FRL SYSTEMS

VolcorePanelFRL

ASKIN Volcore FRL External, Internal Wall and Ceiling Panels set the benchmark for safe, durable, and aesthetically refined interior finishes. Engineered with a non-combustible mineral wool core, Volcore delivers exceptional fire resistance, thermal efficiency, and acoustic performance — making it the trusted choice for high-performance environments.
Their precision-engineered construction ensures quick installation, long-term stability, and compliance with NCC Performance Requirements

Ideal for food processing facilities, cleanrooms, commercial & industrial applications, healthcare, retail, education, data centres, sports and aquatic centres and other demanding spaces. The Volcore FRL Panels systems are tested to AS1530.4:2014 standards as referenced in the NCC. ASKIN Volcore Panel is a non-combustible material under the provisions of the NCC 2022 (Amdt.2) C2 D10 (6) (g) performance requirements. The Australian requirement for non- combustible materials for type A & B construction

Fire Performance	
Criteria	Performance
AS 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 AS ISO 9705: 2003 (R 2016)	Group 1, SMOGRA < 1.5 (m^2 / s^2 x 1000)
NCC compliant C2D10(6)(g)	Non-Combustible
Factory Mutual (FM Global)	FM Approved 4880 (Unlimited Height), 4881

Features & Benefits

- **Non-combustible Material C2D10(6)(g) AS1530.1 Core**
- **Warranties 15 years +**
- **FM Approved**
- **Thermally efficient** (Product R-Values up to 3.75 (23 derees))
- **Lengths up to 13.5m and is fast to install**
- **Up to -/240/210 FRL**
- **Resilient material for a changing climate**
- **Horizontal and vertical applications**

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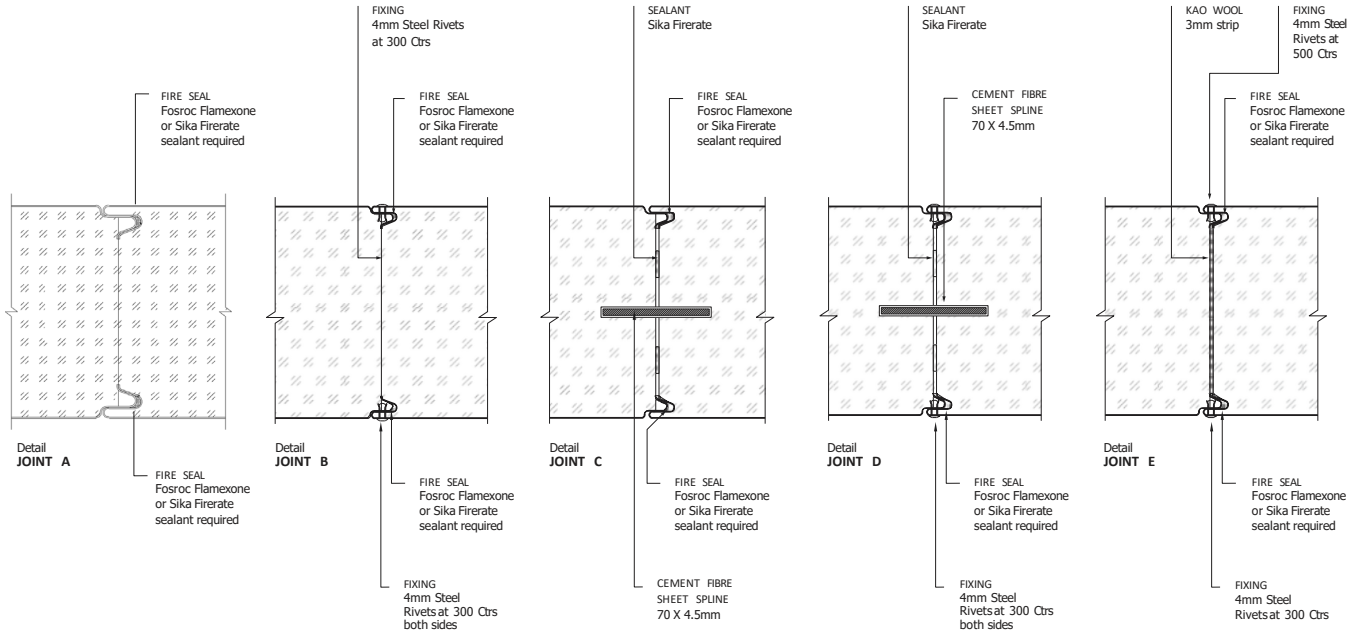
ASKIN Volcore Panel FRL has met the performance requirements for the NCC Specification C2D2 Fire resisting construction. Testing to the requirements of AS1530.4 :2014 , Volcore Panel FRL has met the requirements for Integrity and Insulation.

