

EFISOL

Solutions for thermal insulations



Polyurethane based
thermal insulation
under waterproofing membrane
for self protected
flat roof

efigreen alu

SOPREMA
GROUP

lightweight, effective and strong



EFIGREEN ALU IS INTENDED TO NEW FLAT ROOFS OR RENOVATION.

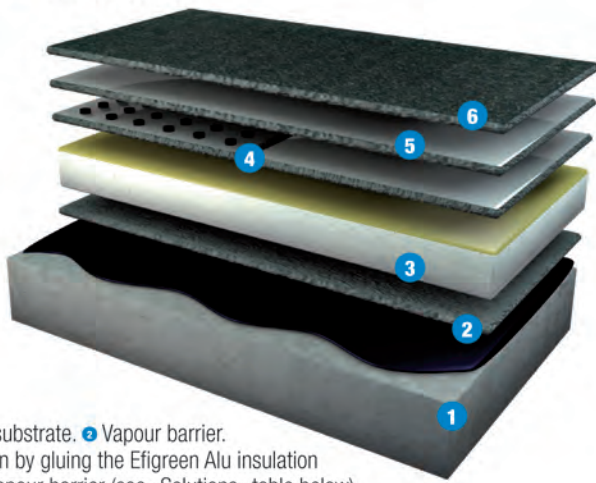
efigreen alu

Non-accessible, ballasted technical flat roofs, including aerial work platform runways accessible to pedestrian traffic and including surfaces protected by tiles on pedestals, roof gardens and green flat roofs, in plain and mountain climates.

Nature of the substrate:

- Masonry with a slope of 0 to 5
- Wood and wood derivative panels with a slope of 1 to 5 %.
- Aerated concrete*





- ❶ Concrete substrate.
- ❷ Vapour barrier.
- ❸ Application by gluing the Efigreen Alu insulation onto the vapour barrier (see «Solutions» table below).
- ❹ Semi-loose membrane (VV 50, perforated membrane or according to the DTA for the waterproofing membrane).
- ❺ Waterproofing membranes, FIT classification (I3).



SOLUTIONS			
Semi-loose		Self-adhesive	Mechanical fastening
Multi-layer membranes Class I3		Multi-layer membranes Class I3	Multi-layer membranes - Class I3 See the AT for the membrane
Dabs of hot applied adhesive	Hot applied adhesive	Self-adhesive waterproofing membrane	
WV50	Perforated membrane	Fixed with hot applied adhesive with cold-applied adhesive or mechanical fastening	Fixed with hot applied adhesive
Fixed with hot applied adhesive with cold-applied adhesive or mechanical fastening			
Cold applied adhesive + Hot applied adhesive + 36 S + Hot or cold applied adhesive + Screed 40			

the benefits

TECHNICAL DATA

INSULATION

Proprieties	Value	Unit	Standard
Thermal Conductivity (λ_p)	0.023	W/(m.K)	ACERMI

DIMENSIONS

lght. (mm)	Wdth. (mm)	Thickness (mm)								
		30	40	50	60	70	80	90	100	120
600	600									

Colour of foam: cream (colour not contractually binding).
 Marking of panels: on edge.
 Packaging: plastic stretch film.
 Storage: out of the rain and sunlight.



THERMAL PERFORMANCES

Thermal resistances										
Thickness	30	40	50	60	70	80	90	100	120	
R_D (m ² K/W)	1.25	1.70	2.15	2.60	3.05	3.45	3.90	4.35	5.20	
RT 2005 solutions										

ABSOLUTE COMPACTION

Load	Thickness								
	1 layer	1or 2 layers	1or 2 layers	1or 2 layers	1or 2 layers	2 layers	2 layers	2 layers	2 layers
	30 mm	60 mm	80 mm	100 mm	120 mm	140 mm	180 mm	200 mm	240 mm
4.5 kPa	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	0.2	0.2	0.2
20 kPa	< 0.2	0.2	0.3	0.3	0.4	0.4	0.5	0.6	0.7
30 kPa	0.2	0.3	0.4	0.5	0.6	0.6	0.8	0.8	1.0
40 kPa	0.2	0.4	0.5	0.6	0.7	0.8	1.0	1.1	1.3
60 kPa	0.3	0.6	0.7	0.9	1.1	1.2	1.5	1.6	1.9

