

Product Specification Sheet
Internal Walls & Ceilings

Panel

EPSFR



HARD FACTS

Project:
Optus Stadium

Architect:
HKS. Architects

Profile:
Flat

Skins:
Colorbond®

EPS-FR Core

EPS-FR core has been tried and tested for over half a century. This cost effective construction solution has an impressive strength to weight ratio, is 100% recyclable and because of its low density, it can provide further saving in the cost of foundations, framing and auxiliary insulation.

This NCC Group 1 or 2 panel contains a Flame-retardant (FR) making it self-extinguishing. ASKIN SL Grade EPS-FR insulation core delivers excellent thermal insulation and an integrated wall system. The high R-Value of ASKIN cellular foam EPS-FR is derived by the insulation value of air filled cells making up 98% of the product volume giving a safe and natural insulation to the building.

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	0.86	1.15	1.20	1.30	1.40	1.40
75	0.57	1.75	1.80	1.95	2.10	2.00
100	0.42	2.35	2.40	2.60	2.70	2.50
125	0.34	2.90	3.00	3.25	3.30	3.10
150	0.28	3.50	3.65	3.95	3.90	3.70
175	0.24	4.10	4.25	4.60	4.50	4.30
200	0.21	4.70	4.85	5.25	5.10	4.80
250	0.17	5.85	6.05	6.55	6.30	6.00

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 EPS-FR 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

- Flame retardant
- Superior spanning capability
- Resilient material for a changing climate
- Fast to install
- Long lengths available of 22m
- Thermally efficient (Product R-Values up to 5.85 (23 degrees))
- Warranties up to 10 years
- Concealed Fix Systems available
- Suitable for temperature controlled environments

*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 © ASKIN October, 2023.

ASKIN Panel comprises an EPS-FR cellular foam core sandwiched between sheets of steel. The panel has been tested in the rigorous testing regime for surface linings prescribed in the National Construction Code (NCC). Encapsulation of the insulation material by the steel skins has been successfully proven to comply with the highest lining level of fire protection being NCC Group 1 classification.

Fire Performance

CRITERIA	PERFORMANCE
AS 1530.3: 1999 (Test for Flammability of materials)	Flame Spread 0 Smoke Dev. 2 Heat Evolved 0 Ignition 0
CP4 requires materials and assemblies to resist spread of fire and limit the generation of smoke toxic gases during evacuation	Toxicity (Combustion gases) - Very Low (CO, CO ₂)
AS 5637.1: 2015 Compliance to C2D11(1)(b) AS ISO 9705: 2003 (R 2016)	Group 1, SMOGRA _{RC} = 2.4 (Up to 250mm panel thickness, refer to note 1) Group 2, SMOGRA _{RC} = 18.1 (Up to 150mm panel thickness, refer to note 2) Group 2, SMOGRA _{RC} = 12.0 (Up to 250mm panel thickness, refer to note 3)

Note 1: Flashings - Steel angles, Steel Rivets Stitching - 1200mm in ceiling joints, Steel Rivets
Note 2: Flashings - Aluminium angles, Aluminium Rivets Stitching - No stitching requirements
Note 3: Flashings - Steel angles, Steel Rivets Stitching - No stitching requirements

ASKIN EPS-FR Panel has met 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 EPS-FR Panel 75mm	25	20

Physical Properties

CRITERIA	PERFORMANCE
Core Density	13.5 kg/m ³
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

Though predominantly installed vertically, ASKIN Performance Panels can also be installed horizontally or diagonally for aesthetic or practical reasons. Long panels or panels passing structural elements can be butt jointed with negative detail top hat sections. These can be supplied with fixing concealing caps. ASKIN Performance Panels can be fastened with a range of hardware available from ASKIN, including hidden fixings, Tek screws, mushroom head threaded rods, dome nut bolts, coach screws, suspension brackets and spring fixings. 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 EPS-FR uses very little natural resources by volume to manufacture. This, coupled with the high insulation performance, mean that the energy savings from using EPS-FR will amount to hundreds of times the energy required to produce the product.

Zero ODP

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

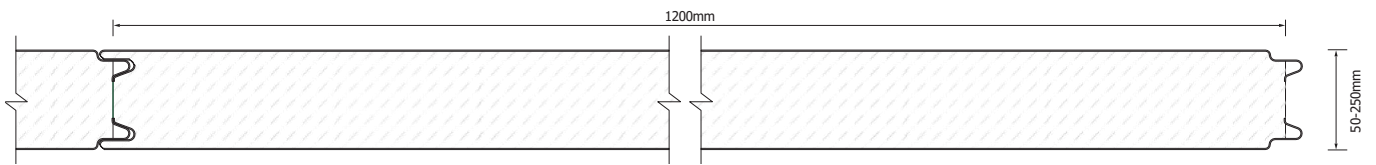
Haunches & Thermal Cuts

ASKIN has the ability to manufacture on-line haunches for wall to ceiling joints and thermal cuts for low temp rooms. The standard cuts range from 50mm to 225mm in multiples of 25mm and significantly assist onsite installation speed as well as the reduction of site waste. Custom cut lengths are available subject to request.

