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DE LA CONSTRUCCIÓN  
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## European Technical Assessment

**ETA 16/0559**  
**of 22/ 12/ 2016**

English translation prepared by IETcc. Original version in Spanish language

### General Part

**Technical Assessment Body issuing the ETA and designated according to Article 29 of the Regulation (EU) Nº305/2011:**

Instituto de Ciencias de la Construcción Eduardo Torroja (IETcc)

**Trade name of the construction product**

**Sistema WOOL4BUILD**

**Product family to which the construction product belongs**

Factory-made thermal and/or acoustic insulation products made of sheep wool fibres

**Manufacturer**

**INDUSTRIAS PELETERAS, SA (INPELSA).**  
Ctra. Montesa s/n, 46650 CANALS (Valencia)  
Spain. <http://www.lederval.es/>  
<http://wool4build.com/>

**Manufacturing plant(s)**

INPELSA Ctra. Montesa s/n, 46650 CANALS (Valencia).  
GEOPANNEL C/ Las Cañas 101, Polígono Industrial Cantabria II. 26006 Logroño (La Rioja)

**This European Technical Assessment contains**

6 pages.  
Annex 1. Contain confidential information and is not included in the ETA when that assessment is publicly available.

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

European Assessment Document (EAD) Nº 040005-00-1201 for "Factory-made thermal and/or acoustic insulation products made of vegetable or animal fibres", June 2015

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## SPECIFIC PARTS OF THE EUROPEAN TECHNICAL ASSESSMENT

### 1 Technical description of the product

The construction products consist of animal fibers (wool sheep) with binding agent, in form of mats, without a facing. The Thermal and Acoustic Insulation “WOOL4BUILD” is installed in accordance with the manufacturer, design and installation instructions, deposited at IETcc<sup>(1)</sup>. The main characteristics of this product are:

Characteristics	Values
Fibre of sheep wool	80-90 %
Binding agent of bi-component polyester	10-20 %
Without Facing	OK
Thickness	± 10%
Length	± 2%
Width	± 1.5%
Density	20 kg/m <sup>3</sup> ± 10% // 30 kg/m <sup>3</sup> ± 10%

### 2 Specification of the intended use in accordance with the applicable EAD

Thermal and/or airborne sound insulation product used for buildings as insulation of walls, ceilings, floors, roofs, between rafters and timber work.

The assessment of the insulation product only applies if the product is protected from precipitation, wetting or weathering in built-in state and during transport, storage and installation and if it will not be used for construction elements with contact to water and soil or in constructions with a risk that the critical moisture content will be exceeded.

Concerning the application of the insulation product, the respective national regulations shall be observed. The design level of the thermal conductivity shall be laid down according to relevant national provisions.

**Installation.** Wool4build is an insulation material designed to be installed in walls, ceilings and partitions made of bricks or plaster board solutions. The wool4build can be used in a façade made of a double bricks wall to insulate, just adding the insulation on the inside of the external wall.

The product is installed on site. It is the responsibility of the manufacturer to guarantee that the information about design and installation of this product is effectively communicated to the concerned people. This information can be given using reproductions of the respective parts of this European Technical Assessment. Besides, all the data concerning the execution shall be clearly indicated on the packaging and/or the enclosed instruction sheets using one or several illustrations.

**Design.** In any case, the user shall comply with the national regulations and particularly concerning fires. Only the components with the characteristics in point 1 of this ETA can be used.

The works including the details (connection, joint,...) shall be designed in order to avoid separations between panels.

**Execution.** Particularly, it is recommended to consider:

- The kit installation has to be carried out by qualified installers,
- the particularities in execution linked to the method of bonding/ mechanically fixings shall be handled in accordance with manufacturer prescriptions enclose in the MTD

**Use, maintenance and repair of the works.** Maintenance will include at least:

- The repairing of localised damaged areas due to accidents

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

The identification tests and the assessment for the intended use of this thermal and acoustic insulation according to the Essential Requirements were carried out in compliance with the EAD “Factory-made thermal and/or acoustic insulation products made of vegetable or animal fibres”, June 2015

#### 3.1 Characteristics

Mechanical resistance and stability (BWR 1). No relevant.