Fire Resistance Level

Criteria	Performance
AS 1530.4:2014 (Report – FAS190117 R3.0)	100mm Vertical wall -/60/60 Ref Detail Joint A
AS 1530.4:2014 (Report – FAS210329 R1.5)	150mm Vertical wall -/120/120 Ref Detail Joint B
AS 1530.4:2014 (Report – FAS210329 R1.5)	150mm Vertical wall -/120/120 Ref Detail Joint C
AS 1530.4:2014 (Report – FAS210329 R1.5)	150mm Horizontal wall -/240/120 Ref Detail Joint D
AS 1530.4 :2014 (Report – FAS210329 R1.5)	150mm Ceiling Ceiling -/240/210 Ref Detail Joint E
AS 1530.4 :2014 (Report – FAS210329 R1.5)	Wall Penetrations up to -/180/180
AS 1530.4 :2014 (Report – FRT220221 R1.0)	Ceiling Penetrations up to -240/240

Joint Details



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0.6mm External Face Skin with 0.6mm Internal Face Skin

Standard Steel Specification

External skin material – 0.6 or 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)	100	120	150
Weight (kg/m^2) for 0.6/0.6	21.2	23.4	26.7

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

Span table: ULS Allowable Pressure (kPa)							
Panel	Panel Span (m)						
Thickness (mm)	2.0	2.4	3.0	3.6	4.0	5.0	6.0
100	3.16	2.74	2.10	1.46	1.04	0.72	0.41
120	3.84	3.32	2.53	1.75	1.23	0.87	0.52
150	4.86	4.19	3.19	2.18	1.51	1.10	0.69

Span table: ULS Allowable Pressure Externally Applied (kPa)							
Panel	Panel Span (m)						
Thickness (mm)	2.0	2.4	3.0	3.6	4.0	5.0	6.0
100	1.50	1.35	1.12	0.88	0.73	0.53	0.33
120	1.55	1.40	1.17	0.94	0.78	0.56	0.34
150	1.63	1.48	1.25	1.02	0.87	0.61	0.36

Span table: ULS Allowable Pressure Internally Applies (kPa)							
Panel	Panel Span (m)						
Thickness (mm)	2.0	2.4	3.0	3.6	4.0	5.0	6.0
100	-1.23	-1.16	-1.04	-0.93	-0.86	-0.61	-0.36
120	-1.24	-1.17	-1.06	-0.95	-0.88	-0.69	-0.50
150	-1.25	-1.18	-1.08	-0.98	-0.91	-0.81	-0.71

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. Nylon Mushroom head with M10 HDG Nut, StructureStructure-side M10 HDG Nut with 63mm dia. x 3mm steel washer. Maximum fixing spacing to be 875mm. 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 self-weight of the panel. Self Self- weight will need to be applied when panel is used in a horizontal application (i.e. a roof or a ceiling).

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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.