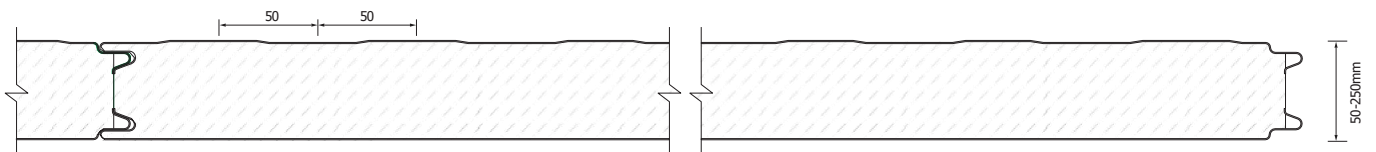


Internal Wall & Facade Profile Combinations

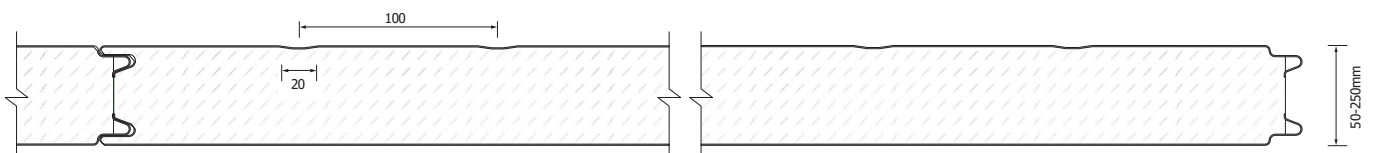
INTERNAL PROFILES



FLAT / Internal FLAT Profile



MESA / Internal FLAT Profile



RIB / Internal FLAT Profile

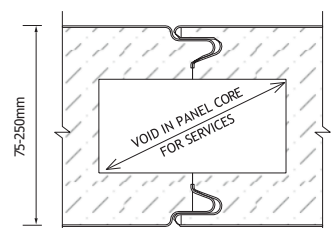
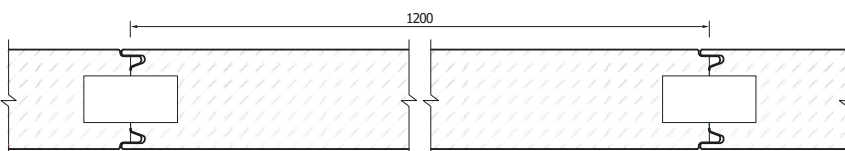
Profile Options

External Surface Profiles	FLAT	FLAT	FLAT	MESA (50mm)	MESA (50mm)	RIB (100mm)	RIB (100mm)	RIB (100mm)
Internal Surface Profiles	FLAT	MESA (50mm)	RIB (100mm)	FLAT	RIB (100mm)	FLAT	MESA (50mm)	RIB (100mm)

Note: Other profile combinations available dependant on application.

Services

ASKIN can produce in-line services voids for special requirements. Please contact your ASKIN representative for further information.



0.6mm Internal Face Skin

Standard Steel Specification

INTERNAL SKIN MATERIAL – 0.6 or 0.7mm 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 (m²)

PANEL THICKNESS (mm)	50	75	100	125	150	175	200	250	300
Weight (kg / m²) for 0.6 / 0.6	10.7	11.1	11.4	11.8	12.2	12.6	13.3	13.7	14.4

AS/NZS 2728 Paint Coating. AS 1397 Substrate System

Span Table: Allowable Pressure Applied Externally (kPa)

PANEL THICKNESS (mm)	PANEL SPAN (m)											
	2.0	2.4	3.0	3.6	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0
50mm	1.65	1.33	1.00	0.77	0.66	0.46	0.32	0.24	0.18	0.14	0.11	0.09
75mm	2.52	2.05	1.57	1.24	1.08	0.72	0.50	0.37	0.28	0.22	0.18	0.15
100mm	3.39	2.78	2.15	1.72	1.49	0.95	0.66	0.49	0.37	0.29	0.24	0.20
125mm	4.27	3.50	2.73	2.20	1.86	1.19	0.83	0.61	0.47	0.37	0.30	0.25
150mm	5.14	4.23	3.31	2.68	2.23	1.43	0.99	0.73	0.56	0.44	0.36	0.30
175mm	6.02	4.96	3.89	3.16	2.61	1.67	1.16	0.85	0.65	0.51	0.42	0.34
200mm	6.89	5.69	4.47	3.58	2.90	1.85	1.29	0.95	0.72	0.57	0.46	0.38
250mm	8.65	7.15	5.64	4.47	3.62	2.32	1.61	1.18	0.91	0.72	0.58	0.48
300mm	10.40	8.61	6.80	5.36	4.34	2.78	1.93	1.42	1.09	0.86	0.70	0.57

Uniformly distributed ultimate limit state short term Wind load as derived from AS1170.2. Serviceability limit state deflection limited to span/90. Thermal deflection and required stress relief cuts should be considered for controlled environments by a suitably competent person.

Panel is assumed to be fixed into a suitable structure. Fixings, number and type should be considered by a suitably competent person. Cyclonic applications require further information from ASKIN engineering. 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).