

ROOFING

Metric



XFLAM is an advanced syntactic phenolic composite closed-cell foam specifically engineered to deliver superior thermal efficiency, structural integrity, and fire safety performance across a wide range of building applications. The material's unique microcellular structure incorporates naturally encapsulated air within a stable phenolic resin matrix, ensuring exceptional thermal stability and eliminating the risk of off-gassing, shrinkage, or long-term degradation.

Designed for demanding environments, XFLAM Metric panels provide a high-performance solution for roofing, wall, and ceiling systems where weatherproofing, mechanical strength, and compliance with fire regulations are critical.

In fire conditions, XFLAM demonstrates low flame spread, minimal smoke generation, and excellent self-extinguishing properties, providing valuable time for safe evacuation and reducing structural damage. The product carries FM Approvals for internal walls, external façades, ceilings, and roofing assemblies, confirming its suitability for global building safety standards. It also holds a BCA Group 1 classification (tested in accordance with ISO 9705) and is certified to multiple Australian Standards for fire performance, structural capability, and weatherproofing. XFLAM's engineered composition and proven performance make it a trusted choice for architects, engineers, and builders seeking reliable long-term insulation and fire protection in both commercial and industrial environments.

Fire Performance

Criteria	Performance
AS/NZS 1530.3: 1999 (Test for Flammability of materials)	Flame Spread 0 Smoke Dev. 1 Heat Evolved 0 Ignition 0
AS 5637.1: 2015 Compliance to C2D11(1)(b) AS ISO 9705: 2003 (R2016)	Group 1, SMOGRA < 1.5(m ² / s ² x 1000)

Features & Benefits

 <p>All in one roof ceiling system</p>	 <p>Warranties up to 36 years</p>	 <p>FM 4471 Approved & Cyclone Rated to 12 kPa</p>	 <p>Thermally efficient (Product R-Values up to 6.9)</p>
 <p>Lengths up to 25m and is fast to install</p>	 <p>Diminishes thermal bridging</p>	 <p>Resilient material for a changing climate</p>	 <p>Robust and durable with superior spanning capability</p>

0.5mm External Face Skin with 0.6mm Internal Face Skin

Standard Steel Specification

External skin material – 0.5 Thick G300S AM100 high performance steel with pre-painted superior polyester finish coat of 25 microns.

Internal skin material – 0.6mm Thick G300S Z275 pre-painted Colorbond® Intramax® steel with superior polyester finish coat of 25 microns. Colorbond® Intramax® steel is specifically designed for temperature-controlled environments.

Panel Weight (m ²)							
Panel Thickness (mm)	50	75	100	150	175	200	250
Weight (kg/m ²) for 0.6/0.6	11.6	12.5	13.3	14.2	15.0	16.7	18.4

*AS/NZS 2728 Paint Coating. AS 1397 Substrate System

Span table: ULS Allowable Pressure (kPa)									
Panel Thickness (mm)	Panel Span (m)								
	2.0m	2.4m	3.0m	3.6m	4.0m	5.0m	6.0m	7.0m	8.0m
50	3.10	2.65	1.97	1.29	0.84	0.77	0.70	–	–
75	3.21	2.81	2.22	1.62	1.22	1.04	0.86	–	–
100	3.32	2.98	2.46	1.95	1.61	1.31	1.02	0.72	0.42
125	–	–	2.51	2.03	1.71	1.39	1.08	0.77	0.46
150	–	–	2.55	2.12	1.82	1.47	1.14	0.82	0.50
175	–	–	2.60	2.20	1.93	1.55	1.21	0.87	0.54
200	–	–	2.65	2.28	2.04	1.62	1.27	0.92	0.57
250	–	–	2.74	2.45	2.26	1.78	1.40	1.03	0.65

Span table: SLS Allowable Pressure Externally (kPa)									
Panel Thickness (mm)	Panel Span (m)								
	2.0m	2.4m	3.0m	3.6m	4.0m	5.0m	6.0m	7.0m	8.0m
50	2.77	2.44	1.94	1.44	1.11	0.76	0.41	–	–
75	2.90	2.56	2.03	1.51	1.16	0.88	0.60	–	–
100	3.04	2.67	2.13	1.58	1.21	1.00	0.78	0.56	0.35
125	–	–	2.30	1.79	1.46	1.19	0.93	0.66	0.40
150	–	–	2.48	2.01	1.70	1.38	1.07	0.76	0.45
175	–	–	2.65	2.22	1.94	1.58	1.22	0.86	0.50
200	–	–	2.83	2.44	2.18	1.77	1.36	0.96	0.55
250	–	–	3.18	2.87	2.67	2.16	1.66	1.15	0.65