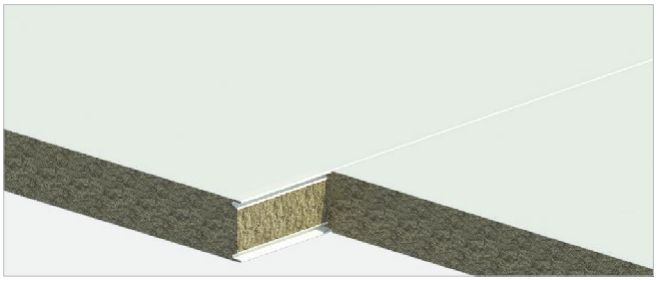
Environment

Resource Efficiency
As an insulation product Volcore is efficient in its use of resources. The high insulation performance enables energy savings from installing Volcore to amount to many times the energy required to produce the material.

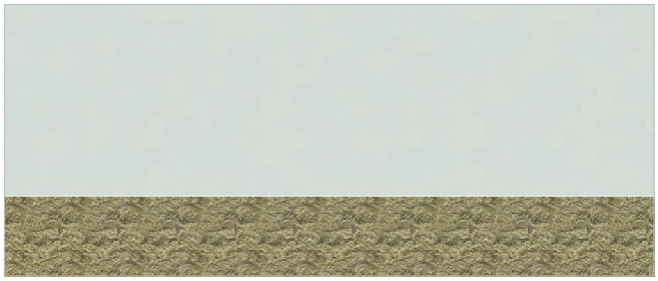
Zero ODP
Volcore core insulation manufacturing does not use Ozone Depleting Substances such as CFCs, HCFCs or HFCs.

Internal and External Wall & Facade Profile Combination

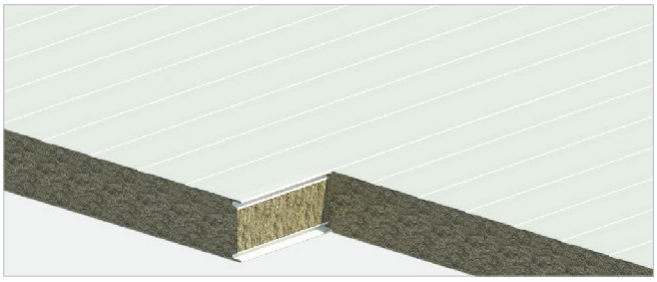
External Profiles



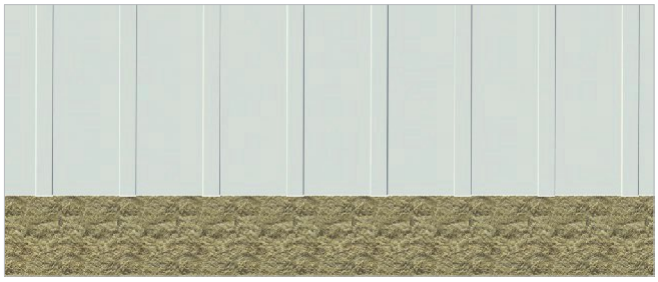
Volcore Flat Joint



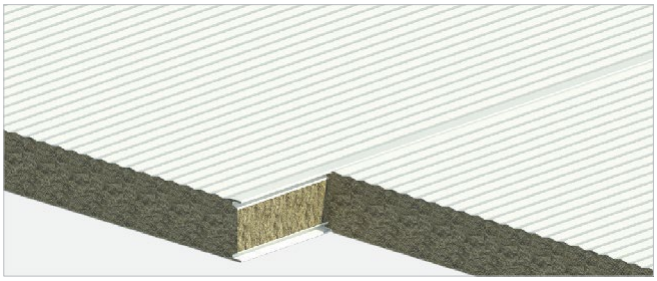
Volcore Flat



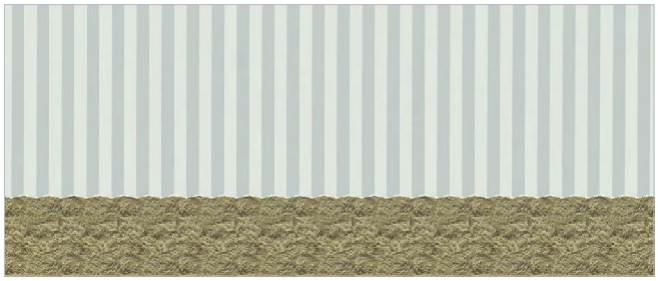
Volcore Ribbed Joint



Volcore Ribbed



Volcore Silkline Joint



Volcore Silkline

Profile Options

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

Note: Other profile combinations available dependant on application.

