



LABORATÓRIO NACIONAL  
DE ENGENHARIA CIVIL

LABORATÓRIO NACIONAL DE ENGENHARIA CIVIL, I. P.  
Av. do Brasil 101 • 1700-066 LISBOA • PORTUGAL  
phone: (351) 21 844 30 00 • fax: (351) 21 844 30 11  
e-mail: [lnec@lnec.pt](mailto:lnec@lnec.pt) • [www.lnec.pt](http://www.lnec.pt)



Member of



[www.eota.eu](http://www.eota.eu)

## European Technical Assessment

**ETA 19/0234**  
of 03/06/2019

English translation prepared by LNEC; original version in Portuguese language

ISSN 2183-3362

Trade name of the construction product

*Designação comercial do produto de construção*

Product family to which the construction product belongs

*Família de produtos a que o produto de construção pertence*

Manufacturer

*Fabricante*

Manufacturing plant(s)

*Instalações de fabrico*

This European Technical Assessment contains

*A presente Avaliação Técnica Europeia contém*

This European Technical Assessment is issued in accordance with Regulation (EU) No. 305/2011, on the basis of

*A presente Avaliação Técnica Europeia é emitida ao abrigo do Regulamento (UE) n.º 305/2011, com base no*

### Cortipan

Boards made of agglomerated natural cork for thermal and acoustic insulation

*Placas de aglomerado de cortiça natural para isolamento térmico e acústico*

DOFcork - Dinis de Oliveira & Filhos, S. A.

Estrada Nacional n.º 1, n.º 827

4509-905 Argoncilhe

Portugal

[www.dofcork.com/](http://www.dofcork.com/)

Estrada Nacional n.º 1, n.º 827

4509-905 Argoncilhe

Portugal

6 pages

*6 páginas*

European Assessment Document (EAD) No. 041389-00-1201:  
Boards made of agglomerated natural cork for thermal and acoustic insulation

*Documento de Avaliação Europeu (EAD) n.º 041389-00-1201: Placas de aglomerado de cortiça natural para isolamento térmico e acústico*

Translations of this European Technical Assessment in other languages shall fully correspond to the original issued document and should be identified as such.

Communication of this European Technical Assessment, including transmission by electronic means, shall be in full. However, partial reproduction may be made, with the written consent of the issuing Technical Assessment Body. Any partial reproduction has to be identified as such.

This European Technical Assessment may be withdrawn by the issuing Technical Assessment Body, in particular pursuant to information by the Commission according to Article 25, Paragraph 3, of Regulation (EU) No. 305/2011.

## 1. Technical description of the product

This European Technical Assessment applies to the factory made thermal and acoustic insulation product *Cortipan* of granulated natural cork agglomerated with an additional binder based on polyurethane resin (PU), in the form of boards and without facings, hereafter referred to as insulation boards.

The insulation boards are not made of used or recycled cork (other than waste and by-products generated in the production process) and do not include additives (e.g. flame/fire retardants, biocides, BaP-bituminous based binders).

The boards are produced by a continuous moulding (pressing) process. After moulding and curing of the boards one of the faces (upper face) is mechanically ground to rectify its surface.

Standard dimensions of the insulation boards are 1000 mm × 500 mm and their thickness is between 20 mm and 60 mm. The nominal density range is 170 (+/- 15 %) kg/m<sup>3</sup>.

*Cortipan* insulation boards are manufactured with the following nominal length, width and thickness, and the corresponding tolerances:

Nominal thicknesses: ..... 20 mm to 50 mm (± 1 mm)

60 mm (± 2 mm)

Nominal length: ..... 1000 mm (± 10 mm)

Nominal widths: ..... 500 mm (± 5 mm)

The insulation boards are applied manually and may form layers (which serve as thermal and/or acoustic insulation) of the desired thickness, in new buildings and in rehabilitation works.

The European Technical Assessment is issued for the product on the basis of agreed data/information, deposited with Laboratório Nacional de Engenharia Civil, which identifies the products assessed and judged. The European Technical Assessment applies only to products satisfying the requirements of the mentioned agreed data/information.

## 2. Specification of the intended use in accordance with the applicable European Assessment Document (EAD)

### Intended use

The insulation boards are intended to be used as:

- Thermal insulation boards to be used in walls, roofs and ceilings (inside cavities or as lining for internal walls) and in floors (inside cavities or in non-living attic floors).
- Airborne sound insulation boards to be used in walls, roofs and ceilings (inside cavities or as lining for internal walls) and in floors (inside cavities or in non-living areas of attic floors).

The insulation boards cannot be installed as an impact sound insulation product and cannot be exposed to compression loads.

The insulation boards shall not be used in places where they may be exposed to wetting, weathering or moisture.

