



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 • www.lnec.pt



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European Technical Assessment

ETA 26/0031
of 27/02/2026

Technical Assessment Body issuing the European Technical Assessment: LNEC
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 Article 95(4) of Regulation (EU) 2024/3110, on the basis of

A presente Avaliação Técnica Europeia é emitida ao abrigo do Artigo 95(4) do Regulamento (UE) 2024/3110, com base no

CDECK – COMPOSITE DECKING

Terrace decking kits

Kits para revestimentos de piso exteriores

IHT, Lda

Zona Industrial de Soure, Rua E Lote 15

3130-551 Soure

PORTUGAL

IHT, Lda

Zona Industrial de Soure, Rua E Lote 15

3130-551 Soure

PORTUGAL

7 pages, including 1 annex which forms an integral part of the document

7 páginas, incluindo 1 anexo que faz parte deste documento

European Assessment Document (EAD) No. 190005-00-0402
– Terrace decking kits

Documento de Avaliação Europeu (EAD) n.º 190005-00-0402 - Kits para revestimentos de piso exteriores

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1. Technical description of the product

The terrace decking kit consists of decking profiles, support rail profiles, cover strip profiles and fastening devices. The decking and cover strip profiles are made of composite material made of wood fibres and plastic (WPC). Three types of decking profiles are included: two hollow profiles (CDECK hollow and CDECK WUUDE) and one solid profile (CDECK solid). The support rail profiles are made of PVC (polyvinyl chloride) or aluminum. The fastening clamps are made of polyamide resin reinforced with fiberglass.

The matrix of composite profiles is made of PVC. Fibres are mainly wood fibres. The product also includes colorants, processing agents and other additives.

The cross-sections of the decking profiles and the corresponding dimensional tolerances are shown in Figure I.1 (Annex I), Table 1 and Table 2 respectively. The density and the density tolerance for WPC of decking profiles are indicated in Table 3. The decking profiles are placed on the support rails using a hidden fixing system with three types of clips ("Quick-fix Intermediate Clip" and "Quick-fix Pro Intermediate Clip" and "Quick-Fix Terminal Clip"). Fixing the clips to the support rail does not involve the use of screws.

Cover strip profiles are used to cover the top and sides of the decking profiles. The sizes of cover strip profiles can vary.

CDECK decks are supplied in lengths of 2.3 m, unless otherwise specified in the supply contract. Decks, cover strip profiles, step profiles and supports are supplied on pallets, arranged in layers to prevent slipping. Mounting accessories are packaged separately.

This European Technical Assessment is issued for the product based on agreed data/information, deposited with Laboratório Nacional de Engenharia Civil (LNEC), which identifies the products assessed. This European Technical Assessment applies only to products satisfying the requirements of the mentioned agreed data/information.

TABLE 1
Dimensional tolerances

Component	Dimensions	Tolerances
Decking profiles	Length	- 5 / + 15 mm
CDECK Hollow	Width	+ / - 1 mm
DECK Solid	Thickness	+ / - 0.7 mm
Decking profiles	Length	- 5 / + 15 mm
CDECK WUUDE	Width	+ / - 1 mm
	Thickness	+ / - 1 mm
Support rail profiles	Length	- 5 / + 15 mm
	Width	+ / - 1 mm
	Thickness	+ / - 0.5 mm

TABLE 2
Mass per meter and tolerances for decking profiles

Component	Mass / m	Tolerances
Decking profiles		
CDECK HOLLOW	2.42 kg/m	+ / - 0.2 kg/m
CDECK SOLID	4.16 kg/m	+ / - 0.2 kg/m
CDECK WUUDE	2.52 kg/m	+ / - 0.2 kg/m

TABLE 3
Density and tolerances for WPC of decking profiles

Component	Density	Tolerances
Decking profiles Hollowes and Solids	1.387 g/cm ³	+ / – 0.15 g/cm ³

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

Intended use

Terrace decking kit is intended to be used as flooring construction of external terraces connected to the buildings.

The PVC support rail profiles are installed on completely flat and stable surfaces (e.g. 10 to 15 cm thick solid concrete slab) and fixed to it, using steel screws. The aluminum support rail profiles can be installed on uneven ground or on a metal structure. The spacing between the support profiles is 400 mm or less, depending on the flooring pattern and/or end-use. The manufacturer's Technical Data Sheet and Installation Manual shall be strictly followed.

Working life/Durability

The CDECK terrace decking kit shall be installed according to the ETA holder's instructions and the rules of the applicable regulations in place. Installation of the terrace decking kit shall be carried out by personnel with specific training for this type.

It is the responsibility of the manufacturer to ensure that proper information for the use of the terrace decking kit and the specific installation instructions and construction details are always available on its website. The manufacturer shall give guidance concerning the storage or placing of heavy objects on the terrace.

The manufacturer shall provide written documents which contain descriptions of the type and frequency of the maintenance.

