

Ai Panel™ Product Data Sheet

Ai Panel™, a pre-finished metal sheeting having a combustible finish not exceeding 1 mm, is 100% fire-compliant to Australian National Construction Code (NCC) 2019 (Amdt.1) Volume 1 C1.1(b), C1.9(a) & (e)(v), C1.10(a)(ii) & (viii), C1.14, A5.5(2), Schedules 3 & 6, and Volume 2 at 3.7.1.1(e), permitted to use in Class 1 to 9 buildings as elements, ancillary elements, components, linings, materials, assemblies and attachments to ceilings, non-loadbearing internal walls, common walls, and external walls.

Delivered as flat sheet with protective laminated films on both sides, approx. 98% of *Ai Panel™* consists of 5052-marine grade solid aluminium alloy dosed with approx. 2.5% magnesium and 0.25% chromium.

Coated with SAS colours and finishes and H32 tempered, *Ai Panel™* has excellent cold machinability, workability, corrosion resistance, fire resistance and low density, ideal for architecture, shop fitting, signage and other general sheet metal work non-loadbearing applications.

Architects, builders, installers, shopfitters and signage providers are requested to use the following information and independently ascertain material suitability for their requirement.

Typical Ai Panel Compositions

Layer	Thickness t mm	Layer Detail
1	0.025 to 0.035	Fluoroethylene vinyl ether (FEVE) gloss coating – 1.6 mm; or Polyvinylidene fluoride (PVDF) matte coating – 2 & 3 mm
2	0.030 to 0.035	Polyester paint finish
3	0.005	Polyurethane resin undercoat
4	1.6 or 2 or 3	5052 aluminium alloy panel
5*	0.005	Polyurethane resin undercoat – * 2mm only

5052 Solid Aluminium Alloy Chemical Compositions

Element	%	Element	%
Aluminium Al	Balance	Copper Cu	0.10 max
Magnesium Mg	2.2 – 2.8	Manganese Mn	0.10 max
Chromium Cr	0.15 – 0.35	Zinc Zn	0.10 max
Silicon Si	0.25 max	Others, each	0.05 max
Iron Fe	0.40 max	Others, total	0.15 max

Mechanical Properties

Temper	0.2% Proof Stress	Tensile Strength	Elongation
H32	>160 MPa	215 – 265 MPa Thickness dependent	4 – 10 % Thickness dependent

Physical Properties

Property	Value	Property	Value
Density @ 20°C	2,680 kg/m ³	Melting Range	607 – 650 °C
Modulus of Elasticity @ 20°C – Tension	69.3 GPa	Thermal Conductivity @ 25°C	138 W / m °C
	– Torsion 25.9 GPa	Coefficient of Linear Expansion @ 20°C	23.75 x 10 ⁻⁶ / °C
	– Compression 70.7 GPa	Electrical Resistivity @ 20°C	0.05 micro-ohm.m

Combustibility Test Results

Test	Description	Result
AS 1530.1-1994	Combustibility test on building materials, components and structures	Passed Material not deemed combustible
AS 1530.3-1999	Simultaneous determination of ignitability, flame propagation, heat & smoke release	Ignitability Index 0 Spread of Flame Index 0 Heat Evolved Index 0 Smoke Developed Index 1
AS 5637.1-2015	AS 3837-1998 tested for heat & smoke release rate for materials & products using an oxygen consumption calorimeter	Group 1 Material NCC 2019 (Amdt 1) permitted to use as wall and ceiling (including lift car) elements, ancillary elements, components, linings, materials, assemblies and attachments

Notes on Workability

Fabrication	Machinability
Not hot worked. Very readily cold formable. For piercing and blanking, punch to die clearance should be about 7% of the thickness. Sharp tools are required. Bending radii = 1 to 1.5t.	Readily machinable by conventional methods. Machine and cut at high and continuous speed with sharp tools of steel or tungsten carbide, and copious lubrication.

Panel Weight

2400 x 1200 x 1.6 mm	3600 x 1200 x 1.6 mm	3000 x 1500 x 1.6 mm	-	-
12.49 kg	18.73 kg	19.51 kg	-	-
2400 x 1200 x 2 mm	3600 x 1200 x 2 mm	3000 x 1500 x 2 mm	4000 x 1500 x 2 mm	-
15.61 kg	23.41 kg	24.39 kg	32.16 kg	-
2500 x 1250 x 3 mm	3200 x 1250 x 3 mm	4000 x 1250 x 3 mm	3200 x 1500 x 3 mm	4000 x 1500 x 3 mm
25.61 kg	32.41 kg	40.51 kg	39.39 kg	48.27 kg