

POLYNUMTM Ultra



Specification

Product	PolynumTM Ultra
Thickness	16mm
Roll Dimensions	24m ² Roll
Roll Diameter	1.20m x 20m
Roll Weight	550mm
	9kg



OR



Technical Specification

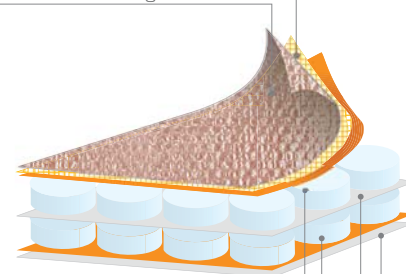
Properties	Results	Test Method
Basic Characteristics		
Side 1; Reflective Performance (Copper)	95% (E=0.05)	ASTM-E408
Side 2; Reflective Performance (Silver)	97% (E=0.03)	ASTM-E408
Material Thermal Resistance	0.410m ² K/W	ASTM C 518
Vapour Transmission	0.018 perms	ASTM E96 method A
Product Stability		
Dry Delamination	PASS	AS/NZS 4201.1 Method 1
Wet Delamination	PASS	AS/NZS 4859.1 Appendix 1
Surface Corrosion	PASS	AS/NZS 4859.1 Appendix 1
Tensile Strength	9.7kg / cm ²	AS 1301.448s-1991
Fungal Growth	Nil	ASTM C 1338
Thermal Stability	< 0.30	ASTM D 1204
Product Safety		
Fire - BCA Classification	Group 1	AS/NZS 3837:1998
Fire - Flammability Index	2-3	AS/NZS 1530.2
Fire - Ignitability Index	0	AS/NZS 1530.3
Fire - Spread of Flame Index	0	AS/NZS 1530.3
Fire - Heat Evolved Index	0	AS/NZS 1530.3
Fire - Smoke Developed Index	2-3	AS/NZS 1530.3
Thermal Performance		
R-Value Calculations	James Fricker	AS/NZS 4859.1/Amdt 1 2006

- A patented multi foils product with **PolynumTM** special high performance copper color antiglare with an optional reinforcing net for extra strength
- A patented internal reflection mechanism to minimize heat transfer for both, heat flow up and down
- An exceptional high internal (material) R value, with **PolynumTM** excellent reflecting (up to 97%) external and internal aluminium surfaces
- Significantly lowers the use of energy in buildings. Help to achieve 6 star rating in residential buildings
- Delivers easy, cost effective BCA Section J solutions for roofs, ceilings, walls and floors
- Up to 24m² per 550mm diameter roll. Light weight, easy to handle, save time and work when installing
- Safe to handle, pose no health hazard to installers or users, 15 years warranty
- Water proof, not affected by moisture, no fungi or bacterial growth and fibre free
- Glue free manufacturing process, avoiding ozone depleting substances, certified by Ecospecifier
- Exceptional fire safety qualities including safe fire retardant additives and non dripping technology
- Exceeds Building Code of Australia certification benchmarks and mandatory Australian Standards

Structure of insulation

Optional Reinforcing Net

High Pure Low-E Copper Color Aluminium Foil Facing



Thermally Insulating Big Air-Bubble Layer

High Pure Low-E Aluminium Facing

Fire-Retardant formulated

Polynum products are designed and manufactured under control of a Quality Management System, which meets the requirements of ISO 9001 : 2008 as certified by:



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 C.L.P. INSULATION LTD.** makes no guarantee of result.

POLYNUMTM Ultra



Product Description

PolynumTM Ultra A patented multi pure aluminium foils incorporated onto double 8mm thermo cellular (Fire Retardant) polyethylene bubbles, with a unique internal reflection mechanism in each bubbles structure, with high performance copper aluminium foil on top side, and silver aluminium foil on bottom side. Optional: 18 microns aluminium and reinforced net.

Both, external and internal aluminium surfaces with and without copper antiglare, reflecting 95% and 97% of radiant heat respectively. **PolynumTM Ultra** products are made of a unique Foil-bubbles-Foil-bubbles-Foil structure providing a built-in HIR (High Internal Reflection) with the aim to minimizing Radiation, Conduction and Convection heat transfer. **PolynumTM** products are easy to transport, store, handle and install. **PolynumTM** superb thermal performances against heat flow provide excellent energy efficient solutions.

PolynumTM comply with mandatory Australian Standards and Building Code of Australia certification benchmarks. **PolynumTM** products have been certified by Ecospecifier and are engineered to comply with the ABGR and Green Star Rating Scheme.

Thermal Performance

Outdoor temperature	12 °C	36 °C
Roof Systems	Heat Flow UP	Heat Flow DOWN
Metal Roof (<i>commercial roof</i>) <i>1° to 5° pitch, naturally ventilated, flat ceiling</i>	R _T 1.59	R _T 4.54
Metal Roof (<i>combo with R2.5 ceiling batts</i>) <i>22° pitch, naturally ventilated, flat ceiling</i>	R _T 4.16	R _T 5.39
Metal Roof <i>22° pitch, naturally ventilated, flat ceiling</i>	R _T 1.48	R _T 2.92
Tiled Roof <i>22° pitch, naturally ventilated, flat ceiling</i>	R _T 1.31	R _T 2.45
Metal Roof (<i>Warehouse/Shed</i>) <i>1° to 5° pitch, no ceiling</i>	R _T 1.13	R _T 2.20-2.86
Concrete Roof with Ceiling	R _T 1.70	R _T 3.76

Wall Systems	Heat Flow OUT	Heat Flow IN
190mm Concrete Block Wall <i>With plasterboard</i>	R _T 2.48	R _T 2.21
190mm Concrete Block Wall <i>With 1.5 bulk insulation & plasterboard</i>	R _T 3.22	R _T 2.98
Double Brick Cavity Wall PolynumTM <i>dividing cavity & plasterboard</i>	R _T 2.66	R _T 2.39
Double Brick Cavity Wall (Ref : 334w09) PolynumTM <i>cavity & plasterboard</i>	R _T 2.86	R _T 2.58
Brick Veneer Wall <i>With plasterboard</i>	R _T 2.40	R _T 2.14

Floor Systems	Heat Flow DOWN	Heat Flow UP
Framed Floor <i>With subfloor perimeter enclosed</i>	R _T 3.90	R _T 2.30

The contribution of **PolynumTM** products to a Total R-Value depends on the installation and environmental conditions. The values shown are Total R-Values for the building system, calculated using Reflect 3 computer software validated by James M Fricker M.IEAust M.AIRAH CPEng and are based on installed product service in accordance with AS/NZS 4859.1:2002/Amdt 1 2006. Refer to the **PolynumTM** products tech manual for further details. The information in this brochure is believed to be true at the time of publication. **PolynumTM** C.L.P reserves the right to change specifications without notice, and have no obligation or liability for the persons misrepresenting or misusing this information in any manner whatsoever.

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A true STAR!