Span table: SLS Allowable Pressure Internally (kPa)									
Panel Thickness (mm)	Panel Span (m)								
	2.0m	2.4m	3.0m	3.6m	4.0m	5.0m	6.0m	7.0m	8.0m
50	-2.41	-2.12	-1.69	-1.25	-0.96	-0.77	-0.57	–	–
75	-2.56	-2.24	-1.77	-1.29	-0.98	-0.82	-0.66	–	–
100	-2.71	-2.37	-1.85	-1.33	-0.99	-0.86	-0.74	-0.61	-0.49
125	–	–	-2.03	-1.53	-1.20	-0.98	-0.83	-0.68	-0.52
150	–	–	-2.21	-1.73	-1.41	-1.10	-0.92	-0.74	-0.56
175	–	–	-2.38	-1.92	-1.62	-1.22	-1.01	-0.80	-0.59
200	–	–	-2.56	-2.12	-1.83	-1.34	-1.10	-0.86	-0.63
250	–	–	-2.92	-2.51	-2.24	-1.57	-1.28	-0.99	-0.70

Uniformly distributed ultimate limit state short term Wind load as derived from AS/NZS 1170.2. Capacities derived from NATA approved structural testing in accordance with AS4040.2. Serviceability limit state deflection limited to span/200. For FM approval requirements, please refer to specific test certificates available for download on our website. Panel is assumed to be fixed from outside into a suitable structure inside. Fixings, number and type should be considered by a suitably competent person. Loadings published here assume one 14g fixing with 25mm bonded washer, or equivalent or better, per rib, per line of fixings. ASKIN is not claiming contribution to bracing or diaphragm action of the roof cladding system as per AS1562.1. Roof accessibility-imposed loading is in line with R2(b)(iii) as per section 3.5.1 of AS1170.1.

Span table: Wind Classification (AS4055)

Panel Thickness (mm)	Panel Span (m)								
	2.0m	2.4m	3.0m	3.6m	4.0m	5.0m	6.0m	7.0m	8.0m
50mm	N2r	N2r	N1r	-	-	-	-	-	-
75mm	N2r	N2r	N1r	-	-	-	-	-	-
100mm	N2r	N2r	N1r	N1r	-	-	-	-	-
125mm	-	-	N2r	N1r	-	-	-	-	-
150mm	-	-	N2r	N1r	N1r	-	-	-	-
175mm	-	-	N2r	N1r	N1r	-	-	-	-
200mm	-	-	N2r	N1r	N1r	-	-	-	-
250mm	-	-	N2r	N1r	N1r	-	-	-	-

Notes:

1. Wind Classifications for ultimate strength and serviceability pressures from the net pressure coefficients given in AS 4055:2021 Clause 3.2.
2. Panels are installed over minimum 3-supports (double-span).

Cyclone Performance

	1x 14g Tek Screws per rib with Buildex steel cyclone washers			
PRESSURE	6 kPa	8 kPa	12 kPa	Impact
100mm (0.6 / 0.6)	2.4m	2.0m	1.2m	40m/s

100mm Results certified by UA in accordance with AS/NZS 1170: 2011, AS 4040.3: 1992 and NCC L-H-L Testing
Other data generated from cyclic and static testing performed in other locations.
Please contact ASKIN for spacing and minimum support thickness.

Colour Range

A full range of colours are available depending on Minimum Order Quantities and warranties. Solar Absorbance as stated in the NCC.

Environment

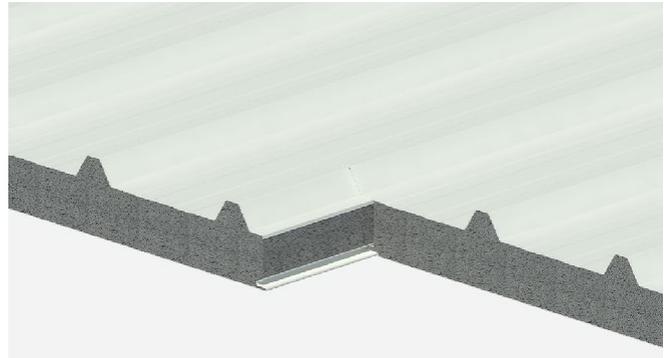
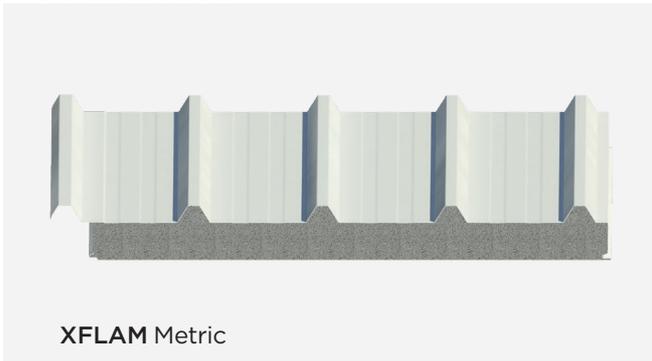
Resource Efficiency

As an insulation product XFLAM is efficient in its use of resources. Coupled with the high insulation, this means that the energy savings from using Volcore will amount to many of times the energy required to produce the product.