The insulation boards are not self-supporting elements; thus they require an additional supporting element (wall, roof, ceiling or floor).

The boards are attached to the substrate by means of cement-based adhesive or mechanical fixings. In ceiling and floor applications the boards may be simply laid over the substrate (without adhesive bond or mechanical fixings).

### General assumptions

The insulation boards shall be installed according to the ETA holder's instructions and the rules of the applicable regulations in place. Installation of the insulation boards shall be carried out by qualified personnel with specific training for this type of works. It is the responsibility of the ETA holder to ensure that the information on these provisions is given to those who are concerned.

The relevant national regulations shall be observed, namely concerning energy efficiency and fire safety. Additional layers and complementary solutions may be required depending on the type of building and location where the insulation board is intended to be used.

This European Technical Assessment, based on the provisions, test and assessment methods specified in EAD 041389-00-1201, have been written based upon the assumed intended working life of the insulation board for the intended use of 50 years, provided that the products are subjected to appropriate installation, use and maintenance.

The indications given on the working life cannot be interpreted as a guarantee given by the ETA holder or by the Technical Assessment Body, but are to be regarded as a means for choosing the appropriate product in relation to the expected economically reasonable working life of the works<sup>1</sup>.

### 3. Performance of the product and references to the methods used for its assessment

Sampling, conditioning, testing and the assessment for the intended use of these products according to the Basic Requirements were carried out in compliance with EAD No. 041389-00-1201.

Table 1 presents the relevant performance of the product and the corresponding methods used in their assessment.

**TABLE 1**  
Performance of the product and methods used for its assessment

Basic requirement	Essential characteristic	Assessment method	Type of expression of product performance (level, class, description)
<b>BWR 2</b> Safety in case of fire	Reaction to fire	EN 13501-1 CDR 2016/364 (classification) EN ISO 11925-2 EN 15715 (mounting and fixing)	Class E ( $E_{FL}$ )
	Continuous smouldering combustion	EN 16733 EAD, Annex A	The product does not show propensity to undergo continuous smouldering
<b>BWR 3</b> Hygiene, health and the environment	Content, emission or release of dangerous substances	EAD, clause 2.2.3	Performance not assessed*
	Biological resistance	EAD, Annex B EN ISO 846	Performance not assessed
	Water vapour diffusion resistance	EN 12086, set C	$\mu = 8 - 15$
	Water absorption (short term, partial immersion)	EN 1609	$W_{sp} < 2 \text{ kg/m}^2$

<sup>1</sup> The real working life of a product incorporated in a specific works depends on the environmental conditions to which that works are subjected, as well as on the particular conditions of design, execution, use and maintenance of that works. Therefore, it cannot be excluded that in certain cases the real working life of the products may also be shorter than the assumed working life.

TABLE 1

Performance of the product and methods used for its assessment (cont.)

Basic requirement	Essential characteristic	Assessment method	Type of expression of product performance (level, class, description)
BWR 5 Protection against noise	Airflow resistivity	EN 29053, method A	$\sigma = (8 \pm 2) \text{ kPa.s/m}^2$
	Sound absorption	EN ISO 20354 EN ISO 11654	Nominal thickness $d = 20 \text{ mm}$ (rectified surface) $\alpha_w = 0.20$ (M; H) (moulded surface) $\alpha_w = 0.15$ (H) Nominal thickness $d = 60 \text{ mm}$ (rectified surface) $\alpha_w = 0.55$ (M) (moulded surface) $\alpha_w = 0.50$ (H)
BWR 6 Energy economy and heat retention	Thermal conductivity of insulation	EN 12667 EAD, Annex C EN 13170, Annex A	$\lambda_{10,dry,mean} = 0.046 \text{ W/(m.K)}$ $\lambda_{10,dry,90/90} = 0.049 \text{ W/(m.K)}$
	Moisture conversion coefficients	EAD, Annex C, C2 and C3	Mass related moisture content: at 23 °C/50% RH $u_{23,50} = 0.059 \text{ kg/kg}$ at 23 °C/80% RH $u_{23,80} = 0.080 \text{ kg/kg}$ Mass related moisture content conversion coefficients: $f_{u,1} = 1.062 \text{ kg/kg (dry - 23/50)}$ $f_{u,2} = 1.009 \text{ kg/kg (23/50 - 23/80)}$
	Moisture conversion factors	EN ISO 10456:2007 clause 7.3, equation 4	$F_{m1} = 1.06 \text{ (dry - 23/50)}$ $F_{m2} = 1.08 \text{ (23/50 - 23/80)}$
	Thickness	EN 823	$\pm 1 \text{ mm (} d = 20 \text{ mm to } 50 \text{ mm)}$ $\pm 2 \text{ mm (} d = 60 \text{ mm)}$
	Density	EN 1602	$\rho = 170 \text{ kg/m}^3 \text{ (+/- } 15\%) \text{ kg/m}^3$
	Moisture content	EN 12105	$H \leq 8\% \text{ (w/w)}$
	Dimensional stability under normal temperature and humidity conditions (23 °C and 50% RH)	EN 1603, method A	$\Delta\epsilon_l \leq 0.5\% \text{ (length)}$ $\Delta\epsilon_b \leq 0.5\% \text{ (width)}$
Dimensional stability under specified temperature and humidity (23 °C and 90% RH)	EN 1604	$\Delta\epsilon_l \leq 1.0\% \text{ (length)}$ $\Delta\epsilon_b \leq 1.0\% \text{ (width)}$ $\Delta\epsilon_d \leq 1.5\% \text{ (thickness)}$	

