9
1600	69,3	43,0
2000	69,7	50,1
2500	69,5	56,5
3150	70,2	60,7
4000	69,4	62,1
5000	66,9	60,3

Ref. Test Report	ACL 047/17
Thickness	1.6mm
Flooring	Hydrocork (6mm)
$L_{n,r,w}(C_{l,r})$	57 (1) dB
$\Delta L_w(C_{l,\Delta})$	21 (-12) dB

TEST APPARATUS (ΔL_w)



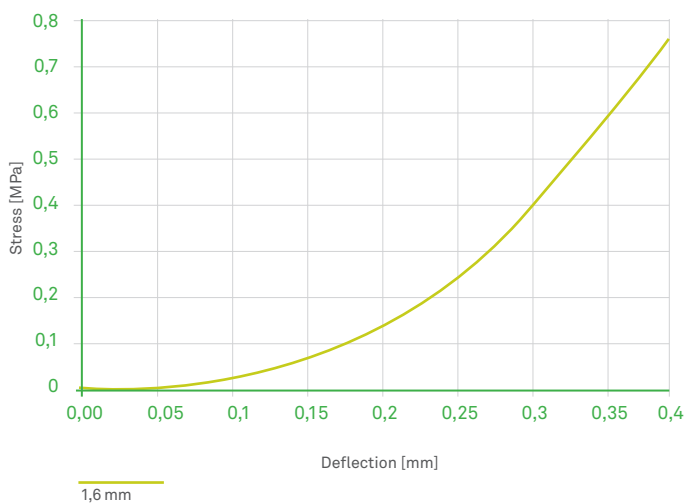
01.
Floor covering composed by loose-lay or click system LVT

02.
Agglomerated cork and recycled EVA resilient layer - Amorim ECO21dB

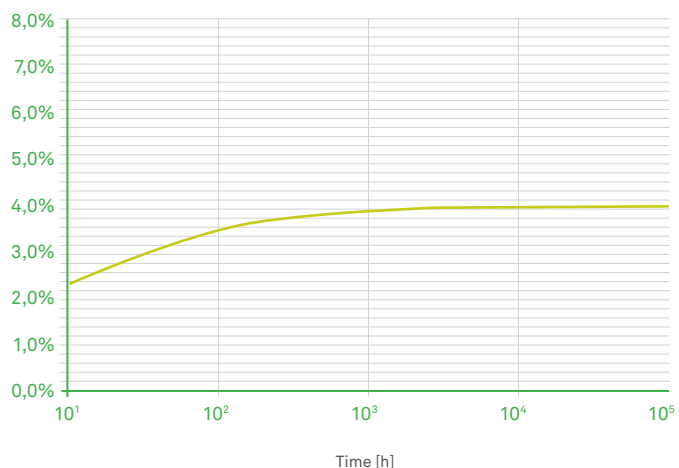
03.
Reinforced concrete slab of thickness 140mm

PHYSICAL AND MECHANICAL PROPERTIES

LOAD DEFLECTION



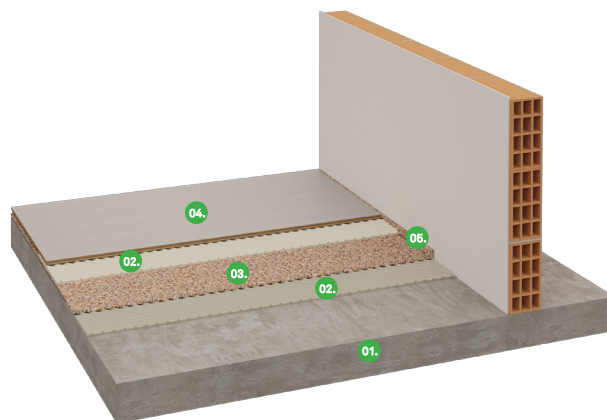
CREEP DEFLECTION @ 0.0045MPa (% OF START HEIGHT)



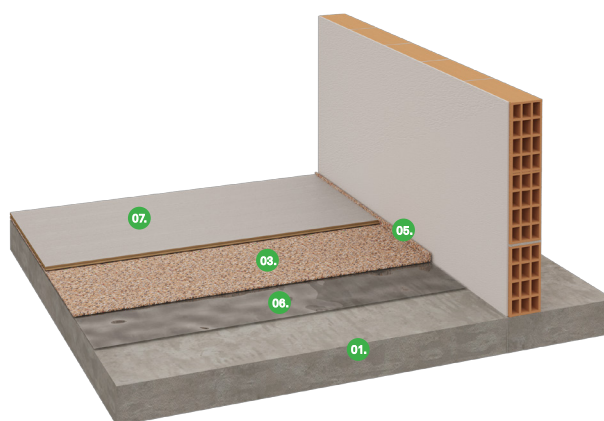
Note: Following ISO8013-1998 measured in Cantilever Test System

INSTALLATION

GLUED FLOORS



NON GLUED FLOORS



01.

Reinforced concrete slab

02.

Adhesive

03.

Agglomerated cork resilient layer - ECO21 dB

04.

Floor covering composed of glued LVT

05.

Perimeter insulation barrier

06.

Vapor barrier

07.

Floor covering composed of a non glued LVT

GENERAL INSTALLATION INSTRUCTIONS

General application instructions

The following installation instructions are recommended by Amorim Cork Composites, but are not intended as a definitive product specification. They are presented in an attempt to be used with recommended installation procedures of flooring manufacturers.