An effective & extremely reliable insulation

SPECIFICATIONS

Characteristics	Values specified	Units	Standards and references	
Weight	<ul style="list-style-type: none"> Net core density Mass of facing 	<p>32.5 ± 2.5 ≥ 180</p>	<p>kg/m³ g/m²</p> <p>EN 1602</p>	
Dimensions	<ul style="list-style-type: none"> Length x Width thickness 	<p>600 x 600 ± 3 30 à 120 ± 2 in steps of 10</p>	<p>mm mm</p> <p>EN 822 EN 823</p>	
	<ul style="list-style-type: none"> Factory flatness 	≤ 3	mm UEAtc guide	
Mechanical	<ul style="list-style-type: none"> Compressive stress for 10% compression 	≥ 200	kPa EN 826	
	<ul style="list-style-type: none"> Compressibility class (40 kPa at 80°C) 	Class C	UEAtc guide	
	<ul style="list-style-type: none"> Perpendicular tensile breaking stress 	≥ 150 C	kPa EN 1607	
	<ul style="list-style-type: none"> Critical service strength 	Rcs mini = 0.10 (1 layer)	MPa	NF P 10-203 (DTU 20.12) and CSTB Notes 3230_V2 November 2007
		Rcs mini = 0.09 (2 layers)		
<ul style="list-style-type: none"> Deformation in service (ds) 	ds mini 1.0 ds max 1.8 (1 layer)	%		
	ds mini 1.0 ds max 1.9 (2 layers)			
Stabilité dimensionnelle	<ul style="list-style-type: none"> Residual dimensional variation at 20°C after stabilisation at 80°C 	≤ 0.3	%	
	<ul style="list-style-type: none"> Residual dimensional variation at 20°C after stabilisation at 70°C 95% RH on panels 600 x 700 x e 	≤ 0.5	%	Durée 7 j à 70°C 95 % HR + 24 h à 23°C
	<ul style="list-style-type: none"> Bending under the influence of temperature gradient 80°/20°c 	≤ 3	mm	UEAtc guide
Hygrothermiques	<ul style="list-style-type: none"> Vapour transmission rate of one facing only 	≤ 5	g/m ² .24 h	ISO 2528 (38°C/ 90% RH)

specifications

OTHER CHARACTERISTICS

Characteristics	Indicative values	Units	Test conditions
Mechanical	<ul style="list-style-type: none"> Apparent modulus of elasticity under compressive load 	8 000 to 10 000	kPa EN 826
	<ul style="list-style-type: none"> Compressive stress at linearity threshold 150 kPa EN 826 at 20°C 	150	kPa EN 826 à 20°C
Hygrothermal	<ul style="list-style-type: none"> Absorption of water by immersion 	1	g/100 cm ³ Immersion bare foam - 2 days at 20°C
	<ul style="list-style-type: none"> Water vapour permeance of 60 mm panel 	1	g/m ² .24h 38 ± 2°C - 90 ± 5 % HR
Dimensional stability	<ul style="list-style-type: none"> Volume variation 	0.7	% 70 ± 2°C - 90 ± 5% hr - after 7 days
	<ul style="list-style-type: none"> Residual volume variation at 20°C after conditioning 48 hrs at - 30°C 	1	% NF T 56-122

Laying the insulation	Waterproofing membrane				
	Semi-loose			Mechanically fastened	Loose laid under hard and loose ballast
	dabs of hot applied adhesive on W 50 (1)	glued with hot applied adhesive onto perforated membrane (1)	by self-adhesion		
Glued with hot applied adhesive	max. slope 5 %	max. slope acc. to AT	without exceeding 100 % wind zone acc. to AT	not proposed	DTU 43.1 and 43.4 all zones and windy sites
Glued with cold applied adhesive	not proposed	not proposed	wind zone acc. to AT max. slope acc. to AT without exceeding 20 %	wind zone acc. to AT max. slope acc. to AT without exceeding 20 %	max. slope acc. to DTU 43.1 and 43.4 all zones and windy sites
Mechanically fastened	max. slope 5 %	max. slope acc. to AT	wind zone acc. to AT max. slope acc. to AT without exceeding 20 %	pende max. selon AT sans dépasser 100 % zone de vent selon AT	not proposed
Loose	not proposed	not proposed	not proposed	not proposed	max. slope acc. to DTU 43.1 and 43.4 all zones and windy sites see our AT

EFIGREEN ALU consists of:

- 1 - An HCFC/HFC-free polyurethane foam
- 2 - Covered on both sides with a multi-layer facing



the benefits

+ reasons
to choose

Efigreen Alu

Facing: multi-layer

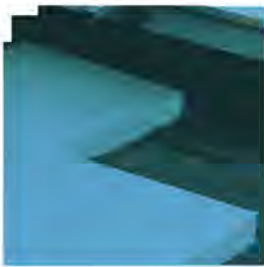
High mechanical resistance
($R_c > 200$ kPa)
Class C

Excellent insulating capacity
 $D = 0.023$ W/(m.K)

Excellent dimensional stability,
Maintains insulation performance over time.

In the event of occasional or accidental traffic, **its high mechanical resistance reduces the risk of compaction** of the insulation and damage to the waterproofing layer.

For the same thickness, **Efigreen Alu provides unequalled thermal performance.** for the same thermal resistance, its thickness and weight are the lowest on the market: easier handling, time saved on installation, lower upstand height.



EFISOL by SOPREMA at your service

Looking for a sales contact in order to discuss a future project or a project that is under way? Any questions about the implementation of our product range?

Contact SOPREMA Export Department

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