



Core

Panel cores are self-extinguishing grade expanded polystyrene Class SL, manufactured to Australian standards. Steel skins are bonded to the core under pressure using a two-part thermosetting polyurethane adhesive. EPS Panel cores are also available with a thermal link finger joint on vertical panel joints for freezers and CA storage applications. This finger joint is used for panels between 150 and 200mm thickness; these panels are called Thermo-link®.

Other specialised cores are also available on request.

Skins

Sheet thickness can range from 0.40mm to 0.60mm for either surface skin. Panel skins are available with a choice of steel:

- Colorbond® Permagard™ steel, incorporating Microban® antibacterial technology in its coating to provide durable, food-safe performance that will not wash off. This steel is available in Permagard™ White only.
- Colorbond® standard grade steel comes in a wide range of designer colours.
- There are other skin materials available on request, including Stainless Steel, Aluminium and Printech™ printed steel.

Colour

The many colours available in Colorbond® range from traditional to modern. For Prestige Applications there is Colorbond® Metallic steel.

Generally, the lighter colours are preferred for external use, because they reflect solar radiation. The various surfaces and colour choice can influence the price per square metre - our sales staff will gladly assist you in your selection.

Dimensions

- Width: 1200mm as a modular standard.
- Thickness: 38mm and 50 to 300mm in multiples of 25mm.
- Length: As required, determined by handling, design and transportation.

Profiles

See overleaf.

SECTION PROPERTIES

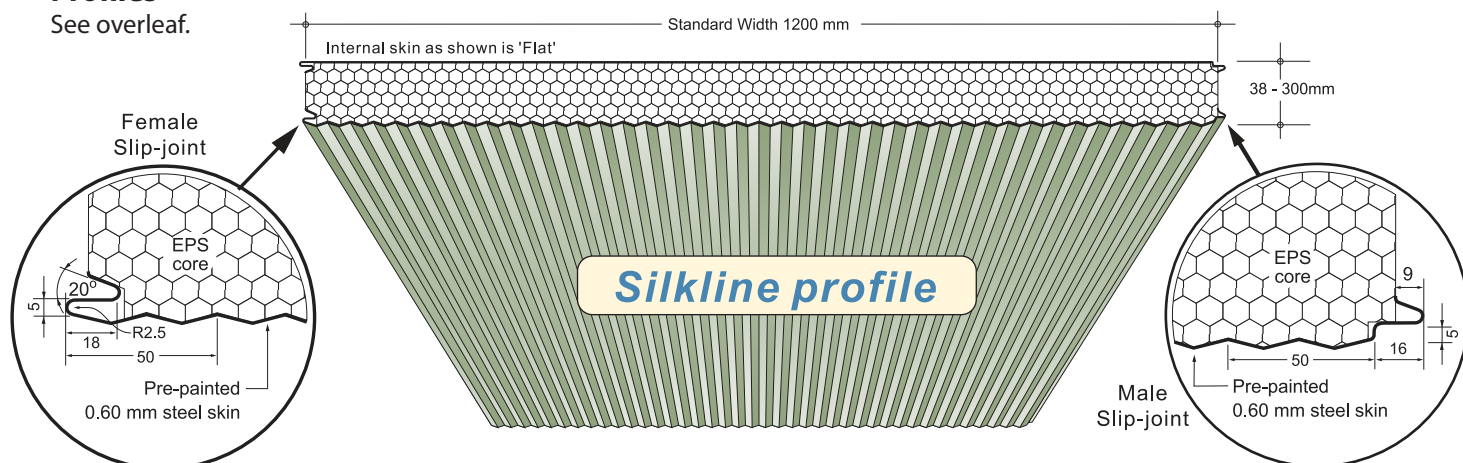
Section properties and mass for unit (1000mm) width of panel, together with the recommended maximum design skin stresses have been determined for panels of varying panel thickness and these are shown below.

0.40mm Steel Skin			
Thickness (mm)	Section Modulus (mm ²)	Maximum Design Skin Stress (MPa)	Weight (kg/m ²)
50	21230	97	7.7
75	32020	90	8.1
100	42800	75	8.4
150	64370	63	9.1

0.60mm Steel Skin			
Thickness (mm)	Section Modulus (mm ²)	Maximum Design Skin Stress (MPa)	Weight (kg/m ²)
50	31590	66	10.9
75	47770	66	11.2
100	63940	66	11.6
150	96300	66	12.2
200	128660	66	12.9
250	161020	66	13.6
300	193380	66	14.4

THERMAL PERFORMANCE (SL Grade EPS core)

Panel Thickness (mm)	R value (m ² K/W)	U factor (W/m ² K)
50	1.32	0.76
75	1.97	0.51
100	2.63	0.38
150	3.95	0.25
200	5.26	0.19
250	6.58	0.15
300	7.90	0.13