TABLE 1

Performance of the product and methods used for its assessment (*cont.*)

Basic requirement	Essential characteristic	Assessment method	Type of expression of product performance (level, class, description)
Other aspects related to the performance	Tensile strength (parallel)	EN 1608	$\sigma_t \geq 50$ kPa
	Bending strength	EN 12089, method B	$\sigma_b \geq 140$ kPa
	Squareness	EN 824	$S_d \leq 5$ mm
	Flatness	EN 825	$S_{max} \leq 2$ mm
	Length and width	EN 822	length = $(1000 \pm 10)$ mm width = $(500 \pm 5)$ mm

\* A declaration in this respect was made by the ETA holder. Based on this declaration, the PU binder of the boards does not release dangerous substances in end use conditions. In addition, there may be other requirements applicable to the products falling within its scope (e.g. European legislation and national laws, regulations and administrative provisions). In order to meet the provisions of the Construction Products Regulation, these requirements need also to be complied with, when and where they apply.

#### 4. Assessment and verification of constancy of performance (hereinafter AVCP) system applied, with reference to its legal base

For the product covered by this ETA the applicable European legal act is: Decision 1999/91/EC as amended by Decision 2001/596/EC.

The system to be applied is 3 (any use, dangerous substances).

In addition, with regard to reaction to fire for products covered by this ETA, the applicable system is 3.

#### 5. Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD

##### 5.1 General

It is the manufacturer's responsibility to make sure that all those who use the product are appropriately informed of the specific conditions laid down in this ETA.

Changes to the insulation boards, to their production or to their application process should be notified to LNEC before the changes are introduced. LNEC will decide whether or not such changes affect the ETA and if so whether further assessment or alterations to the ETA shall be necessary.

##### 5.2 Tasks for the manufacturer

###### Factory production control

The manufacturer shall exercise permanent internal control of production. All the elements, requirements and provisions adopted by the manufacturer shall be documented in a systematic manner in the form of written policies and procedures, including records of results performed.

This production control system shall ensure that the product is in conformity with this ETA.

The manufacturer may only use components stated in the technical documentation of this ETA. The incoming raw materials are subjected to verifications by the manufacturer before acceptance.

The factory production control shall be in accordance with the Control Plan, which is part of the Technical Documentation of this ETA. The control plan has been agreed between the manufacturer and the LNEC and is laid down in the context of the factory production control system operated by the manufacturer and deposited within LNEC. The results of factory production control shall be recorded and evaluated in accordance with the provisions of the control plan.

#### Other tasks for the manufacturer

For assessing the insulation boards the results of the tests performed as part of the assessment for the ETA shall be used unless there are changes in the production line or plant. In such cases the necessary testing has to be agreed with LNEC.

The declaration of performance of the product to be drawn up by the manufacturer following the issuing of this ETA shall include its reference number and issuing date.

Changes to the product, its production or its application process should be notified to LNEC before the changes are introduced. LNEC will decide whether or not such changes affect the ETA and if so whether further assessment or alterations to the ETA shall be necessary.

In cases where the provisions of the ETA and its control plan are no longer fulfilled, the manufacturer shall withdraw the declaration(s) of performance issued and inform LNEC without delay.

#### 5.3 Tasks for the notified body (bodies)


As the product falls under system 3 (see clause 4), there is no involvement of a notified body after the ETA has been issued.

Issued in Lisbon on 03/06/2019

By

Laboratório Nacional de Engenharia Civil (LNEC)

The Board of Directors

A handwritten signature in blue ink, appearing to read 'Carlos Pina', is written over the printed name.

Carlos Pina  
President

CDU 691.13-413:699.844(4)  
691.13-413:699.86(4)  
ISSN 2183-3362

Descriptors: Board / Agglomerated natural cork / Acoustic insulation / Thermal insulation / Europe  
Descritores: Placa / Aglomerado de cortiça / Isolamento acústico / Isolamento térmico / Europa

