



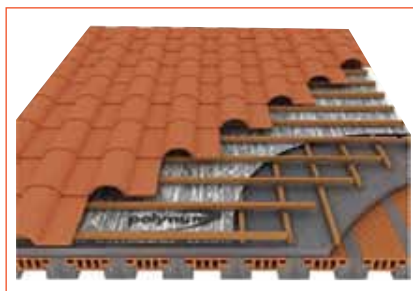
Reflective Insulation

SIMBA Polynum products are manufactured of pure aluminium foil bonded to Polyethylene bubble sheeting. SIMBA Polynum's unique design outperforms all mineral based insulation materials, reflecting 97.4% of radiated heat and saving heating costs in winter and cooling costs in summer. The easy-to-install and maintenance-free SIMBA Polynum product line comprises SIMBA Polynum One and SIMBA Polynum Super.

Simba Polynum reflective sheet is thin (4mm to 16mm), light-weight, non toxic and safe to use under all conditions.

It requires no wire mesh or attachment devices.

It is condensation free, bacteria free, fungi free and corrosion free. SIMBA Polynum is warranted for 15 years.



Multiple applications for all your needs

The SIMBA Polynum family is widely used to aid climate control in pitched and tile-roofed houses, flat-roofed commercial and industrial buildings, in community buildings such as schools and arenas and in livestock structures.

SIMBA Polynum products can be applied in

conjunction with tiles or metal roof, brick or plaster walls, under floors or above ceilings. Whether for new construction, renovation, home improvement or even restoration, there's a SIMBA Polynum energy-saving product that meets your needs.



Thermal reflective insulation made of ONE external pure aluminium foil layers covering a single core layer of polyethylene bubble film.



Thermal reflective insulation made of TWO external pure aluminium foil layers covering a single core layer of polyethylene bubble film.

Technical Specifications

				
Property	Units	Dir	Value Regular Reinforce (AN)	Value Regular Reinforce (AN)
Nominal thickness	mm		4.0	3.8
Emmissivity (ASTM C 1371)			0.05	0.05
Reflectivity (ASTM C 1371)			0.95	0.95
Heat resistance (R)-under roof	M ² °C/W	DOWN	1.54	2.98
Noise Reduction Coefficient (ASTM E-384)	%		54%	54%
Tensile strength @peak (ASTM C-1336)	g/cm-width	MD	2500 4480	2200 5800
		TD	2400 5000	2500 7100
Elongation @peak (ASTM C-1136)	%	MD	18.7 15.0	18.7 15.0
		TD	12.0 10.0	100 10.0
Tear strength (ASTM D-1938)	N	MD	13.0 20.0	11.0 22.0
		TD	15.0 20.0	15.0 20.0
Puncture resistance (TAPPI T 803)	Joule		3.5 5.3	3.5 5.3
Classement de Reaction Au Feu***			M1	M1
* Classification of Reaction to Fire** (EN 13501-1:2002)			Euroclass B-s2,do	Euroclass B-s2,do
* Water Vapor Transmission (ASTM E-96)	g /ft ² -hr		0.018 (method A)	0.018 (method A)
Fungal Resistance Test (ASTM C 1338)			No fungal growth	No fungal growth
Corrosion Resistance (Internal Test)	Conc.HCL		High Resistance*	High Resistance*
Yield (nominal)	g/m ²		230 249	225 240
Standard Roll Size	mxm W= 1.2 metres		L= 60 metres	Coverage 72 sq. mtrs
Standard Roll Weight (Gross)	kg		± 18.4	±13.5

All products are supplied with high resistance (H.R.) Treatment against corrosion as standard.