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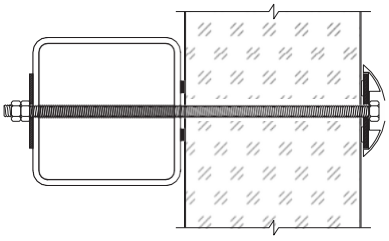
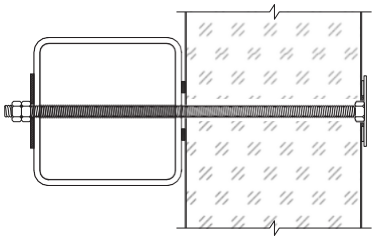
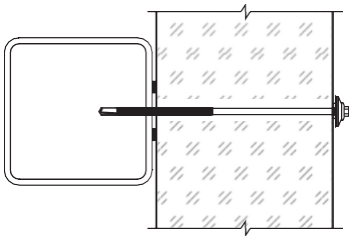
Connection Details



Threaded Rod Mushroom Head Connection Detail - Section View



Threaded Rod Flat Plate Connection Detail - Section View



14 Gauge Tek Screw Connection Detail - Section View

Volcore Panel FRL has met the performance requirements of weatherproofing by testing to AS 4284:2008, as required by the verification method NCC 2022 (Amdt.2) F3V1.

Weather Proofing	
Criteria	Performance
AS 4284:2008 Water Ingress Test	NCC Compliant to F3P1 and F3 P1 as per F3V1

ASKIN 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
* ASKIN Volcore Panel 100mm	29	-
* ASKIN Volcore Panel 120mm	30	-
* ASKIN Volcore Panel 150mm	31	-

Physical Properties	
Criteria	Performance
Core Density	110 kg/m^3 +/- 10%
Recyclable	100% Recyclable
Workability	Good – Mineral Fibres. Handle with care.

Manufacturing Tolerances		
Criteria	**Manufactured**	**Tolerance**
Length	2,000mm to 13,500mm	+/- 5mm
Width	Standard as 1,000mm (1200mm subject to MOQ)	+/- 2mm
Thicknesses	100mm up to maximum 150mm	+/- 2mm

ASKIN Volcore Panel FRL comes in a range of vertical and horizontal 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.

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Thermal Performance

Product Material Properties

Panel Nominal Thickness (mm)	Product U-Value (W/m²K) at 23°C	Product R-Value (W/m²K) at 23°C	Product U-Value (W/m²K) at 15°C	Product U-Value (W/m²K) at 0°C
100	0.40	2.50	2.60	2.70
120	0.33	3.00	3.10	3.25
150	0.26	3.75	3.90	4.05

Declared Product R-Value is calculated in accordance with AS/NZS 4859.1:2018 as required for compliance to the National Construction Code 2022 (Amdt.2).

Thermal Performance Total System R-Values

Total System R-Values		Total System R-Values	
Heat Flow Out (Winter)	**Heat Flow In (Summer)**	Heat Flow Out (Winter)	Heat Flow In (Winter)
2.70	2.60	2.70	2.60
3.00	3.10	3.30	3.10
4.00	3.80	4.00	3.80

Declared Product R-Value is calculated in accordance with AS/NZS 4859.1:2018 as required for compliance to the National Construction Code 2022 (Amdt.2) .

