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## European Technical Assessment

**ETA 20/0274**  
of 24/03/2025

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*

### TECNODECK

Terrace decking kits

*Kits para revestimentos de piso exteriores*

TECNODECK (GRUPO MITERA)

Estrada de Paço de Arcos – Alto da Bela Vista

Casal do Cotão, Pavilhão 86-A

2735-521 Cacém

Portugal

Plant 1

*Fábrica 1*

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

*6 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). Two types of decking profiles are available: hollow profile (TECNODECK ONE) and solid profile (TECNODECK FSL). Support rail profiles are also made of WPC. Fastening clamps are made of stainless steel.

The matrix of composite profiles is made of thermoplastic polyolefin based (HDPE). Fibres are mainly wood fibres. The product includes also additives and processing agents such as colorants, fillers, compatibilizers, slip agents and UV-stabilizers.

The cross section dimensions of decking profiles and corresponding dimensional tolerances are indicated respectively in Figure I.1 (Annex I) and Table 1. The nominal mass and mass tolerances for decking profiles are indicated in Table 2. The density and the density tolerance for WPC of decking profiles are indicated in Table 3. The cross section of support rail profiles is 38 mm x 38 mm.

The decking profiles are installed onto support rail profiles with hidden fastening using fastening devices and screws.

Fastening clamps are fixed onto support rails by means of screws. Screws used for connecting the fastening clamps to the rail profiles are of stainless steel of a size at least 25 mm x 4 mm. The screws, which shall have CE-marking, are not part of the kit and therefore are not described in the present ETA. Cover strip profiles are used to cover the ends of the decking profiles. The sizes of cover strip profiles and fastening devices can vary.

This European Technical Assessment is issued for the product on the basis of 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 TECNODECK ONE and TECNODECK FSL	Length	- 0 / + 10 mm
	Width	+ / - 1 mm
	Thickness	+ / - 1 mm
Support rail profiles	Length	- 0 / + 10 mm
	Width	+ / - 1 mm
	Thickness	+ / - 1 mm

**TABLE 2**  
Mass per meter and tolerances for decking profiles

Component	Mass / m	Tolerances
Decking profiles		
TECNODECK ONE	2.5 kg/m	+ / - 0.2 kg/m
TECNODECK FSL	3.1 kg/m	+ / - 0.2 kg/m

**TABLE 3**  
Density and tolerances for WPC of decking profiles

Component	Density	Tolerances
Decking profiles		
TECNODECK ONE and TECNODECK FSL	1.328 g/cm <sup>3</sup>	+ / - 0.03 g/cm <sup>3</sup>

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

### **Intended use**

The TECNODECK terrace decking kit is intended to be used as flooring construction of external terraces.

The support rail profiles are installed always on horizontal load bearing substrate like concrete or metallic frame and fastened into substrate with steel screws or anchors. The spacing between the support profiles axis is 400 mm or less depending on the end-use.

### **General assumptions**

The TECNODECK 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 is enclosed to each delivery, including general guidance on the basis of this ETA and the specific installation instructions and construction details. The manufacturer shall give guidance concerning the storage or placing of heavy objects on the terrace.

With regard to the assumed working life, regular maintenance is necessary. The manufacturer shall provide written documents which contain descriptions about type and frequency of the maintenance.

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

EAD 190005-00-0402, have been written based upon the assumed intended working life of the for terrace decking kit the intended use of 10 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>.

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.

## **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 or not such changes affect the ETA and if so whether further assessment or alterations to the ETA shall be necessary.

