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European Technical Assessment

ETA 15/0875 of 20/06/2016

I General Part

Technical Assessment Body issuing the ETA and designated according to Article 29 of the Regulation (EU) No 305/2011:	Technical and Test Institute for Construction Prague
Trade name of the construction product	**CLIMATIZER PLUS** **UniFloc** **WARMCEL** **THERMOCEL** **LACELLULOSA® in fiocchi** **EASYCELL** **CELLISOL** **ZELLOFIX** **SOUNDCEL INSULATION**
Product family to which the construction product belongs	**In-situ formed loose fill thermal and acoustic insulation products made of cellulose fibres**
Holder of the assessment	**CIUR a.s.** **Málé nám. 142/3,** **110 00 Praha 1** **Czech Republic**
Manufacturing plant	**CIUR a.s.** **Pražská 1012** **250 01 Brandýs nad Labem** **Czech Republic**
This European Technical Assessment including 1 annex contains	9 pages
This European Technical Assessment is issued in accordance with regulation (EU) No 305/2011, on the basis of	European Assessment Document (EAD) No. 040138-00-1201 for "In-situ formed loose fill thermal and/or acoustic insulation products made of vegetable fibres", edition November 2015

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II Specific part

1 Technical description of the product (definition of the product)

This European technical assessment applies to the insulating material made of loose, free cellulose fibres with the trade names:
CLIMATIZER PLUS; UniFloc; WARMCEL; THERMOCEL; LACELLULOSA® in fiocchi; EASYCELL; CELLISOL; ZELLOFIX; SOUNDCEL INSULATION

The cellulose fibres are produced from the sorted recycled waste paper by mechanical crushing. The waste paper used in manufacturing process has to fulfill the quality criteria given by the manufacturer.

The products are intended to be used for the production of insulation layers (which serve as thermal and acoustic insulation) by means of machine processing at the place of use. The reaction to fire classification of the products is improved during the production process by adding of fire retardant namely boric acid.

Detailed information are deposited with the TZÚS Praha,s.p.-branch 0100 Prague.

Note: The insulation has to be covered to avoid direct contact with the user of the building.

The machine processing is carried out in dry conditions (99% of all applications) or under the addition of water (1% of all applications).

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

2.1 Intended use

The insulating material can be used for the application for walls (closed cavities of external and interior walls), roofs (closed cavities between rafters and timber beams etc.), ceilings, floors etc.

The insulation products are depending on the area of application and processing produced with different densities /**density range 30-60 kg/m^3**/.

The insulation materials shall only be installed in structures where it is protected from wetting, weathering and moisture, soil.

The insulating materials can be used as no load-bearing insulating material for intended uses where vertical or horizontal cavities are completely filled or horizontal, arched or moderately pitched exposed areas are covered.

The ETA is issued for the above mentioned products on the basis of agreed data/information, deposited with the Technical Assessment Body - Technical and Test Institute for Construction Prague, which identifies the products that have been assessed.

Table No. 1:
Recommended minimal density of the materials regarding the area of application

Area of application	Minimal recommended density of the material [kg/m^3]
cavity walls and wall frame constructions	50
cavities of pitched roofs and ceiling cavities (in case of additional blowing into closed cavities)	40
ceiling cavities and horizontal low slope areas (≤ 10°)	30

Note:

In case of application to cavity walls the products must be covered from both sides to avoid risk of moisture.

2.2 Assumed working life

The provisions made in this European technical assessment are based on an assumed working life of the products for 50 years. The indications given on the working life cannot be interpreted as a guarantee given by the producer, but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

3 Performance of the products and references to the methods used for their assessment

The characteristics of product and methods of verification of the thermal insulation were carried out in compliance with the EAD concerning "In-situ formed loose fill thermal and/or acoustic insulation products made of vegetable fibres".

Table No. 2:

No	Essential characteristic and method of verification and assessment	Expression of product performance
Essential Requirement 1: Mechanical resistance and stability*		
Not relevant		
Essential Requirement 2: Safety in case of fire		
1	**Reaction to fire** (EN 13501-1 + A1)	Class E
Essential Requirement 3: Hygiene, health and environment		
1	**Biological resistance** - growth of mould fungus (Annex F of EN 15101-1)	Class BA0* Note: * no mould visible on specimen surface, examined with reflected light microscope at 50x magnification
Essential Requirement 4: Safety in use		
Not relevant		
Essential Requirement 5: Protection against noise		
1	**Sound absorption** (relating to the thickness of 100 mm) - acoustic absorption index α_w - sound absorption coefficient α_p calculated in 1/1 octave bands at the frequency: - 125 Hz - 250 Hz;500 Hz;1000 Hz; - 2000 Hz; 4000 Hz - class (EN ISO 354, EN ISO 11654)	1.00 0.65 1.00 1.00 A