TECHNICAL INFORMATION

All information contained in this brochure is available in PDF format at www.australinsulation.com.au



PROPERTIES - ULTIMATE LIMIT STATE

DESIGN LOAD CAPACITY Steel Thickness 0.60mm														
Nominal Panel Thickness	Ultimate Limit State Uniform Design Load Capacity kN/sqm													
	Single Span - Length in metres													
	(mm)	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0
50	2.41	1.93	1.61	1.37	1.06	0.83	0.67	0.55	0.46	0.40	0.34	0.30	0.26	0.21
75	3.64	2.90	2.42	2.08	1.59	1.25	1.02	0.84	0.70	0.60	0.52	0.45	0.39	0.31
100	4.87	3.89	3.25	2.78	2.14	1.68	1.37	1.13	0.95	0.80	0.70	0.61	0.53	0.42
150	7.34	5.88	4.90	4.19	3.22	2.53	2.05	1.69	1.43	1.22	1.04	0.91	0.80	0.63
200	9.81	7.84	6.53	5.61	4.30	3.40	2.75	2.27	1.91	1.62	1.40	1.22	1.07	0.85
250	12.30	9.83	8.19	7.02	5.38	4.25	3.44	2.85	2.39	2.03	1.75	1.53	1.34	1.06
300	12.79	10.23	8.53	7.29	6.38	5.04	4.08	3.38	2.84	2.42	2.08	1.82	1.60	1.26

Slip-joint® male/female mating profile, 1200mm wide Wall panels, 0.40mm Base Metal thickness Colorbond®, raised profile at 50mm spacing on both sides of an SL Grade Polystyrene core.

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Nominal Panel Thickness	Ultimate Limit State Uniform Design Load Capacity kN/sqm													
	Single Span - Length in metres													
	(mm)	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0
50	2.07	1.65	1.38	1.19	1.04	0.82	0.66	0.55	0.46	0.39	0.34	0.29	0	0
75	2.88	2.31	1.92	1.65	1.44	1.14	0.92	0.76	0.64	0.55	0.47	0.41	0.36	0
100	3.21	2.57	2.15	1.83	1.60	1.27	1.03	0.85	0.71	0.61	0.52	0.46	0.40	0.32
150	4.06	3.25	2.71	2.32	2.03	1.60	1.30	1.07	0.90	0.77	0.66	0.58	0.51	0.40

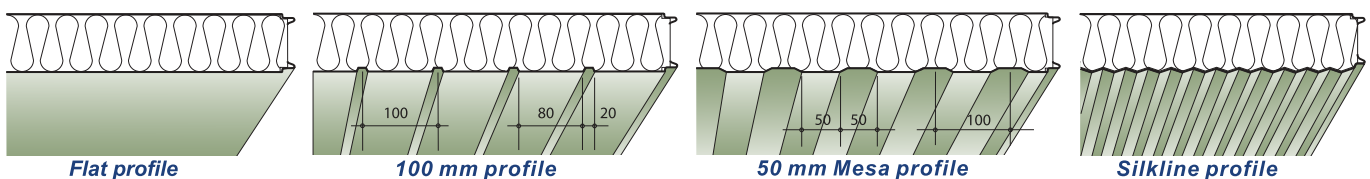
- Notes:
- 1) The tabulated design loads are factored maximum design loads. (In the assessment of the design loads, the designer should take into account the self weight of the Econotilt panel).
 - 2) Compliance with these recommendations will ensure that deflections do not exceed span/90. Where more severe deflection restrictions are required, specific testing of deflection characteristics is recommended for the various span/thickness combinations.
 - 3) A minimum design load of **0.68 kN/m²** is recommended for general applications. Design loads below the lightly shaded area satisfy Serviceability Limits on deflections. Circumstances may require different design loading.
 - 4) Where panels are continuous across a support, it is recommended that stress cuts be made across the inside (or cold side) steel skin adjacent to the supports to prevent buckling of the outer (warm side) skin at the support. Fixings should be provided on both sides of the stress cut.

POLYSTYRENE CORE BUTT JOINTS

The butt joints between the ends of the polystyrene core material have been made by way of finger jointing providing a mechanical bond across the end faces of the core material. The finger joints at the butt joints of the polystyrene core material occur at every joint.

PROFILES

Available with a flat surface finish or low profile of 0.75mm depth to either surface: 100mm Rib profile, 50mm Mesa Rib and Silkline. The Austral Slip-joint® is incorporated into the edges of both surface skins for easy installation.



Austral Insulation reserves the right at all times and without notice to make any changes, modifications or

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