FRL Span Table Volcore panel

Product	Minimum panel thickness (mm)	Distance between supports (mm) MAX	FRL	Perimeter Rivet spacing (mm)	Slip joint stitching rivets (mm)
Volcore insulated panels	150 vertical wall without stitching rivets. Cement fibre spline	3000	-/60/60	ø4 at 150	None
		6000	-/30/30	ø4 at 100	ø4 at 300
		3000	-/120/120	ø4 at 150	None
		6000	-/90/90	ø4 at 100	None
		7500	-/60/60	ø4 at 100	None
	150 vertical wall	3000	-/120/120	ø4 at 150	ø4 at 300
		6000	-/90/90	ø4 at 100	ø4 at 300
		7500	-/60/60	ø4 at 100	ø4 at 300
	150 horizontal wall Cement fibre spline	3000	-/120/120	ø4 at 150	ø4 at 500
		7500	-/120/120	ø4 at 100	ø4 at 500
	150 ceiling	3500	-/120/120	ø4 at 100/250	ø4 at 500/300
		3900	-/90/90	ø4 at 100/200	ø4 at 500/300
		4800	-/60/60	ø4 at 75/150	ø4 at 500/300
		7000	-/30/30	ø4 at 75/125	ø4 at 500/300

Where two spacings are given closest spacing is exposed side, other is unexposed side, check if cement fibre spline is required. Refer applicable joint details on page 2. All ratings are self-supporting non load bearing. Check with ASKIN for minimum fixing requirements.

*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 with flat 25/32mm washers 2 to 3 per panel.

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

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FRL Span Tables

Vertical Wall System (Panel Joint A)

Volcore Panel Thickness	100mm	120mm	150mm
Fire Resistant Level (FRL)	0/60/60	0/60/60	0/60/60
Max Span between structural support fixings	3m	3m	3m
Maximum Wall Height (Single Panel)	12m	12m	13.5m
Maximum Wall Height (Multiple Panels)	Unlimited	Unlimited	Unlimited
Maximum Wall Length	Unlimited	Unlimited	Unlimited
Perimeter rivet spacings (mm)	150	150	150

150mm Vertical Wall System (Panel Joint B and Panel Joint C)

Volcore Panel Thickness	100mm	120mm	150mm
Fire Resistant Level (FRL)	0/60/60	0/60/60	0/60/60
Max Span between structural support fixings	3m	3m	3m
Maximum Wall Height (Single Panel)	12m	12m	13.5m
Maximum Wall Height (Multiple Panels)	Unlimited	Unlimited	Unlimited
Maximum Wall Length	Unlimited	Unlimited	Unlimited
Perimeter rivet spacings (mm)	150	150	150

150mm Horizontal Wall System (Panel Joint D)

Volcore Panel Thickness	150mm	150mm
Fire Resistant Level (FRL)	0/120/120	0/240/120
Max Span between structural support fixings	7.5m	3m
Maximum Wall Height (Single Panel)	13.5m	13.5m
Maximum Wall Height (Multiple Panels)	Unlimited	Unlimited
Maximum Wall Length	Unlimited	Unlimited
Perimeter rivet spacings (mm)	100	150

150mm Ceiling System (Panel Joint E)

Volcore Panel Thickness	150mm	150mm	150mm	150mm	150mm
Fire Resistant Level (FRL)	0/30/30	0/60/60	0/90/90	0/120/120	0/240/210
Max Span between structural support fixings	7m	4.8m	3.9m	3.5m	3m
Maximum Ceiling Length (Single Panel)	13.5m	13.5m	13.5m	13.5m	13.5m
Maximum Ceiling Length (Multiple Panels)	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited
Maximum Ceiling Width	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited
Perimeter rivet spacings exposed side (mm)	75	75	100	100	150
Perimeter rivet spacings unexposed side (mm)	125	150	200	250	250

*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 with flat 25/32mm washers 2 to 3 per panel.

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