

**Product Specification Sheet**  
FRL Systems

# XFLAM Panel FRL



**HARD FACTS**

**Project:**  
Nolans Transport

**Architect:**  
Omnistruct

**Profile:**  
Flat

**Skins:**  
Colourbond® Surfist

## XFLAM Core

ASKIN XFLAM is a patented Australian made material that is made from a syntactic phenolic foam that meets and exceeds all the performance requirements for rigid insulated material. XFLAM External Wall systems have been tested for thermal performance, weatherproofing, fire, wind loadings and fire resistance levels (FRL).

XFLAM Panel FRL is a Group 1 material that meets the Factory Mutual requirements for internal, external, and roofing applications. XFLAM has achieved FM 4882 that certifies the insulated panels for smoke sensitive occupancies.

## Thermal Performance

PRODUCT MATERIAL PROPERTIES					TOTAL SYSTEM R-VALUES	
Panel Nominal Thickness (mm)	Product U-Value (W/m <sup>2</sup> K) at 23°C	Product R-Value (m <sup>2</sup> K/W) at 23°C	Product R-Value (m <sup>2</sup> K/W) at 15°C	Product R-Value (m <sup>2</sup> K/W) at 0°C	Heat Flow Out (Winter)	Heat Flow In (Summer)
100	0.34	2.75	2.80	2.95	3.00	2.90
160	0.24	4.15	4.25	4.45	4.50	4.30
220	0.18	5.55	5.65	5.95	5.80	5.60
250	0.14	6.90	7.05	7.40	7.30	7.00
275	0.14	6.90	7.05	7.40	7.30	7.00

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

Declared Product R-Value is calculated in accordance with AS/NZS 4859.1: 2018 as required for compliance to the National Construction Code 2022.

## Features & Benefits

- Fire Rated and FM Approved
- Lengths available up to 22.5m
- Warranties up to 15 years
- Light weight and durable
- Fast to install
- Up to 120 minute FRL's
- Resilient material for a changing climate
- Thermally efficient (Product R-Values up to 6.90)
- Superior spanning capability

\*All information correct at time of printing. Check with your ASKIN representative for latest information. Call 13 000 ASKIN, or email [contact@askin.net.au](mailto:contact@askin.net.au) © ASKIN February, 2023.



XFLAM Panel FRL panels meet and exceed all the requirements of the National Construction Code with NATA approved testing and approvals. XFLAM Panel FRL is a Factory Mutual (FM Approved) product meeting the rigorous international guidelines for fire compliance. XFLAM is a multi-layered product thus needs to satisfy the ISO AS9705 2003 Room test as stipulated in AS5637. ASKIN XFLAM meets a Group 1 system as a mechanically fixed install including concealed bracket. The panel has achieved a number of Fire Resistance Levels (FRL).

