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Technical and Test Institute for Construction Prague, SOE

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Authorized Body 204
empowered by the Decision of COSMT No. 5/2017
Branch 0600 – Brno

issues

in accordance with the enactment of the Law No. 22/1997 Coll. on technical requirements for products and changes of and amendments to some laws as amended, and § 2 and § 3 of the Government Decree No. 163/2002 Coll. as amended by the Government Decree No. 312/2005 Coll. and by the Government Decree No. 215/2016 Coll.

NATIONAL TECHNICAL APPROVAL

No. 060-052906

construction product:

Thin aluminium composite sheets ACPas Bond

type / variant:

ACPas Bond FR, ACPas Bond A2

importer:

Dencop Lighting spol. s r.o.

INo: 25566130

Address: Tečovská 1122, 763 02 Zlín - Malenovice

Producer: ASATU

Plant: ASATU

Order: Z060210050

Authorized Body 204 attests by this National Technical Approval data about technical performance of the product in relation to its essential characteristics and methods of their tests in relation to the essential requirements listed in Annex 1 of Government Decree No. 163/2002 Coll. as amended by the Government Decree No. 312/2005 Coll. and by the Government Decree No. 215/2016 Coll.

National Technical Approval is the technical specification designed for conformity assessment of the product.

Number of pages of National Technical Approval incl. the cover page: 6

The person taking overall responsibility for the content of this Approval:

Ing. Eliška Zieglerová
Chief Assessor

The Approval is valid till: **August 31, 2024**

The person taking responsibility for correctness of this Approval:



Ing. Miroslav Procházka
Deputy Manager of the Authorized Body 204

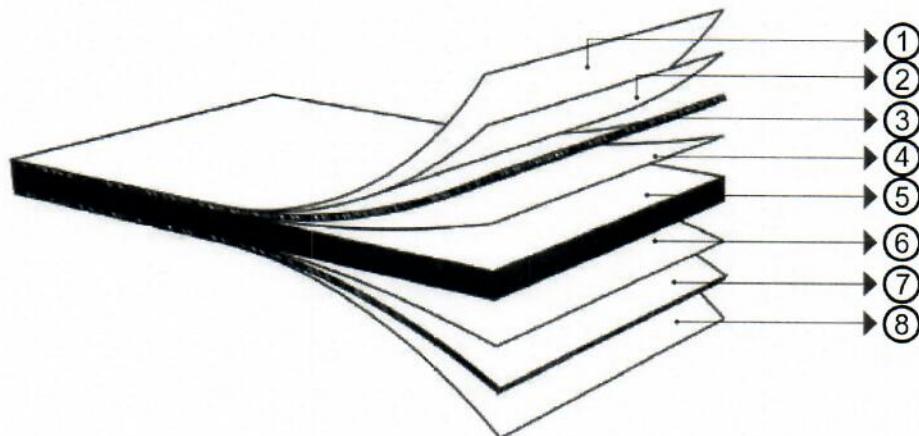
Brno, August 16, 2021

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1. DESCRIPTION OF THE PRODUCT AND ITS INTENDED USE IN A BUILDING

The ACPas Bond sheets are thin aluminium composite sheets, which are composed of two aluminium sheets with a thickness of 0,5 mm and a core with a thickness of 3 mm. the joining of aluminium sheets with the core is achieved by adhesives. The face side of the sheet is protected by PVDF varnish Kynar 500 (20+5 µm). The rear side of the sheet is treated with a protective primer. The ACPas Bond sheets can be bent and folded at partial milling.

The composition of thin aluminium composite sheets:



1	Protective film
2	Protective colour
3	Aluminium sheet, thickness 0,50 mm
4	Adhesive
5	Core
6	Adhesive
7	Aluminium sheet, thickness 0,50 mm
8	Protective colour

The core of thin aluminium composite sheets is composed of:

- ACPas Bond A2: mineral filler
- ACPas Bond FR: LDPE+AL(OH)

The thickness of sheets made of aluminium alloy EN AW-3105 / H46 is 0,5 mm. The total thicknesses of the ACPas Bond sheet:

- ACPas Bond A2: 4 mm
- ACPas Bond FR: 4 mm

According to the determination is made in the following classes of the reaction to fire:

Type of sheet	Class of reaction to fire
ACPas Bond A2	A2-s1,d0
ACPas Bond FR	B-s1,d0

The ACPas Bond sheets are used mainly as cladding elements of the façade system in a new and reconstructed building and as building fillings. They have very low weight, high stability, minimal thermal expansion, and resistance to weathering (resistance to UV radiation and temperatures from -50 ° C to +80 ° C).