No	Essential characteristic and method of verification and assessment	Expression of product performance
	Essential Requirement 6: Energy economy and heat retention	
1	**Thermal conductivity*:** (EN 12667, EN ISO 10456 and EAD 040138-00-1201) $\lambda_{D, 23,50}$ [W/m.K] $\lambda_{10, dry, limit}$[W/m.K] $\lambda_{10, dry, 90/90}$[W/m.K]	 0.038 0.0361 0.0368
	For conversion of humidity the following applies: - mass-related moisture contents $u_{23,50}$ $u_{23,80}$	 0.060 0.124
	-mass-related moisture conversion factors $f_{u,1}$ $f_{u,2}$	 0.552 0.670
	-moisture conversion factors F_{m1} F_{m2}	 1.03 1.04
2	**Water vapour diffusion resistance** (EN ISO 12086) - water vapour resistance factor μ	 2.0
3	**Water absorption**(for specific applications only) (EN 1609, method A)	No performance assessed
4	**Corrosion developing capacity** (Annex E of EN 15101-1)	Pass Class CR
5a	**Settlement in cavities of walls and between rafters** (Annex B.2 of EN 15101-1) a)bulk density 59.6 kg/ m^3 b)bulk density 55.1 kg/m^3 c) bulk density 50.0 kg/m^3	 No settlement and cracks (settlement ≤1%) class SC O
5b	**Settlement under cyclical temperature and cyclic humidity** (Annex B.1 of EN 15101-1) bulk density 30.0 kg/m^3 bulk density 50.0 kg/m^3	 >25%; SH 30 ≤ 10 %; SH 10
5c	**Settlement under impact excitation and constant temperature and humidity conditions** (Annex B.3 of EN 15101-1) bulk density 30.0 kg/m^3	 S_{cli} ≤ 9 % S_D ≤ 14%
6	**Critical moisture content**	75% Note: Testing and assessing procedures are currently not available for insulation products covered by the used EAD. Therefore the value of 75% shall at present be declared as the critical moisture content.

No	Essential characteristic and method of verification and assessment	Expression of product performance
7	**Specific airflow resistivity**** (EN 29053) Note: **This characteristic also relates to BWR 5 bulk density 45 kg/m³ bulk density 60 kg/m³	 ≤ 13 kPa. s/m² ≤ 18 kPa. s/m²
8	**Hygroscopic and sorption properties** (EN ISO 12571)	Hygroscopic sorption and desorption curves (see Annex 1 of the ETA)

*)In case of free placing (e.g. on the ceiling or between beams) a reduced insulation layer thickness for calculating the thermal resistance is to be determined from the installation thickness taking account the settlement. The reduction value is maximally 35% and was determined from the highest value of settlement based on test results and rounded upwards to the nearest one percercent.

Declared values of λ are representative for at least 90% of the production with a confidence level of 90% and covers the density range 30-60 kg/m³. For the admissable deviation of an individual value of thermal conductivity from the declared value the method described in annex F of EN 13172 applies.

The performances given in the ETA are only valid for the specified densities.

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

4.1. System of attestation of conformity

According to the decision 1999/91/EC of 25.01.1999 of the European Commission system of verification of constancy of performance 3 applies.

In addition according to Commission Decision 2001/596/EC of 08.01.2001 system of assessment and verification of constancy of performance 3 applies to the thermal insulation product with regard to reaction to fire.

Systems of assessment and verification of constancy of performance are defined as follows:

System 3:

a) Tasks for the manufacturer:
- factory production control (FPC),

b) Tasks for the Notified Body:
- type testing of the product*.

*Note:*The type testing has been conducted for issuing of this ETA. The results of the type testing performed as a part of the assessment for the ETA shall be used unless there are any changes in the production plant. In such cases the type testing shall be agreed with the Technical and Testing Institute for Construction Prague.*

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

In order to help the notified body to make an evaluation of conformity, the Technical Assessment Body issuing the ETA shall supply the information detailed below. This information shall initially be prepared or collected by the Technical Assessment Body and shall be agreed with the manufacturer. The following gives guidance on the type of information required:

1) The ETA

Where confidentiality of information is required, this ETA makes reference to the manufacturer's technical documentation which contains such information.

2) Basic manufacturing process

Basic manufacturing process is described in sufficient details to support the proposed FPC methods.

3) Product and materials specifications

Manufacturer's documentation includes:

- detailed description of the products,
- incoming´s (raw) materials specifications and declarations,
- references to European and/or international standards,
- technical and safety data sheets of the products.

4) Control Plan (as a part of FPC)

Manufacturer and the Technical and Test Institute for Construction Prague have agreed a Control Plan which is deposited with the Technical and Test Institute for Construction Prague in documentation which accompanies the ETA. The Control Plan specifies the type and frequency of checks/tests conducted during production and on the final product. This includes the checks conducted during manufacturing process on properties that cannot be inspected at a later stage and for checks on the final product.

It must be demonstrated to the notified body that the FPC system contains elements securing that the manufacturer of the final product use during the manufacturing process only products from his supplier(s) which conform to the Control Plan.

In cases where the provisions of the European Technical Assessment and its Control Plan are no longer fulfilled, the notified body shall withdraw the certificate and inform the Technical and Test Institute for Construction Prague without delay.

Issued in Prague on 20.06.2016

TECHNICKÝ A ZKUŠEBNÍ ÚSTAV STAVEBNÍ PRAHA, s.p. Technical and Test Institute for Construction Prague ZÚS Czech Republic Technical Assessment Body

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Annexes:

Annex No. 1: Hygroscopic sorption and desorption curves

Annex No. 1:

Graph No.1: Hygroscopic sorption and desorption curves