**Fire Performance**

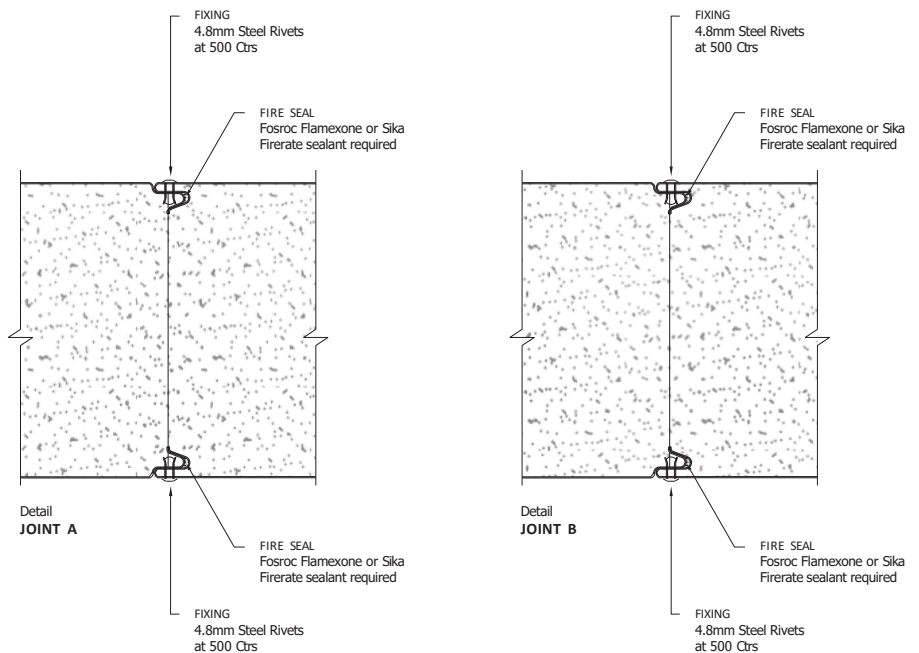
CRITERIA	PERFORMANCE
AS 1530.3: 1999 (Test for Flammability of materials)	Flame Spread 0 Smoke Dev. 2 Heat Evolved 0 Ignition 0
AS 5637.1: 2015 Compliance to C2D11(1)(b) AS ISO 9705: 2003 (R 2016)	Group 1, SMOGRA <100 (m <sup>2</sup> / s <sup>2</sup> x 1000)
Factory Mutual (FM Global) Approvals	FM 4880 - Unlimited Height FM 4881 - Exterior Wall Systems FM 4882 - Smoke Sensitive Occupancies
AS 1530.4: 2014	FRL Performance up to 120 minute's (Refer ASKIN FRL Systems)

The XFLAM Panel FRL meets the performance requirements for the NCC Specification C2D2(2) Fire-resisting construction. Testing to the requirements of AS 1530.4, the XFLAM Panel FRL meets the requirements for Integrity and Insulation.

**Fire Resistance Levels**

CRITERIA	PERFORMANCE
AS 1530.4 (Report – FR3492)	100mm Vertical wall -/120/30 Ref Detail Joint A
AS1530.4 (Report – FAS200511 R2.0)	160mm Vertical wall -/120/60 Ref Detail Joint A
AS1530.4 (Report – FAS200511 R2.0)	220mm Vertical wall -/120/90 Ref Detail Joint A
AS 1530.4 (Report – FR4039)	250mm Vertical wall -/120/115 Ref Detail Joint A
AS1530.4 (Report – FAS200511 R2.0)	275mm Vertical wall -/120/120 Ref Detail Joint A
AS1530.4 (Report – 38020000.2)	100mm Ceiling -/60/30 Ref Detail Joint B

**JOINT DETAILS**



XFLAM Panel FRL has met the performance requirements of weatherproofing by tested to AS4284.1: 2008, as required by the verification method NCC 2019 F3V1.

### Weather Proofing

CRITERIA	PERFORMANCE
AS 4284: 2008 Water Ingress Test	NCC Compliant to F3P1 and F1P4 as per F3V1

XFLAM Panel FRL 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
XFLAM Panel FRL 75mm	25	23

### Physical Properties

CRITERIA	PERFORMANCE
Core Density	min 50kg/m <sup>3</sup> for 100mm thick panels min 40kg/m <sup>3</sup> for >100mm thick panels
Recyclable	100% Recyclable
Workability	Excellent. No requirement for protection

### Manufacturing Tolerances

CRITERIA	MANUFACTURED	TOLERANCE
Length	2,000mm to 22,000mm	+/- 5mm
Width	Standard as 1,200mm	+/- 1mm
Thicknesses	50mm to 250mm in multiples of 25mm	+/- 1mm

ASKIN Panel FRL come in a range of vertically and horizontally wall applications and ceiling systems. Long panels or panels passing structural elements can be butt jointed with negative detail joiners or top hat sections. 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.

### Colour Range

A full range of colours are available depending on Minimum Order Quantities and warranties. Please contact your ASKIN representative as each project needs clarification on Solar Absorbance as stated in the NCC.