** Tested in accordance to the new European Community standard by WFR (Report Ref.E141990)

*** Based on proces verbal No. 10512-02 by SNPE Propulsion - Laboratoire d'Essais au Feu



Certificates and Approvals

CERTIFICATION	COUNTRY	STANDARD	TEST RESULT	CERTIFICATION BODY
Quality Management System	International	ISO 9001:2000	Comply	
Product Safety in Food Packaging Applications	International	HACCP	Comply	
	U.K	BRC/IOP	Comply	
FIRE SAFETY	United States	ASTM E 84 Equivalents: UL 723 Ansi/NFPA#255 UBC No. 8 FMVSS 302	Class A (Equiv. Class 1) Flame spread= 0 mm/min	SGS U.S. Testing Company Inc. Standard Institution of Israel
	Japan	ISO 5660	non-combustible	General Building Research Corp. of JAPAN Officially approved By the Ministry of land, Transport and Infrastructure
	European Union	EN 13501-1:2000	B-s2, d0	Warrington Fire Research Centre Ltd. - U.K
	France	NFP 92-507	M1	SNPE- Laboratoire d'Essais au Feu - France
	Spain	UNE 23-727-90	M1	CIDEMCO-Spain
	Germany	DIN 4102	B1	HT Troplast AG- Germany
	U.K.	BS 476:Part 7	Class 1	Warrington Fire Research & Standards Board
	Singapore	BS 476:Part 7	Class 1	Singapore Productivity & Standards Board
		BS 476:Part 6	Class 0	(PSB Corporation)
	Australia	AS 1530 Part 3	Zero all categories	APL, Applied Physics Laboratories, New Zealand
ASBESTOS FREE	International	x-ray diffraction method RTM- 2 (AIA) -	No asbestos fibres identified No asbestos Fibres found	Ministry of National infrastructures, Geological Institute "Millennium Hygiene"- Environmental measurement
THERMAL RESISTANCE MEASUREMENT	United States	ASTM C 236	1.567 m ² °C/W	Celotex Corporation Testing Services, U.S.A.
	European Union	DIN 52.611	1.801 m ² °C/W	CIDEMCO -Spain
	Korea	KS F 2273	1.695 m ² °C/W 3.550 m ² °C/W (multiple layers)	Fire Insurance Laboratories of Korea [FILK]
	United States	ASTM C 236	R = 21 Btu in*/(hr*ft ² °F)	Geo Science Laboratory, San Diego, California
THERMAL CONDUCTIVITY	International	ASTM C 177 ISO 2582	-0.04 W/m ² °C	Standards Institution of Israel
Emmisivity	Singapore	ASTM C 1371	0.04	Singapore Productivity & Standards Board (PSB Corporation)
Reflectivity			96%	
Emmisivity			0.03%	
Reflectivity			97%	
Moisture Barrier	United States	ASTM E 96	0.018 perm	SGS U.S. Testing Company Inc.
Mold Resistance	United States	ASTM C 1338	No fungal growth	
Thermal Stability Tests	United States	ASTM D 1204	< 0.25% change	Technion Research & Development Foundation Ltd.
		ASTM C 1263	No Cracks / No delamination	
TECHNICAL APPROVALS	Poland	AT-15-5167/2002	Approved	Instytut Techniki Budowlanej
	Spain	DIT	Approved	Instituto Eduardo Torroja de Ciencias de la Construcción
	Australia	AS/NZS 4859.1:2002	Approved	JMF, Australia
	United States	AS/NZS 4859.1:2002	Approved	R&D Services, U.S.A.

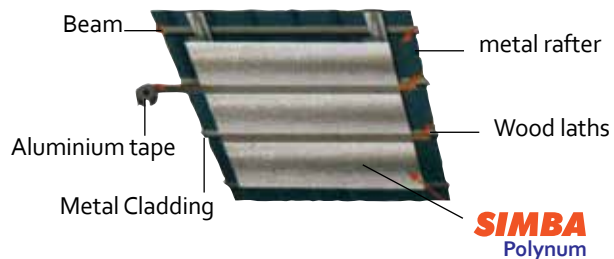
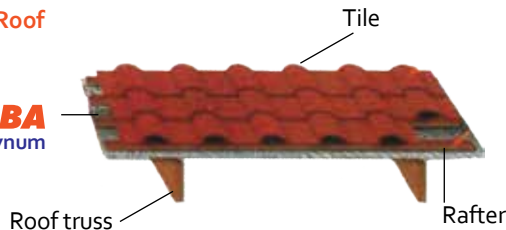
DISCLAIMER: The information contained in this Technical Data Sheet is the result of extensive laboratory testing performed on our products during standard production. The values given here are typical average values and are believed to be correct to the best of our knowledge, but users should not rely on them absolutely and must confirm their validity and suitability in each particular case. Polynum makes no guarantee of results and assumes no obligation or liability in connection with this advice.



Installation Guidelines

New Roof

SIMBA
Polynum



Metal Roof

SIMBA

Insulation is an ideal partner to metal roof (GI) sheets. For nice and clean look, POLYON has developed easy yet effective installation method.

Step 1:

Stretch GI made metal strip across the trusses. Strips shall be installed 1.17m to 1.20m apart, under the upcoming **SIMBA Polynum** overlapping line

Step 2:

Starting from trusses' edge, using self-tapping metal screws, attach **SIMBA Polynum** insulation and lay across the trusses.

Step 3:

Attach available metal connectors, or clip lock row on top of **SIMBA Polynum** insulation using self tapping metal screws (following manufacturer instructions)

Step 4:

Laying roof sheets as usual. Secure roof sheets following roof manufacture instructions