2. PRODUCT CHARACTERISTICS AND METHODS THEIR ASSESSMENT

Table 1: Requirements with regard to observed properties of product in relation to basic properties

No.	Characteristic	Test Method	No. of samples		Required (R) / declared value (D)
			C/T	D	
1.	Reaction to fire <ul style="list-style-type: none"> • Non-combustibility • Gross heat of combustion • Ignitability • Thermal attack by single burning item 	ČSN EN ISO 1182, ed.2 ČSN EN ISO 1716 ČSN EN ISO 11925-2 ČSN EN 13823 ČSN EN 13501-1	1	--	D: Class of reaction to fire: <ul style="list-style-type: none"> • ACPas Bond A2 - A2-s1,d0 • ACPas Bond FR - B-s1,d0
2.	Tensile strength, yield strength, elongation, modulus of elasticity: <ul style="list-style-type: none"> • Core included • Without core 	ČSN EN ISO 527-1	5	--	D: Tensile performance core included: Tensile strength: <ul style="list-style-type: none"> • ACPas Bond A2: min. 48 MPa • ACPas Bond FR: min. 56 MPa Yield strength: <ul style="list-style-type: none"> • ACPas Bond A2: min. 37 MPa • ACPas Bond FR: min. 40 MPa Elongation: <ul style="list-style-type: none"> • ACPas Bond A2: 3,5 % – 5,6 % • ACPas Bond FR: 2,2 % – 2,7 % Modulus of elasticity: <ul style="list-style-type: none"> • ACPas Bond A2: min. 12,9 GPa • ACPas Bond FR: min. 13,7 GPa D: Tensile performance without core: Tensile strength: <ul style="list-style-type: none"> • ACPas Bond A2: min. 234 MPa • ACPas Bond FR: min. 189 MPa Yield strength: <ul style="list-style-type: none"> • ACPas Bond A2: min. 194 MPa • ACPas Bond FR: min. 119 MPa Elongation: <ul style="list-style-type: none"> • ACPas Bond A2: 1,9 % – 3,2 % • ACPas Bond FR: 0,6 % – 1,2 %
3.	Tensile strength perpendicular to the face	EAD 210046-00-1201, Annex A	5	--	D: Tensile strength perpendicular to the face: <ul style="list-style-type: none"> • ACPas Bond A2: min. 2,1 MPa • ACPas Bond FR: min. 7,0 MPa
4.	Bending strength / Flexural strength, modulus of elasticity: <ul style="list-style-type: none"> • Bending strength in four-point test arrangement • Flexural strength in three-point test arrangement (only strength) 	EAD 210046-00-1201, Cl. 2.2.4 ČSN EN 12467+A2	6	--	D: Four-point test arrangement: Bending strength: <ul style="list-style-type: none"> • ACPas Bond A2: min. 127 MPa • ACPas Bond FR: min. 117 MPa Modulus of elasticity: <ul style="list-style-type: none"> • ACPas Bond A2: min. 35 GPa • ACPas Bond FR: min. 32 GPa Three-point test arrangement The performance is not declared (NPD)
5.	Shear strength, modulus of elasticity	ČSN EN 12090	5	--	The performance is not declared (NPD)
6.	Thickness: <ul style="list-style-type: none"> • Total thickness • Thickness of skin 	ČSN ISO 13529 ČSN EN 485-1	5	--	D: Thickness <ul style="list-style-type: none"> • Total thickness: (4±0,2) mm • Thickness of skin: (0,5±0,02) mm



No.	Characteristic	Test Method	No. of samples		Required (R) / declared value (D)
			C/T	D	
7.	Apparent area density	ČSN EN 1602	5	--	D: Apparent area density • ACPas Bond A2: (8,1 – 8,3) kg/m ² • ACPas Bond FR: (7,2 – 7,4) kg/m ²
8.	Torque peel strength	EAD 090046-00-1201, Cl. 2.2.8	6	--	D: Torque peel strength • ACPas Bond A2: min. 31 N.m/m • ACPas Bond FR: min. 225 N.m/m
9.	Hard body impact resistance	ISO 7892 EAD 210046-00-1201, Annex C	3	--	D: min. 10 J – without failure
10.	Dynamic stiffness	ČSN ISO 9052-1	3	--	The performance is not declared (NPD)
11.	Coefficient of thermal conductivity	ČSN EN 12664	2	--	The performance is not declared (NPD)
12.	Durability / Resistance to aging: • Hygrothermal cycles (8x 90°C/90% RH /-40 °C • Immersion in water 90°C/6h • Immersion in water 20°C/500h • Freeze-thaw cycles (50x -15°C/+15°C • Long term exposure to heat (80°C/2500h)	EAD 210046-00-1201, čl. 2.2.12	6	--	D: Decrease of torque peel strength after individual type of conditioning (aging) by max. 20 % compared to reference test specimens
13.	Creep tests	EAD 210046-00-1201, Annex D	3	--	The performance is not declared (NPD)
14.	Sustainable use of natural resources	ČSN ISO 14025	--	--	The performance is not declared (NPD)

Note: C – certification of product (§ 5, § 5a or § 10), T – verification of product conformity (§ 7), S – surveillance over certified product (only § 5 or § 10)

3. CONTROL OF PRODUCT

The requirements for system of product control are given in Table 2.

