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le futur en construction

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European Technical Assessment

ETA-10/0011
of 23/01/2017

English translation prepared by CSTB, the original version is in French language

GENERAL PART

**Technical Assessment Body issuing the
European Technical Assessment**

CSTB
Centre Scientifique et Technique du Bâtiment

Trade name of construction product

« EXPERT 50 »

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

Product with radiant heat reflective component for
use in thermal insulation systems of building
envelopes

Manufacturer

KdB Isolation
697 ROUTE DES CHENES
73200 GILLY SUR ISER - FRANCE

Manufacturer plant

KdB Isolation
697 ROUTE DES CHENES
73200 GILLY SUR ISER - FRANCE

This European Technical Assessment contains:

7 pages.

**This European Technical Assessment is issued
in accordance with regulation (EU) N° 305/2011,
on the basis of
This version replace**

European Assessment Document (EAD) 040007-00-
1201 "Thermal Insulation products for buildings with
radiant heat reflective components"
ETA 10/0011, issued the 18/01/2010

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SPECIFIC PART

1. Technical

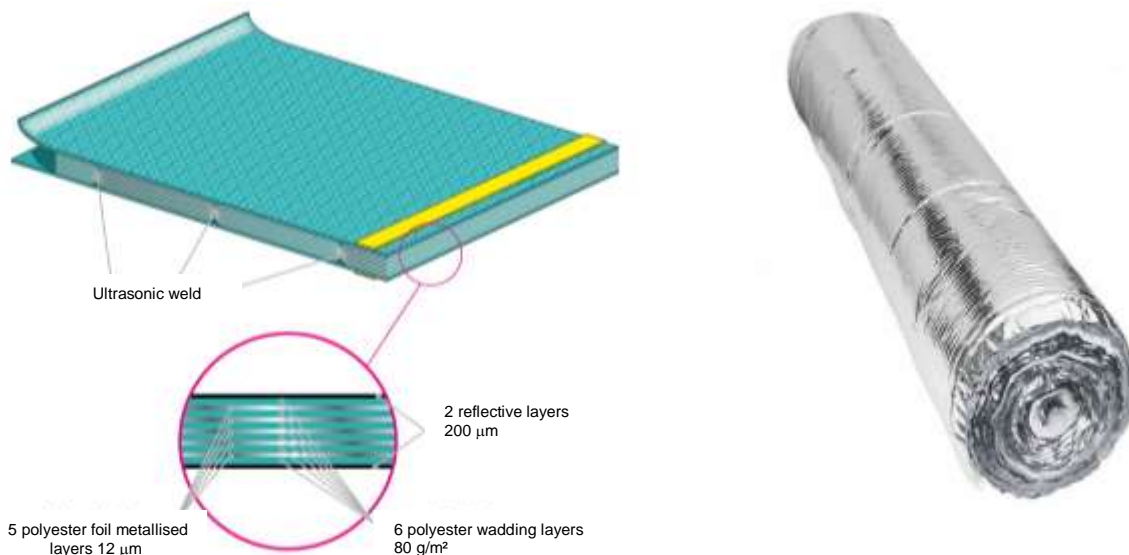
The European Technical Assessment applies to reflective insulation product with the designations EXPERT 50.

The reflective product EXPERT 50 is composed with 13 layers as following:

- Polyester foil metallised with aluminium and polyester wadding layers.
- 13 layers and is assembled symmetrically as following:

Tableau 1: Composition

Layer number	Layer type	Thickness	Mass per square metre in g/m ²
1	External reflective layers	200 µm	100
2	polyester wadding	8 mm	80
3	polyester foil metallised	12 µm	15
4	polyester wadding	8 mm	80
5	polyester foil metallised	12 µm	15
6	polyester wadding	8 mm	80
7	polyester foil metallised	12 µm	15
8	polyester wadding	8 mm	80
9	polyester foil metallised	12 µm	15
10	polyester wadding	8 mm	80
11	polyester foil metallised	12 µm	15
12	polyester wadding	8 mm	80
13	External reflective layers	200 µm	100



External reflective layers are composed of polyester foil metallised with aluminium of both faces strengthened by a grid. The outside face of the external reflecting film is protected by a thin layer of varnish.

The opaque layers are constituted by 80g/m² polyester wadding separated by internal metallised reflective polyester foils.

The product doesn't contain an additive of flame retardant.

The product is classed type 2 according to EN 16012.

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The European Technical Assessment does not apply for a manual processing of the thermal insulation products.

The European Technical Assessment has been issued for the products on the basis of agreed data/information, deposited with CSTB, which identifies the product that has been assessed. The European Technical Assessment applies only to products corresponding to this agreed data/information.

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

Reflective product is intended to be used in constructive system as an additional thermal insulation. It contributes to an increase in the thermal resistance of a thermal system in the following areas of application:

Application for walls

- Vertical walls in timber frame constructions,
- Vertical masonry walls with fixation of product on timber frame constructions or similar structures,

Application for roofs

- Pitched roof, under rafters with additional insulation over,
- Ceilings under attics under joists or timbers.

