

# EFIGREEN ALU+

**EFIGREEN ALU+** is a rigid polyisocyanurate foam (PIR) thermal insulation panel for the building, coated with a facing on each of its sides.

## User application

**EFIGREEN ALU+** is intended for the thermal insulation of waterproofed roofs as non-bearing thermal insulation panel, support for self-protected waterproofing system:

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

## Composition

		<b>EFIGREEN ALU +</b>
Rigid polyurethane foam		Beige colour
Facing		Multilayer

## Packaging

		<b>EFIGREEN ALU+</b>
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 changes of the foam does not affect product performances
* ACERMI: French association for certification of insulation materials		

## 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 – $\lambda_D$ (W/(m.K))	<b>0,023</b>	<b>0,022</b>	<b>EN 13165 : 2012 + A1:2015</b>
Thickness – d (mm)	<b>30-35</b>	<b>40-160</b>	
Thermal resistance – $R_D$ (m <sup>2</sup> .K/W)	<b>1,30-1,50</b>	<b>1,80-7,25</b>	
Thickness tolerance	<b>T2</b>		
Reaction to fire	<b>NPD</b>		
Durability of reaction to fire against heat exposure, weathering, ageing/ degradation	<b>(a)</b>		
Thermal resistance durability against heat exposition, weather conditions, aging/ and damage	<b>NPD</b>		
Durability characteristics			
Dimensional stability			
Deformation under specified compressive load and temperature conditions			
Determination of thermal resistance and thermal conductivity values after ageing	<b>(b)</b>		
Compressive strength	<b>CS (10\Y) 200</b>		
Tensile strength	<b>TR150</b>		
Durability of reaction to fire against heat exposure, weathering, ageing/ degradation	<b>NPD</b>		
Compressive creep			
Water permeability	<b>WS(P)0,2</b>		
Short term water absorption			
Long term water absorption			
Flatness after partial immersion	<b>NPD</b>		
Water vapour transmission	<b>NPD</b>		
Acoustic absorption	<b>NPD</b>		
Release of dangerous substances inside buildings	<b>(c)</b>		
Continuous glowing combustion	<b>(c)</b>		

(a) No fire reaction properties variation for the polyurethane products with time.

(b) Any variation in thermal conductivity and thermal resistance is treated and taken into account in the declared values. (Annex C for thermal conductivity and dimensional stability for the thickness).

(c) European test methods are on-going.

Additional characteristics	Performances	Test method
Useful dimensions	Length	<b>EN 13165: 2012+A1:2015</b>
	Width	
Thickness	<b>30 to 160 ± 2 mm</b>	
Squareness	<b>≤ 3 mm/m</b>	

## Characteristics (off CE marking)

Characteristics	Performances	Test method
Compressibility classification at 80°C under 40 kPa	<b>C</b>	<b>UEAtc guideline § 4.51</b> (CSTB 2662-v2)
Curving under thermal gradient	<b>≤ 3 mm</b>	<b>UEAtc guideline § 4.32</b> (CSTB 2662-v2)
Dimensional variation in the free state of deformation at 23°C after stabilization at 80°C	<b>≤ 0,3 %</b>	<b>UEAtc guideline § 4.31</b> (CSTB 2662-v2)
Service critical resistance Service deformation	<b>1 layer:</b> <b>Rcs mini = 100 kPa</b> <b>ds mini = 1,3% ; ds max = 2 %</b>	<b>CSTB guideline 3230-v2</b>
<b>ACERMI certificate</b>		<b>n° 15 / 006 / 1093</b>

## Installation

**EFIGREEN ALU+** panels are laid as non-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 a 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 +".

## Special indications

### Hygiene, health and environment:

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

For further information, please refer to relevant Safety Data Sheet, including precautions to take in case dusts or machining operations.

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 present on the packaging :  
CCC/YY/HH/MM/N/ACERMI  
Calendar day / Year / Hour / Minute / Production site marker/number of ACERMI certificate

### QSE integrated system:

**SOPREMA** has always attached the highest importance to the quality of its products, to the respect of environment and men.

For this reason, we apply an integrated management of the **Quality (ISO 9001)**, **Environment (ISO 14001)** and **Health-Security (OHSAS 18001)** certified.