This European Technical Assessment, based on the provisions, test and assessment methods specified in

EAD 190005-00-0402, has been written based upon the assumed intended working life of the terrace decking kit the intended use of 25 years provided that the products are subjected to appropriate installation, use and maintenance.

The service life can be considerably longer under normal operating conditions without significant degradation of essential requirements.

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 ¹.

The construction works shall comply with the building regulations in force in the Member States in which the work is to be constructed. The procedures foreseen in the Member State for demonstrating compliance with the building regulations shall also be followed by the entity held responsible for this act. This ETA does not amend this process in any way.

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 190005-00-0402.

Table 4 presents the relevant performance of the product, and the corresponding methods used in their assessment.

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

For the product covered by this European Technical Assessment the applicable European legal act is: Decision 97/808/EC of 20.11.1997 for floorings as amended by Decisions 1999/453/EC, 2001/596/EC and 2006/190/EC.

The system to be applied is 4.

¹ 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 4

Performance of the product and methods used for its assessment

Basic works requirement	Essential characteristic	Assessment method	Type of expressing of product performance (level, class, description)
BWR 2 Safety in case of fire	Reaction to fire CDECK Hollow CDECK Solid CDECK WUUDE	EAD, clause 2.2.1 EN ISO 11952-2, EN 13501-1, EN ISO 9239 1	(Class) $B_{fi} - s1$ No performance assessed Efl
BWR 3 Hygiene, health and the environment	Influence of moisture a) Swelling in thickness CDECK Hollow CDECK Solid CDECK WUUDE b) Water absorption[CDECK Hollow CDECK Solid CDECK WUUDE	EAD, clause 2.2.2; EN 15534-1 (clause 8.3.1) – 28 days	(mean values at 28 days) 2.3% 1.1% 0.8% 5.5% 1.9% 2.9%
BWR 4 Safety and accessibility in use	Bending strength CDECK Hollow CDECK Solid CDECK WUUDE	EAD, clause 2.2.3; EN 310	(mean values) 53 N/mm ² 58 N/mm ² 55 N/mm ²
	Modulus of elasticity CDECK Hollow CDECK Solid CDECK WUUDE	EAD, clause 2.2.3 EN 310	(mean values) 6447 N/mm ² 6026 N/mm ² 6036 N/mm ²
	Impact strength CDECK Hollow +23 °C / 1 kg –10 °C / 1 kg CDECK Solid +23 °C / 1 kg –10 °C / 1 kg CDECK WUUDE +23 °C / 1 kg –10 °C / 1 kg	EAD, clause 2.2.4; EN 477	(minimum values, over open cavity in the case of hollow decks) 15.5 J 9.5 J > 20 J > 20 J 16.5 10 J
	Creep factor	EAD, clause 2.2.5; EN 1156 (clause 4.2.2)	(level) No performance assessed
	Slipperiness CDECK Hollow and Solid Cross direction Dry conditions Wet conditions Longitudinal Direction Dry conditions Wet conditions CDECK WUUDE Cross direction Dry conditions Wet conditions Longitudinal Direction Dry conditions Wet conditions	EAD, clause 2.2.6; EN 15534-1 (clause 6.4.2)	(mean values) 91 60 (class 3) 86 62 (class 3) 91 50 (class 3) 91 45 (class 2)
	Pull-through strength of the screw CDECK Hollow CDECK Solid CDECK WUUDE	EAD, clause 2.2.7; EN 1383	(mean values) 1890 N 1874 N 1889 N

TABLE 4

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

Basic works requirement	Essential characteristic	Assessment method	Type of expressing of product performance (level, class, description)
BWR 4 Safety and accessibility in use	Moisture resistance under cyclic conditions	EAD, clause 2.2.8; EN 15534-1 (clause 8.3.2)	(mean values)
	a) Decrease of bending strength CDECK Hollow CDECK Solid CDECK WUUDE		$f_m = 10.24 \% / 17.20 \%$ $f_m = 6.83 \% / 20.67\%$ $f_m = 1.12 \% / 4.69\%$
	b) Decrease of modulus of elasticity CDECK Hollow CDECK Solid CDECK WUUDE		$E_m = 17.97 \% / 26.63 \%$ $E_m = 12.76\% / 20.74\%$ $E_m = 7.55 \% / 10.90\%$
	UV-radiation resistance (Charpy impact strength) Before aging After aging	EAD, clause 2.2.9; EN ISO 4892-2 (method A) and EN ISO 179-1	(mean values) 7.1 kJ/m ² 4.6 kJ/m ²
	Thermal expansion	EAD, clause 2.2.10	No performance assessed
	Resistance against termites	EAD, clause 2.2.11, EN 117 (EN 15534 1, clause 8.4)	No performance assessed
	Surface hardness CDECK Hollow CDECK Solid CDECK WUUDE	EAD, clause 2.2.12; EN 1534	(characteristic values) 106 N/mm ² 108 N/mm ² 105 N/mm ²
BWR 6 Energy economy and heat retention	Density	EAD, clause 2.2.13; EN ISO 1183-1 (method A)	(mean value) 1.387 g/cm ³
	Thermal resistance R and equivalent Thermal conductivity λ CDECK Solid	EAD, clause 2.2.14 EN 12667	$R_{10(23, 50)} = 0.15 \text{ m}^2\text{.K/W}$ $\lambda_{10(23, 50)} = 0.165 \text{ W/m.K}$
	CDECK Hollow		$R_{10(23, 50)} = 0.20 \text{ m}^2\text{.K/W}$ $\lambda_{10(23, 50)} = 0.124 \text{ W/m.K}$
	CDECK WUUDE		$R_{10(23, 50)} = 0.22 \text{ m}^2\text{.K/W}$ $\lambda_{10(23, 50)} = 0.118 \text{ W/m.K}$