<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 4

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	<b>Reaction to fire</b> TECNODECK ONE TECNODECK FSL	EAD, clause 2.2.1	(Class) Dfl-s1 Cfl-s1
<b>BWR 3</b> Hygiene, health and the environment	<b>Influence of moisture</b> a) Swelling in thickness TECNODECK ONE TECNODECK FSL b) Water absorption TECNODECK ONE TECNODECK FSL	EAD, clause 2.2.2; EN 15534-1	(mean values)  1.3% 1.3%  3.3% 1.5%
<b>BWR 4</b> Safety and accessibility in use	<b>Bending strength</b> TECNODECK ONE TECNODECK FSL  <b>Modulus of elasticity</b> TECNODECK ONE TECNODECK FSL  <b>Impact strength</b> TECNODECK ONE + 23 °C / 1 kg – 10 °C / 1 kg TECNODECK FSL + 23 °C / 1 kg – 10 °C / 1 kg  <b>Creep factor</b>  <b>Slipperiness</b> TECNODECK ONE Dry conditions Wet conditions TECNODECK FSL Dry conditions Wet conditions  <b>Pull-through strength of the screw</b> TECNODECK ONE TECNODECK FSL  <b>Moisture resistance under cyclic conditions</b> a) Decrease of bending strength TECNODECK ONE TECNODECK FSL b) Decrease of modulus of elasticity TECNODECK ONE TECNODECK FSL  <b>UV-radiation resistance</b> (Charpy impact strength) Before aging After aging  <b>Thermal expansion</b>  <b>Resistance against termites</b>  <b>Surface hardness</b> TECNODECK ONE TECNODECK FSL  <b>Density</b>	EAD, clause 2.2.3; EN 310  EAD, clause 2.2.3; EN 310  EAD, clause 2.2.4; EN 477  EAD, clause 2.2.5  EAD, clause 2.2.6; EN 15534-1 and CEN/TS 15676  EAD, clause 2.2.7; EN 1383  EAD, Clause 2.2.8; EN 15534-1  EAD, Clause 2.2.9; EN ISO 4892-2 (method A) and EN ISO 179-1  EAD, Clause 2.2.10 EAD, Clause 2.2.11 EAD, Clause 2.2.12; EN 1534  EAD, Clause 2.2.13; EN ISO 1183	(mean values) 34.3 N/mm <sup>2</sup> 45.0 N/mm <sup>2</sup>  (mean values) 4480 N/mm <sup>2</sup> 4730 N/mm <sup>2</sup>  (minimum values, over open cavity in the case of TECNODECK ONE) 40 cm (3.92 J), no failure 50 cm (4.90 J), no failure  175 cm (1715 J), no failure 175 cm (1715 J), no failure  Performance not assessed  (mean values) 78 <sup>(1)</sup> / 81 <sup>(2)</sup> / 66 <sup>(3)</sup> / 60 <sup>(4)</sup> 60 <sup>(1)</sup> / 67 <sup>(2)</sup> / 52 <sup>(3)</sup> / 47 <sup>(4)</sup>  82 <sup>(1)</sup> / 90 <sup>(2)</sup> / 70 <sup>(3)</sup> / 66 <sup>(4)</sup> 57 <sup>(1)</sup> / 76 <sup>(2)</sup> / 52 <sup>(3)</sup> / 52 <sup>(4)</sup>  (mean values) 1530 N 1180 N  (mean values)  $f_m = 6.60 \%$ $f_m = 12.65 \%$  $E_m = 10.75 \%$ $E_m = 14.05 \%$  (mean values) 2.146 kJ/m <sup>2</sup> 3.360 kJ/m <sup>2</sup>  Performance not assessed Performance not assessed (characteristic values) 34.80 N/mm <sup>2</sup> 25.25 N/mm <sup>2</sup>  1.360-1.378 g/cm <sup>3</sup>

TABLE 4

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 6 Energy economy and heat retention	Thermal conductivity TECNODECK FSL	EAD, Clause 2.2.14	$\lambda_{10(23, 50)} = 0.294 \text{ W/m.K}$
	Thermal resistance TECNODECK ONE		$R_{10(23, 50)} = 0.15 \text{ m}^2.\text{K/W}$

- 1 Perpendicular direction to the veins of smooth surface.
- 2 Perpendicular direction to the ribs of bossed surface.
- 3 Parallel direction to the veins of smooth surface.
- 4 Parallel direction to the ribs of bossed surface.

## 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 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.

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)

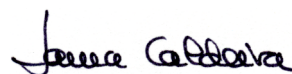
As the product falls under system 4 there is no involvement of a notified body after the ETA has been issued.

Issued in Lisbon on 24/03/2025

By

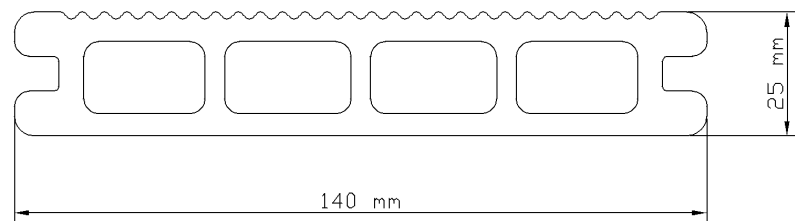
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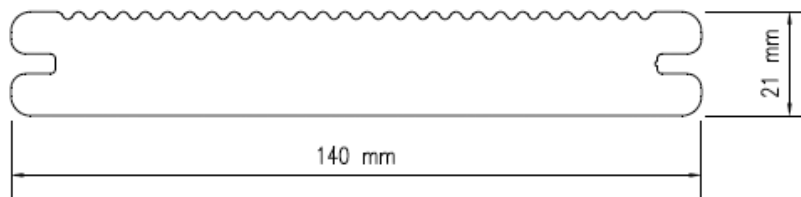


Laura Caldeira  
President

## Annex I



Decking profile TECNODECK ONE



Decking profile TECNODECK FSL

Figure I.1 – Cross section dimensions of decking profiles

CDU	692.53:691.15(4)
ISSN	2183-3362

Descriptors:	Floorings / Composite material / Europe
Descritores:	Revestimento de pavimentos / Material compósito / Europa



ISSN 2183-3362

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