### Environment

#### Resource Efficiency

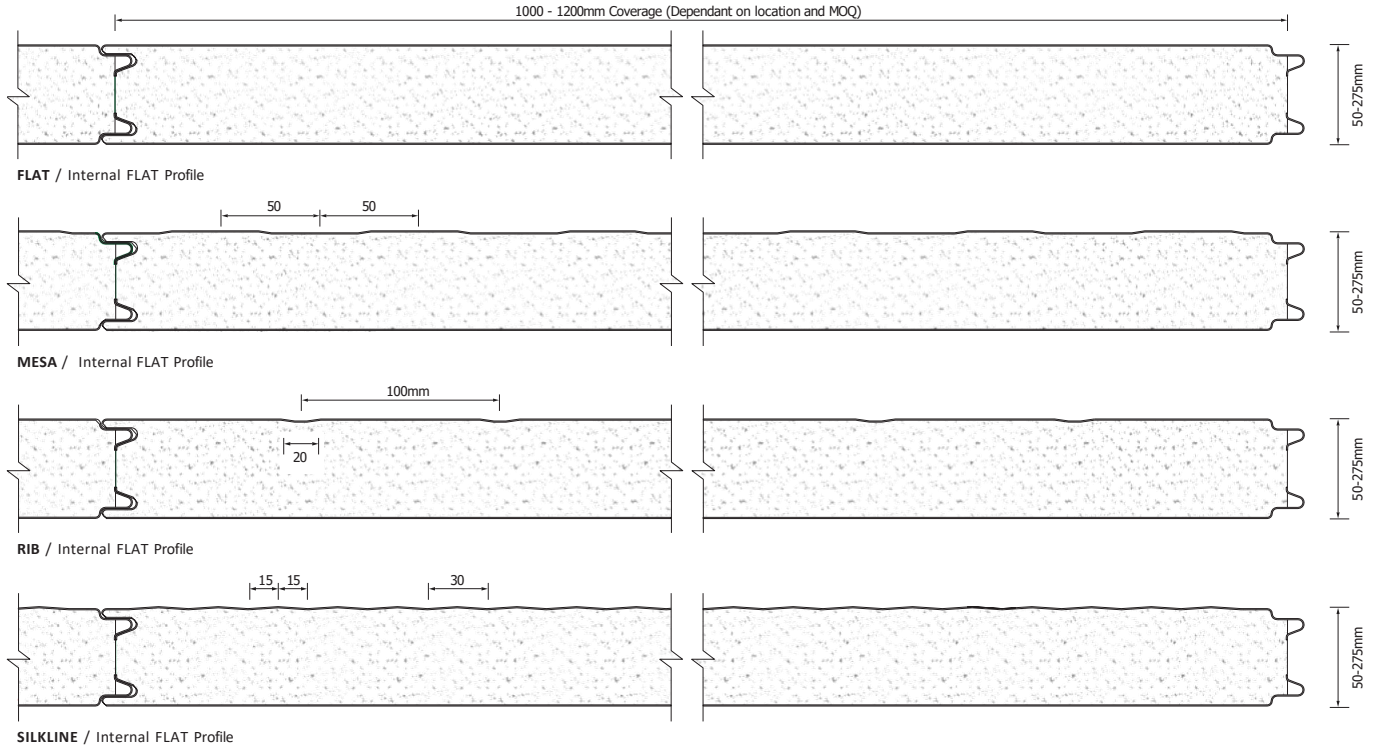
As a low density insulation product XFLAM uses very little natural resources by volume to manufacture. This, coupled with the high insulation performance, mean that the energy savings from using XFLAM will amount to hundreds of times the energy required to produce the product.