Room conditions

Temperature > 10° C / Relative Humidity < 75 %

Underlay Amorim ECO21dB installation instructions

It is necessary to open the packaging at least 48 hours in advance, before installing UNDERLAY Amorim ECO21dB, and leave it in the room where the installation will be carried out. Cut the UNDERLAY Amorim ECO21dB roll lengthwise to the desired length and install it directly over the entire floor surface covering the wall up to a 30 mm height with the edge, removing all trapped air. After finishing the installation, UNDERLAY Amorim ECO21dB should cover the entire floor area without any cracks and with the joints perfectly sealed, preferably with adhesive tape.

Air tightness

Air tightness is one of the keys to effective sound insulation. Sound is carried in the air and sound will leak through any gaps or holes in an installation. So it is very important that all gaps and holes between floors and also floors and walls are filled and properly sealed, this can be done using proprietary gap filling products and sealants. Ensure that all products used are suitable for the specific installation and if in doubt seek the advice of the manufacturer of the sealant or gap filler.

Perimeter Isolation

Another common problem which affects the acoustic performance of a floor is flanking. Flanking occurs when sound bypasses the main separating elements of the construction and finds acoustically weak paths. Ideally flanking sound paths formed by the junctions between separating wall and floor constructions will have been treated in the subfloor and wall construction, thereby isolating the individual elements. However, where noise has become a problem it may be that the correct flanking treatment for the building has not been followed. With this in mind, and for best acoustic results it may be necessary to install a perimeter isolation strip to minimize any potential flanking to the other parts of the building structure (Amorim ECO21dB can be turned up the wall if perimeter isolation strips are not available), this includes walls and columns as well as exposed pipes, ducting or any other component protruding from the floor.

When the flooring application is completed, the exceeding part of the perimeter isolation strip must be cut.

If flanking is thought to be a specific problem it may be necessary to seek further specialist acoustic advice.

Sub Floor conditions and Floor Preparation

In general sub floor conditions should comply with the requirements of the code of good practices and specific instructions from the manufacturer of the finished floor.

Basically, this means that all sub floors should be clean, dry, level and structurally sound and free from any cracks and contamination. All cracks and holes should be adequately repaired to ensure a smooth finished appearance, patching and levelling compounds must be suitable for the end use application and must be compatible with the adhesives to be used (when applicable). The moisture content of the subfloor should not be more than 2.5% (CM) by weight measured on concrete subfloors.

Tested according to MMFA/EPLF requirements Group 1+2



The mark of responsible forestry



The data provided in this Material Data Sheet represents typical values. This information is not intended to be used as a purchasing specification and does not imply suitability for use in a specific application. Failure to select the proper product may result in either equipments damage or personal injury. Please contact Amorim Cork Composites regarding specific application recommendations. Amorim Cork Composites expressly disclaims all warranties, including any implied warranties or merchantability or of fitness for a particular purpose. Amorim Cork Composites is not liable for any indirect special, incidental, consequential, or punitive damages as a result of using the information listed in this MDS. 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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Vapour Insulation Barrier (only for Non Glued LVT)

A PE (Polyethylene) vapour insulation barrier should be installed covering the entire flooring area, minimum 50mm wide vertically around the perimeter of the entire floor MUST be installed prior to Amorim ECO21dB. Install by overlapping (minimum 100mm) the PE foil, and use an adequate tape to adhere/fix it, if necessary. After completion, PE foil should cover the entire concrete area without gaps. Never mechanically fasten the PE foil barrier with screws, nails or staples as this will severely diminish the performance of the insulation barrier.

Installation - Glued Floors

It is not essential to start installation in the centre of the room, it is generally more practical to start along the longest wall running the rolls in parallel. Wherever possible the product should be installed at 90° to the finished floor so that the chance of coinciding joints is minimized. The Amorim ECO21dB should be dry laid into workable areas and cut at least 50mm over the length required and allowed to relax for the acclimatization period as advised above. The product should then be cut using a straight edge utility knife and a gap of around 3mm should be left around the perimeter to allow for any expansion. The Amorim ECO21dB should not be in direct contact with any wall, column or skirting board that has not been isolated using a perimeter isolation strip. It should be adhered to the subfloor using a recommended adhesive (please refer to the latest list of recommended adhesives) strictly in accordance with the installation instructions of the adhesive manufacturer. It is particularly important to refer to the adhesive manufacturer's advice in respect of trowel sizes, application rates/coverage and open times. Only spread enough adhesive to cover a workable area, and after the required open time lay the Amorim ECO21dB into the adhesive and smooth out from the centre using a carpet glider or hand roller to ensure that the product is fully into the adhesive and all air bubbles are released. The Amorim ECO21dB should then be fully rolled into the adhesive using a 68kg articulated flooring roller to ensure full adhesion along the entire length and width of the product. All edges should be butt jointed ensuring that all seams and joints are smooth without any voids but not too tight.

Final Flooring

Always follow the manufacturer's recommended installation instructions.

Recommended Adhesives:

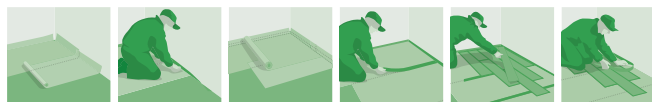
LVT to Amorim ECO21dB: Water-Based Emulsion/Synthetic Resin Glue.
Amorim ECO21dB to slab/screed: Water-Based Emulsion/Acrylic Adhesives.

Important Notes

Never mechanically fasten the Amorim ECO21dB to the flooring floor as this will severely diminish its acoustical value.

Application Process

NON GLUED FLOORS



1. Installation of vapour insulation barrier;
2. Application of perimeter barrier;
3. Application of underlay;
4. Application of the tape on joints between rolls;
5. Application of final flooring;
6. Cutting perimeter barrier.

GLUED FLOORS



1. Application of perimeter barrier;
2. Application of underlay (glued);
3. Application of final flooring (glued);
4. Cutting perimeter barrier.