EFIGREEN ALU+

EFIGREEN ALU+ is a rigid polyisocyanurate foam (PIR) thermal insulation board for the building, coated with facings on both sides.

User application

EFIGREEN ALU+ is used for the thermal insulation of waterproofed roofs terraces as non load-bearing thermal insulation panel, support for waterproofing system:

- Loose laid under heavy protection,
- Self-protected, semi loose laid with self-adhesiveness or with mechanical fasteners,
- Self-protected, fully welded on an upper layer of expanded perlite board (fibered).

Composition

	EFIGREEN ALU+
Rigid polyurethane foam	Beige colour
Facing	Multilayer

Packaging

		EFIGREEN ALU+
Dimensions	Length x width	600 mm x 600 mm
	Thickness	Refer to ACERMI* certificate
		Straight edge panel
Packaging		Panels are packed on non-stackable wrapped pallet
Marking		Each package is CE labelled
Storage		On flat support, away from weather Any colour change of the foam does not affect product performance

* ACERMI: French association for certification of insulation materials

ACERMI certificate no 15/006/1093
Certified thermal conductivity:

	Thermal resistance										
Thickness (mm)	30	35	40	45	50	55	60	66	70	75	80
R (m².K/W)	**1.30**	**1.50**	**1.80**	**2.05**	**2.25**	**2.50**	**2.75**	**3.00**	**3.20**	**3.40**	**3.65**
Thickness (mm)	85	90	95	99	100	105	110	115	120	125	130
R (m².K/W)	**3.85**	**4.10**	**4.35**	**4.50**	**4.55**	**4.80**	**5.00**	**5.25**	**5.50**	**5.70**	**5.95**
Thickness (mm)	133	135	140	145	150	155	160				
R (m².K/W)	**6.10**	**6.15**	**6.40**	**6.65**	**6.85**	**7.10**	**7.30**				

SOPREMA SAS with a Capital of 50 000 000 € - Headquarter: 14 rue de Saint-Nazaire – 67100 STRASBOURG – FRANCE Postal adress: CS 60121 - 67025 STRASBOURG CEDEX. RCS STRASBOURG: 314 527 557.SOPREMA reserves the right to amend the composition of its material and consequently their prices, without prior notice. For this reason, all orders will be accepted only in accordance with the conditions and technical specifications in force at the date of order.
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Characteristics - CE marking

EFIGREEN ALU+ is a rigid insulation panel for building and complies with EN 13165 “Factory made rigid polyurethane foam (PU) products”.

Essential characteristics	**Performances**		**Harmonised Technical Specification**
Thermal conductivity – λ_D (W/(m.K))	**0.023**	**0.022**	**EN 13165: 2012 + A2:2016**
Thickness – d (mm)	**from 30 to 35**	**from 40 to 160**	
Thermal resistance – R_D (m².K/W)	**1.30 to 1.50**	**1.80 to 7.30**	
Thickness tolerance	**T2**		
Reaction to fire	**NPD**		
Durability of reaction to fire against heat exposure, weathering, ageing/ degradation	**(a)**		
Thermal resistance durability against heat exposition, weather conditions, aging/ and damage Durability characteristics	**NPD**		
Dimensional stability	**NPD**		
Deformation under specified compressive load and temperature conditions	**NPD**		
Determination of thermal resistance and thermal conductivity values after ageing	**(b)**		
Compressive strength	**CS(10\Y)200**		
Tensile strength	**TR150**		
Durability of reaction to fire against heat exposure, weathering, ageing/ degradation Compressive creep	**NPD**		
Water permeability			
Short term water absorption	**WS(P)0.2**		
Long term water absorption	**NPD**		
Flatness after partial immersion	**NPD**		
Water vapour transmission	**NPD**		
Acoustic absorption	**NPD**		
Release of dangerous substances inside buildings	**(c)**		
Continuous glowing combustion	**(c)**		

(a): Polyurethane fire resistance does not degrade with time.
(b): Any variation of thermal conductivity and thermal resistance is processed and taken in account in the declared values (Annex C for thermal conductivity and dimensional stability for the thickness).
(c): European test methods are ongoing.

Additional characteristics	**Performances**	**Test method**
Useful dimensions Length Width	**600 ± 3 mm** **600 ± 3 mm**	**EN 13165:2012 +A2:2016**
Thickness	**30 to 160 ± 2 mm**	
Squareness	**≤ 3 mm/m**	

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Characteristics (off CE marking)

Characteristics	Performances	Test method
Compressibility classification at 80°C under 40 kPa	**C**	**UEAtc guideline** § 4.51 (CSTB book 2662-v2)
Curving under thermal gradient	**≤ 3 mm**	**UEAtc guideline** § 4.32 (CSTB book 2662-v2)
Dimensional variation in the free state of deformation at 23°C after stabilization at 80°C	**≤ 0,3 %**	**UEAtc guideline** § 4.31 (CSTB book 2662-v2)
Service critical resistance Service deformation	**1 layer:** **Rcs mini = 100 kPa** **ds mini = 1.3% ; ds max = 2 %**	**CSTB guideline 3230-v2**

ACERMI certificate	**15/006/1093**

Installation

EFIGREEN ALU+ boards are laid as non load-bearing thermal insulation panels, support for waterproofing systems:

- Loose laid under heavy protection,
- Self-protected, semi loose laid with mechanical fasteners or self-adhesiveness,
- Self-protected, fully welded on an upper layer of expanded perlite (fibered).

EFIGREEN ALU+ is laid in 1 or 2 layers up to 240 mm for a bituminous or synthetic waterproofing system in compliance with the requirements of the Technical Approval “EFIGREEN ALU +” n°5/16-2611.

EFIGREEN ALU+ can also be mechanically fastened in compliance with the specifications of the Technical Guideline “Efigreen fixé mécaniquement” n°DT-20/006_FR:

- In 1 layer up to 160 mm or in two layers up to 320 mm,
- In combination with an optional heat shield composed of expanded perlite (fibered) FESCO or with mineral wool with a maximum thickness of 100 mm.

Special indications

Hygiene, health and environment:

EFIGREEN ALU+ is not classified as dangerous according to French and European regulations.

About product losses or batch remains: non-hazardous waste, not inert - reuse, incineration in Authorized Installation or stockpiled in an installation for Storage of Non-Hazardous Waste (ISDND: Dumps of class II).

The product has an Environmental and Health Declaration Sheet (FDES in french) for some thicknesses.

Traceability:

Product traceability is ensured through a manufacturing code: CCC/YY/HH/MM/N/ACERMI
Calendar day / Year / Hour / Minute / Production site marker/number of ACERMI certificate.

QSE integrated system:
The product is manufactured and applied under an integrated management of the **Quality (ISO 9001)**, **Environment (ISO 14001) and Health-Security (OHSAS 18001) certified.**

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