#### Zero ODP

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

## External Wall & Facade Profile Combination

### EXTERNAL PROFILES

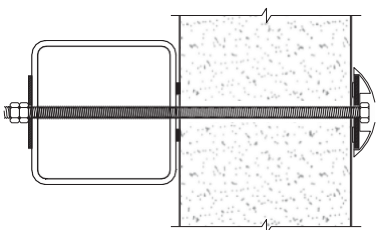


### Profile Options

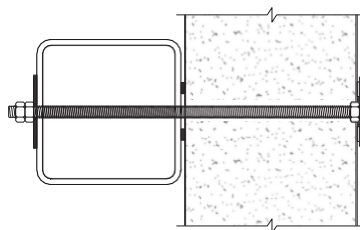
<b>External Surface Profiles</b>	FLAT	FLAT	FLAT	FLAT	MESA (50mm)	MESA (50mm)	RIB (100mm)	RIB (100mm)	RIB (100mm)	RIB (100mm)	Silkline	Silkline
<b>Internal Surface Profiles</b>	FLAT	MESA (50mm)	RIB (100mm)	Silkline	FLAT	Silkline	FLAT	MESA (50mm)	RIB (100mm)	Silkline	FLAT	RIB (100mm)

Note: Other profile combinations available dependent on application. Please contact your ASKIN representative for availability of each profile.

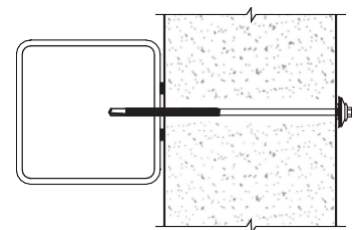
### CONNECTION DETAILS



Threaded Rod Mushroom Head  
Connection Detail - Section View



Threaded Rod Flat Plate  
Connection Detail - Section View



14 Gauge Tek Screw  
Connection Detail - Section View

**FRL Span Tables**

<b>VERTICAL WALL SYSTEM (PANEL JOINT A)</b>				
XFLAM Panel FRL Thickness	100mm	160mm	220mm	275mm
Fire Resistant Level (FRL)	0/120/30	0/120/60	0/120/90	0/120/120
Max Span between structural support fixings	3m	3m	3m	3m
Maximum Wall Height (Single Panel)	12m	12m	15m	18m
Maximum Wall Height (Multiple Panels)	Unlimited	Unlimited	Unlimited	Unlimited
Maximum Wall Length	Unlimited	Unlimited	Unlimited	Unlimited

<b>100mm CEILING SYSTEM (PANEL JOINT B)</b>	
XFLAM Panel FRL Thickness	100mm
Fire Resistant Level (FRL)	0/60/30
Max Span between structural support fixings	3m
Maximum Ceiling Length (Single Panel)	13.5m
Maximum Ceiling Length (Multiple Panels)	Unlimited
Maximum Ceiling Width	Unlimited

Notes:  
Tables must be read in conjunction with relevant fire test reports and assessments for each specific system. Panels charts include direction of fire rating to be in both directions. Span charts are listing maximum lengths are compliant to fire ratings only, additional loads anticipated from wind loads or other may result in reductions to maximum allowable spans. Structure has not been included in the tables, however to achieve the FRL system a fire rated support structure is required. Structural support fixings are either 10mm galv. threaded rod or 14g Tek screw.

## 0.6mm (or 0.7mm) External Face Skin with 0.6mm Internal Face Skin

### Standard Steel Specification

**EXTERNAL SKIN MATERIAL** – 0.6mm or 0.7mm Thick G300S AM100 high performance steel with pre-painted superior polyester finish coat of 25 microns.

**INTERNAL SKIN MATERIAL** – 0.6 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<sup>2</sup>)

PANEL THICKNESS (mm)	100	160	220	250	275
<b>Weight (kg / m<sup>2</sup>) for 0.6 / 0.6</b>	13.3	15.7	17.4	18.4	19.2