(1) The technical documentation of this European Technical Assessment is deposited at the *Instituto de Ciencias de la Construcción Eduardo Torroja* (IETcc) and, as far as relevant for the tasks of the approved bodies involved in the attestation of conformity procedure, is handed over to the approved bodies.

Safety in case of fire ((BWR 2). Fire reaction classification E.

Hygiene, health and environment (BWR 3)

**Biological resistance.**

- *Growth of mould fungus* (annex B). After 28 days the growth intensity is 0. There is not any sign of fungus
- *Resistance to attack by vermin's* (ISO 3998 short-term test and annex C for long-term test). 100% of the insects (*Tineola bisselliella*) die at 72 hours. Cropping no detectable damage and Holes Yarn or fibers partially severed: Classification 1B.

Safety in use (BWR 4)

**Corrosion developing capacity (annex D).** Pass the test and no notches or perforations occur within the central zone of the copper and zinc coat.

Protection against noise (BWR 5). NPA

**Specific airflow resistivity (EN 29053 method A).**

Density( kg/m <sup>3</sup> )	Thickness (mm)	Resistivity airflow (rayls/m)	Resistivity airflow (rayls/m) (95%)
20	40	8270	8260-8270
30	50	9990	9950-10030

**Sound absorption (EN 354).**

Density( kg/m <sup>3</sup> )	Alfa w	f(Hz)	125	250	500	1000	2000	4000
20	0,65	Alfa p	0,15	0,36	0,66	0,81	0,80	0,79
30	0,75	Alfa p	0,15	0,41	0,82	0,94	0,92	0,94

Energy economy and heat retention (BWR 6)

The thermal resistance provided by this product to the support is calculated in accordance with EN ISO 6946 from the nominal value of the insulation product's thermal resistance R given.

**Thermal conductivity (EN ISO 10456, Annex A)**

Product	Category 1 (base on λ 10/dry,90/90)			Mass-related moisture conversion coefficient to high moisture (fu,2)	Moisture conversion factor (dry-23/50 and 23/50-23/80)	
	λ 10/dry,90/90	Moisture factor conversion (Fu,1)	λD 23,50		Fm1 λ10,dry-λ23,50	Fm2 λ23/50-λ23,80
20 kg/m <sup>3</sup>	0,03458	0,694	0,037	6,3	1,02	1,02
30 kg/m <sup>3</sup>	0,03311	0,969	0,036	10,4	1,02	1,02

For insulation product made of sheep wool the conversion factor Fm1 = Fm2 = 1,02 can be used without testing.

**Water vapour diffusion resistance (EN 12086).** μ=1-4

**Water absorption (EN 1609, method A).**

Absorption wáter (kg/m <sup>2</sup> )	
20 kg/m <sup>3</sup>	30 kg/m <sup>3</sup>
1,5	2,8

**Geometry (EN 822, 823, 824, 825).**

Characteristics	20 kg/m <sup>3</sup>	30 kg/m <sup>3</sup>
Length (mm)	1330 ±2%	
Withd (mm)	595 ±1,5%	
Thickness (mm)	42,6 (T1, T2, T3,T4)	47,4 (T1, T2, T3,T4)
Flatness	<5 mm/m	
Squareness	<6 mm	