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 terrace decking kits, to their production or to their application process should be notified to LNEC before the changes are introduced. LNEC will decide whether 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 shall 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 defined by the manufacturer which is part of the technical documentation of this European Technical Assessment approval and is deposited with LNEC. The results of factory production control shall be recorded and evaluated in accordance with the provisions of the control plan.

For decking terrace kit's components not manufactured by the ETA holder, i.e. screws, the manufacturer shall make sure that the factory production control carried out by the other manufacturers ensures the guaranty of compliance of the components with this ETA.

Other tasks for the manufacturer

For assessing the terrace decking kits 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 shall 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.

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)

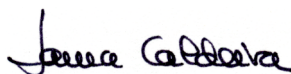
As the product falls under system 4 there is no involvement of a notified body after the ETA has been issued.

Issued in Lisbon on 27/02/2026

By

Laboratório Nacional de Engenharia Civil (LNEC)

THE BOARD OF DIRECTORS



Laura Caldeira
President

Annex I

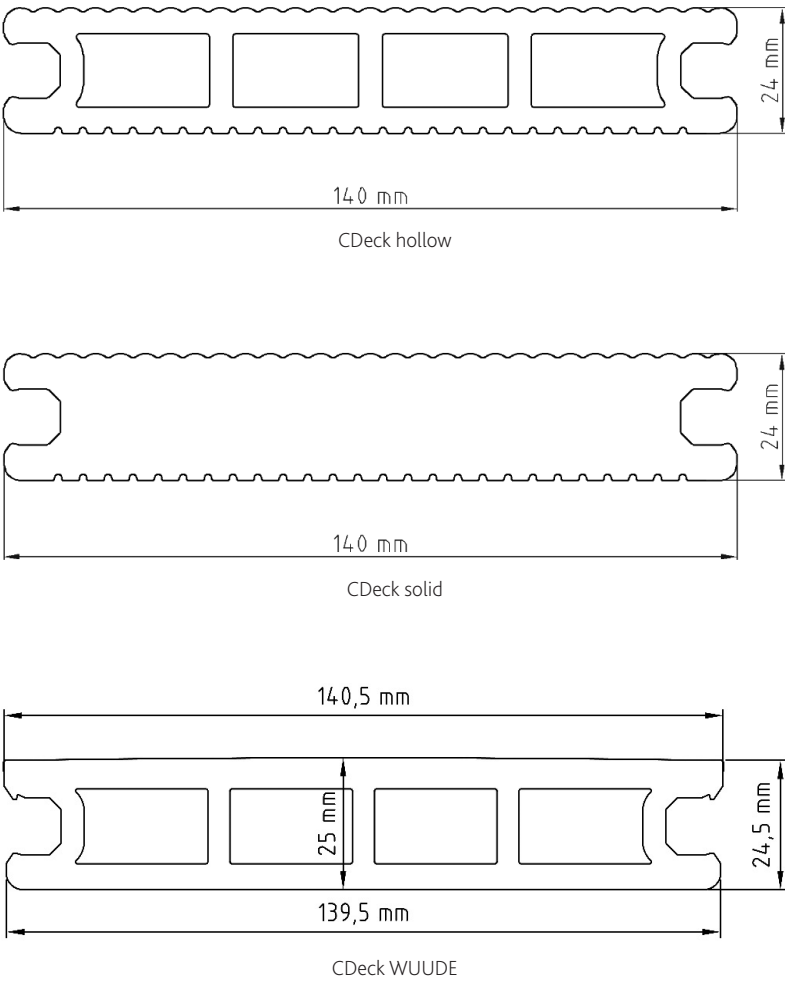


Figure I.1 – Cross section dimensions of decking profiles

CDU	692.53:691.15(4)	Descriptors:	Floorings / Composite material / Europe
ISSN	2183-3362	Descritores:	Revestimento de pavimentos / Material compósito / Europa