Application for ceilings / floors

- Low-floor constructions
- Intermediate ceilings.

The performances given in Section 3 are only valid if the thermal insulation products are installed according to the manufacture's installation instructions, used in compliance with the specifications and conditions given national provisions and if they are protected from precipitation, wetting or weathering in built-in state and during transport, storage and installation.

Concerning the application of the thermal insulation products also the respective national regulations shall be observed.

The design value of the thermal conductivity shall be laid down according to relevant national provisions.

This European Technical Approval does not cover the complete or finished system of insulation. As for the application of all products insulating, the national codes of practice and regulations must be respected for design and implementation of construction systems.

The verifications and assessment methods on which this European Technical Assessment is based lead to the assumption of a working life of the thermal insulation products of at least 25 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 product and references to the methods used for its assessment

The identification tests and the assessment for the intended use of this product according to the Essential Requirements were carried out in compliance with the European Assessment Document (EAD) N° 040007-00-1201 for "Thermal insulation products for buildings with radiant heat reflective components", November 2015).

Statement of dangerous substances:

According to the manufacturer's declaration taking account of EOTA TR 034, the product installed does not contain and release any dangerous substance.

3.1. Mechanical resistance and stability (BWR1)

Non applicable

3.2. Safety in case of fire (BWR2)

Reaction to fire	NPD (no performance determined)
Resistance to fire	Non applicable

3.3. Hygiene, health and the environment (BWR3)

Resistance to the growth of mould	Non applicable
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3.4. Safety and accessibility in use (BWR4)

Corrosion developing capacity Test according to ISO 9227, T3: "Corrosion tests in artificial atmospheres – Salt spray tests".	The test results concerning the measure of loss of mass and the visual check of the state of surface of the product show that there is no sensitive loss of material
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3.5. Protection against noise (BWR5)

Specific airflow resistivity	NPD (no performance determined)
Impact sound reduction	
Sound absorption	

3.6. Energy economy and heat retention (BWR6)

Core Thermal resistance Thermal core resistance : test according to EN 16012	
The fractile value of thermal resistance	$R_{(10^{\circ}\text{C}, 90/90)} = 1,50 \text{ m}^2.\text{K/W}^*$
Declared value of thermal resistance	$R_D = 1,50 \text{ m}^2.\text{K/W}^*$
Durability of thermal resistance against ageing/ degradation : test according to EN 16012	Thermal resistance taking into account the thermal resistance of air spaces don't affected by ageing of the low emissivity facing.
Emissivity : Test according to EN 16012	

Fractile value of emissivity :	$\varepsilon_{90/90} = 0,07$
Durability of emissivity : test according EN 16012 (70°C/90%HR during 28 days)	Difference between emissivity values : after and before ageing : $\Delta\varepsilon = 0$
Declared value of emissivity for both faces ε_D	$\varepsilon_D = 0,07$

* The declared value is representative for at least 90 % of the production with a confidence level of 90 % and applies to the above-named density range. For the admissible deviation of an individual value of the thermal festivity from the declared value the method described in EN 13172:2012, annex F, applies.

3.7. Characteristics relating to durability and suitability for use

Water vapour diffusion resistance Water vapour diffusion resistance Test according EN ISO 12572 ('wet' conditions)	$S_d = 360 \text{ m}$
Water absorption	No Applicable
Geometry Length, width and thickness Test according EN 16012	Length = 10 m -0 % +2 % Width = 1,50 m $\pm 1 \%$ Thickness = 50 mm $\pm 10 \%$
Mass per unit area / Mass per square metre Test according to EN 16012	755 g/m ² $\pm 10 \%$
Dimensional stability Test according to EN 1604 (48 h at (70 \pm 2)°C and (50 \pm 5)% relative humidity)	width : $\Delta\varepsilon_l < 1,5\%$ Length : $\Delta\varepsilon_b < 1,5\%$ Thickness : $\Delta\varepsilon_d < 1\%$
Tensile strength parallel to faces Test according to EN 1608	Initial $\sigma_t = 256 \text{ N/50 mm}$
	Ageing $\sigma_t = 275 \text{ N/50 mm}$ (28d, 70°C, 95%HR)
Peel Strength or mechanical resistance of adhesive tape Test according to EN ISO 11339 or EN 12316-2	Initial $F_p = 1,09 \text{ kN/m}$
	Ageing $F_p = 1,07 \text{ kN/m}$. (28d, 70°C, 95%HR)

3.8. Sustainable use of natural resources (BWR7)

For the sustainable use of natural resources no performance was investigated for this product.

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

In accordance with the European Assessment Document EAD 040007-00-1201, the applicable European legal act is: 1999/91/EC.

The system to be applied is: 3

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

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited with CSTB.

Issued in Marne La Vallée on 30/03/2017

By Charles BALOCHE,

Technical Director in CSTB

The original French version is signed