AS/NZS 2728 Paint Coating. AS 1397 Substrate System

### Span Table: ULS Allowable Pressure (kPa)

PANEL THICKNESS (mm)	PANEL SPAN (m)											
	2.0	2.4	3.0	3.6	4.0	5.0	5.5	6.0	7.0	7.5	8.0	
100mm	5.23	4.65	3.79	3.01	2.48	1.98	1.73	1.48	0.98	0.73	0.48	
125mm	–	–	–	3.33	2.82	2.20	1.90	1.64	1.13	0.87	0.62	
150mm	–	–	–	3.65	3.15	2.42	2.06	1.79	1.27	1.01	0.75	
160mm	–	–	–	3.78	3.28	2.51	2.12	1.86	1.33	1.06	0.80	
175mm	–	–	–	3.98	3.48	2.64	2.22	1.95	1.41	1.14	0.88	
200mm	–	–	–	4.30	3.81	2.86	2.38	2.10	1.56	1.28	1.01	
220mm	–	–	–	4.56	4.08	3.03	2.51	2.23	1.67	1.39	1.11	
250mm	–	–	–	4.95	4.48	3.29	2.70	2.41	1.84	1.55	1.27	

### Span Table: SLS Allowable Pressure applied Externally (kPa)

PANEL THICKNESS (mm)	PANEL SPAN (m)											
	2.0	2.4	3.0	3.6	4.0	5.0	5.5	6.0	7.0	7.5	8.0	
100mm	2.70	2.52	2.25	1.98	1.80	1.46	1.29	1.11	0.77	0.59	0.42	
125mm	–	–	–	2.07	1.89	1.54	1.36	1.20	0.87	0.71	0.55	
150mm	–	–	–	2.16	1.98	1.61	1.43	1.28	0.98	0.82	0.67	
160mm	–	–	–	2.19	2.02	1.65	1.46	1.31	1.02	0.87	0.72	
175mm	–	–	–	2.25	2.07	1.69	1.50	1.36	1.08	0.94	0.80	
200mm	–	–	–	2.33	2.16	1.77	1.57	1.44	1.18	1.05	0.92	
220mm	–	–	–	2.40	2.24	1.83	1.63	1.51	1.27	1.15	1.03	
250mm	–	–	–	2.51	2.34	1.93	1.72	1.61	1.39	1.29	1.18	

### Span Table: SLS Allowable Pressure applied Internally (kPa)

PANEL THICKNESS (mm)	PANEL SPAN (m)											
	2.0	2.4	3.0	3.6	4.0	5.0	5.5	6.0	7.0	7.5	8.0	
100mm	-2.75	-2.53	-2.20	-1.87	-1.65	-1.37	-1.23	-1.09	-0.81	-0.68	-0.54	
125mm	–	–	–	-2.04	-1.81	-1.46	-1.29	-1.15	-0.87	-0.73	-0.59	
150mm	–	–	–	-2.20	-1.97	-1.56	-1.36	-1.21	-0.92	-0.78	-0.63	
160mm	–	–	–	-2.27	-2.03	-1.60	-1.38	-1.24	-0.94	-0.80	-0.65	
175mm	–	–	–	-2.37	-2.13	-1.66	-1.42	-1.27	-0.98	-0.83	-0.68	
200mm	–	–	–	-2.54	-2.29	-1.75	-1.49	-1.34	-1.03	-0.88	-0.73	
220mm	–	–	–	-2.67	-2.42	-1.83	-1.54	-1.38	-1.07	-0.92	-0.77	
250mm	–	–	–	-2.87	-2.61	-1.95	-1.62	-1.46	-1.14	-0.98	-0.82	

Uniformly distributed ultimate limit state short term Wind load as derived from AS1170.2. Capacities derived from NATA approved structural testing in accordance with AS4040.2. Serviceability limit state deflection limited to span/150. Thermal deflection and required stress relief cuts should be considered for controlled environments by a suitably competent person. See ASKIN connection details for fire rated stress relief cuts.

Panel is assumed to be fixed from outside into a suitable structure inside. Fire rated walls and ceilings are non-load carrying and no permanent loads should be applied. Fixings, number and type should be considered by a suitably competent person. For FM approval requirements, please refer to specific test certificates available for download on our website. Loadings noted within span tables do not include the self-weight of the panel. Self weight will need to be applied when panel is used in a horizontal application (i.e. a roof or a ceiling).