Table 2: Requirements for the product control by the importer

No.	System management area	Requirements
1	Inspection and testing	The Importer has product control procedures to allow only products that conform to the technical specification to be placed on the market. Inspection of the product is provided in accordance with these procedures. Inspectors meet the specified qualification requirements and the Importer keeps a record of this. Records proving that the product has been inspected or tested are acquired and retained. Records of complaints are kept. For the testing of products, the importer has determined gauges subject to verification or calibration, keeps their registration, ensures their correct condition and has gauges validly verified or calibrated.
2	Storage facilities and manipulation equipment	The Importer shall have the necessary space for the storage and handling of products, including storage facilities, and shall ensure their correct condition.
3.	Technical performances of the products	The Importer has a detailed description of the technical performances of the product and has a method of its use in construction.
4	Instruction for use of product	The Importer has instructions for use and maintenance of the product in Czech language.



4. LIST OF DOCUMENTATION PROVIDED BY THE IMPORTER

- Application for performance of activity of authorized body No. Z060210050, dated 24.3.2021
- Technical data sheet of thin aluminium composite sheets

5. LIST OF THE USED TECHNICAL REGULATIONS AND SPECIFICATIONS AND OTHER DOCUMENTATION

- Act No. 22/1997 Sb. on Technical Requirements for Products and on Amendments to Some Acts
- Government Decree No. 163/2002 Sb., on the Technical requirements for selected construction products, as amended by Government Decree No. 312/2005 Sb. and the Government Decree No. 215/2016 Coll.
- ČSN EN 485-1 Aluminium and aluminium alloys - Sheet, strip and plate - Part 1: Technical conditions for inspection and delivery
- ČSN EN 1602 Thermal insulating products for building applications - Determination of the apparent density
- ČSN EN 12090 Thermal insulating products for building applications - Determination of shear behaviour
- ČSN EN 12467+A2 Fibre-cement flat sheets - Product specification and test methods
- ČSN EN 12664 Thermal performance of building materials and products - Determination of thermal resistance by means of guarded hot plate and heat flow meter methods - Dry and moist products of medium and low thermal resistance
- ČSN EN 13501-1 Fire classification of construction products and building elements - Part 1: Classification using test data from reaction to fire tests
- ČSN EN 13823 Reaction to fire tests for building products - Building products excluding floorings exposed to the thermal attack by a single burning item
- ČSN EN ISO 527-1 Plastics - Determination of tensile properties - Part 1: General principles
- ČSN EN ISO 1182, ed. 2 Reaction to fire tests for products - Non-combustibility test
- ČSN EN ISO 1716 Reaction to fire tests for products - Determination of the gross heat of combustion (calorific value)
- ČSN EN ISO 11925-2 Reaction to fire tests - Ignitability of products subjected to direct impingement of flame - Part 2: Single-flame source test
- ČSN ISO 9052-1 Acoustics - Determination of dynamic stiffness - Part 1: Materials used under floating floors in dwellings
- ČSN ISO 14025 Environmental labels and declarations - Type III environmental declarations - Principles and procedures
- ČSN ISO 23529 Rubber - General procedures for preparing and conditioning test pieces for physical test methods
- ISO 7892 Vertical building elements – Impact resistance tests – Impact bodies and general test procedures
- EAD 210046-00-1201 Thin metal composite sheet
- N 11_04_16 Thin metal composite sheets

6. VERIFICATION TESTS

No verification tests have been performed in order to compile this National Technical Approval.



7. DETAILED REQUIREMENTS FOR CONFORMITY ASSESSMENT

The thin aluminium composite sheets ACPas Bond are included in Annex 2, product group No. 11, item 4, of the Government Decree No. 163/2002 Coll., as amended by the Government Decree No. 312/2005 Coll. and by the Government Decree No. 215/2016 Coll., and the prescribed conformity assessment system complies with § 7 of the above mentioned Decree.

The Importer ensures the control of product accordance with the requirements of point c), Article 1, § 7 of the said Decree.