Zero ODP

XFLAM foam insulation manufacturing does not use Ozone Depleting Substances such as CFCs, HCFCs or HFCs.

Roofing Profile Combination



XFLAM Metric meets the performance requirements of weatherproofing per AS 1562.1:2018, as required by NCC 2022(Amdt.2) Vol.1 F3P1 & NCC 2022(Amdt.2) Vol.2 H2P2

Weatherproofing

Criteria	Performance
AS 1562.1:2018	NCC Vol.1 - F3 P1
Vol.1 F3D2 Roof Coverings	NCC Vol.2 - H2P2
Vol 2 H2D6(4) Roof Cladding	

Maximum Roof Length (m) for Drainage (AS1562.1, 3.3.1)

PEAK RAINFALL INTENSITY (mm/hr)	ROOF SLOPE (DEGREES)			
	3	5	7.5	10
100	410	504	600	683
150	273	336	400	455
200	205	252	300	341
250	164	201	240	273
300	136	168	200	227
400	102	126	150	170
500	82	100	120	136

Refer to ASKIN roof standard details for best installation practice. Minimum pitch of 3 degrees. (2 degrees with special design). Step joints required for larger roofs with multiple panels. SA HB39:2015 Installation code for metal roofing and wall cladding. Appendix B.

Minimum Pitch

PITCH	SEALANT	END LAPS	DIMENSION
3 degrees to 6 degrees	Butyl tape	Standard cut back for gutter	75mm
>6 degrees	Polyurethane	Standard end lap joint Standard expansion joint	200mm 200mm

XFLAM Metric achieves the following ratings for panel tested in accordance with AS 1191 2002 and assessed against AS/NZS ISO 717.1: 2004

Acoustics

Criteria	RW	RW + CTR
ASKIN XFLAM Panel 75mm	25	23
ASKIN Dual Panel System XFLAM EPS 75mm	43	37

Physical Properties

Criteria	Performance
Core Density	32kg/m ³
Recyclable	100% Recyclable
Workability	Excellent. No requirement for protection
Trafficability (As per NCC BCA)	Resistant to maintenance traffic (1 person per panel)

Manufacturing Tolerances

Criteria	Manufactured	Tolerance
Length	2,000mm to 25,000mm	+/- 5mm
Width	Standard as 1,000mm	+/- 1mm
Thicknesses	50mm up to maximum 250mm	+/- 1mm

ASKIN XFLAM Metric Panel is expected to be mechanically fixed system through the 5 ribs to structural members. The panels must be installed considering the performance requirements of the National Construction Code. Please contact your ASKIN representative for more information.

Installation Tolerances

Panel Length	Installation Tolerance
0mm to 4,000mm	+2/-1mm
+4,000mm	+3/-1mm
Panel Joints	+2/-2mm

*ASKIN recommend the use of clamps for ensuring minimum variable tolerance.

Thermal Performance

Product Material Properties					Total System R-Values	
Panel Nominal Thickness (mm)	Product U-Value (W/m ² K) at 23°C	Product R-Value (m ² K/W) at 23°C	Product R-Value (m ² K/W) at 15°C	Product R-Value (m ² K/W) at 0°C	Heat Flow Out (Winter)	Heat Flow In (Summer)
50	0.71	1.40	1.40	1.50	1.60	1.50
75	0.45	2.05	2.10	2.20	2.30	2.10
100	0.34	2.75	2.80	2.95	3.00	2.80
125	0.29	3.45	3.50	3.70	3.70	3.50
150	0.24	4.15	4.25	4.45	4.40	4.20
175	0.21	4.85	4.95	5.20	5.20	5.00
200	0.18	5.55	5.65	5.95	5.80	5.50
250	0.14	6.90	7.05	7.40	7.20	6.90

Total R-Values for the building element as required by the Energy Provisions of the National Construction Code, calculated in accordance with AS/ NZS 4859.2 2018. ASKIN XFLAM is manufactured, tested and packaged in conformance with AS/NZS 4859.1: 2018

*All information correct at time of printing. Check with your ASKIN representative for latest information.