**Density (EN 1602).**

20 kg/m <sup>3</sup>	30 kg/m <sup>3</sup>
20±10%	30±10%

**Flatness after one-sided wetting (EN 825, conditioning EN 13165).**

20 kg/m <sup>3</sup>	30 kg/m <sup>3</sup>
<5 mm/m	<5 mm/m

## Dimensional stability under specified temperature and humidity

Conditions	20 kg/m <sup>3</sup>		30 kg/m <sup>3</sup>	
	Δε <sub>l</sub>	Δε <sub>b</sub>	Δε <sub>d</sub>	DS(70,-) 1
70°C 48h (Δε <sub>l</sub> , Δε <sub>b</sub> , Δε <sub>d</sub> )	0, 0, 1	DS(70,-) 1	0, 0, 0	DS(70,-) 1
70°C/ 90%HR 48h (Δε <sub>l</sub> , Δε <sub>b</sub> , Δε <sub>d</sub> )	0, 0, 2	DS (70,90) 2	0, 0, 0	DS (70,90) 1

**Tensile strength (parallel)** (EN 1608). Requerimiento ≥10kPa

**Tensile strength (perpendicular)** (EN 1607). 4,6 kPa: TR 2,5

**Tensile strength perpendicular to faces in wet conditions** (EN 1607). At 50% HR and 90% HR. 3,9 kPa:TR 2,5.

**Shear strength and shear modulus of elasticity** (EN 12090). 4,1 kPa.

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

**System of attestation of conformity.** According to the decision 1999/91/EC of the European Commission <sup>(2)</sup> amended by 2001/596/EC <sup>(3)</sup> the system of assessment and verification of constancy of performance (see Annex V to Regulation (EU) n° 305/2011) given in the following table applies.

Product	Intended uses	Level or Classes	System
WOOL4BUILD	Factory-made thermal and/or acoustic insulation products made of sheep wool fibres	Any	3

According to this decision, system 3 of Attestation of Conformity also applies with regard to external fire performance. The system 3 provides: Tasks for the manufacturer: Factory production control and Tasks for the approved body: Initial type-testing of the product.

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

The ETA is issued for this product on the basis of agreed data/information, deposited at IETcc, which identifies the product that has been assessed and judged. It is the manufacturer's responsibility to make sure that all those who use the kit are appropriately informed of specific conditions according to sections 1, 2, 4 and 5 including the annexes of this ETA. Changes to the product or the components or their production process, which could result in this deposited data/information being incorrect should be notified to the IETcc before the changes are introduced. IETcc will decide whether or not such changes affect the ETA and if so whether further assessment or alterations to the ETA shall be necessary.

### 5.1 Tasks of 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 including Control Plan. The incoming raw material is subjected to verifications by the manufacturer before acceptance.

The factory production control shall be in accordance with the Control Plan<sup>(4)</sup> which is part of the Technical Documentation of this ETA. The Control Plan has been agreed between the manufacturer and the IETcc and is laid down in the context of the factory production control system operated by the manufacturer and deposited at the IETcc. The results of factory production control shall be recorded and evaluated in accordance with the provisions of the Control Plan.

**Other tasks of the manufacturer.** The manufacturer shall, on the basis of a contract, involve a body which is notified for the tasks referred to in section 4 in order to undertake the actions laid down in this clause. For this purpose, the control plan shall be handed over by the manufacturer to the notified bodies involved.

<sup>(2)</sup> Official Journal of the European Communities L229/14 of 20.08.1997

<sup>(3)</sup> Official Journal of the European Communities L209/33 of 02.08.2001

<sup>(4)</sup> The control plan is a confidential part of this European Technical Assessment and only handed over to the notified body involved in the procedure of attestation of conformity. See section 3.2.2.

For initial type – testing, 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 initial type- testing has to be agreed with the IETcc.

The manufacturer shall make a declaration of conformity, stating that the construction product is in conformity with the provisions of this ETA.

## 5.2 Tasks of notified bodies. The notified body shall perform

**Initial type-testing of the product.** The initial type-testing have been conducted by the IETcc to issued this ETA in accordance with chapter 2 of the EAD 040005-00-1201 “Factory-made thermal and/or acoustic insulation products made of vegetable or animal fibres”. The verifications underlying this ETA have been furnished on samples from the current production; these will replace the initial type-testing carried out by the manufacturer. The IETcc has assessed the results of these tests in accordance with chapter 2 of this EADe, as part of the ETA issuing procedure.

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by



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