

**Symonite
Decorative
Panelling**

symonite

WHY SYMONITE?



Symonite is the only Australian manufactured aluminium composite panel. An Australian owned company whose continuous composite panel research and development sees them as specialists in the manufacture of fire resistant materials for the building and transport industries.

THE CORE

Symonite is manufactured from a core of fully cured 'A' resol fibre reinforced Phenolic resin which is chemically bonded under heat and pressure to a wide range of metallic faces including mill finished, anodised or PVDF painted aluminium.

THE ADVANTAGES

The advantages of Symonite over other composite panels stem from its unique thermosetting core construction.

Extreme Impact Resistance makes Symonite more than cost competitive in comparison to solid metal sheet or Polyethylene cored panels in public areas, which are subject to high mechanical damage or facades prone to damage from impact i.e. hail.

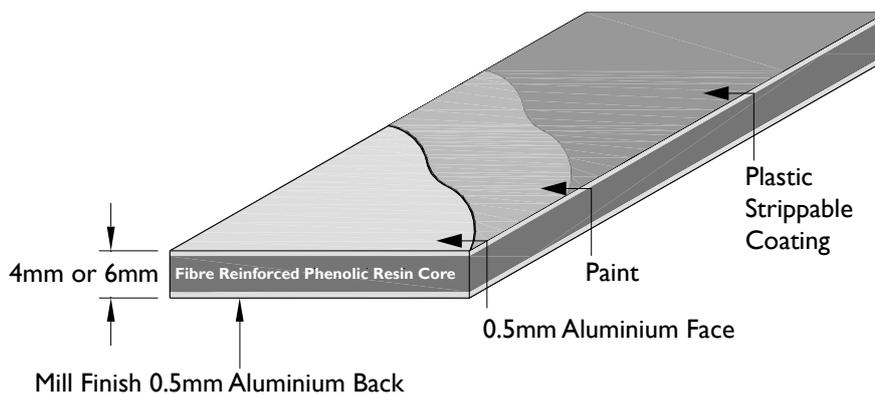
Fire Resistance makes Symonite a suitable building element where compartmentalisation of fire is an important aspect in fire safety engineering and design.

High Thermal Temperature Stability prevents creep and telegraphic deformation of the external face of the panel on high ambient or high surface temperature conditions because the core does not soften.

UV Stability means that the panel edges can be fully exposed to the elements thus introducing design and fabrication options for Architects and Designers which can reduce total installed costs.

Silicone Edge Bonding means panels can be structurally glazed thus increasing design options and also reducing fabrication and installation costs.

Homogenous Thermal Expansion means no differential thermal expansion between the panel's aluminium skin and it's core, thus ensuring panel flatness over a wide temperature range.



Symonite, an impressive finish in any application.

- Hotels
- Airports
- Hospitals
- Shopfitting
- Schools & Universities
- Residential Apartments
- Entertainment Stadiums
- Refurbishment / Retrofit
- Aquatic & Leisure Centres
- Commercial Warehouse & Office Facilities



QANTAS Hanger



B/Braun Building



Woonona Town Houses

The perfect facade for any design

Why Symonite?

Deal direct with an Australian owned manufacturing company who offer Australian Architects and Designers innovative products for award winning & creative designs.

Paint Finishes

The outer face of Symonite usually consists of an aluminium skin continuously coil-coated with a PVF2 (PVDF) paint system. This system has an expected useful life under normal conditions for a minimum of 20 years.

Fire Performance

Symonite's phenolic resin core has excellent fire performance properties. CSIRO fire tests confirm that Symonite complies with the Building Code of Australia requirements for use as interior and exterior cladding.

Toughness

Symonite is stiffer and more rigid than most other composite panel products of equal thickness. It requires less support to resist deflection under load. It is less prone to impact damage, an important consideration in handling and use on building sites.

Fixing Alternatives

Silicone bonds well to the phenolic resin core of Symonite. This property allows Symonite to be silicone-glazed the same as a panel of glass, and to be butt-jointed with a silicone filler. Symonite offers flexibility when choosing your fixing system.



Symonston Eye Hospital



Innovation House

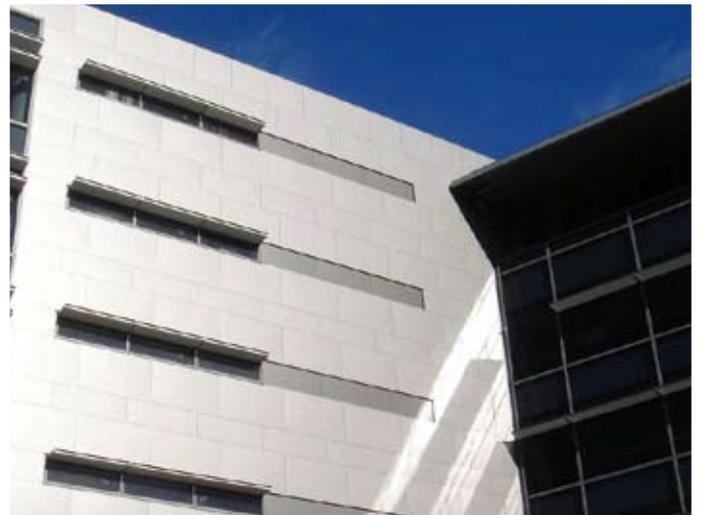


John Curtin Medical Centre

Symonite, having stood the test of time over the past 20 years, has demonstrated the quality and durability of its composite panel products in a variety of decorative facade applications.

You are limited only by your imagination when using Symonite composite panels for your designs. Symonite is available in a variety of colours and surface finishes and is manufactured to your exact specifications.

Consistency in corporate identity and branding can be maintained using Symonite's range of composite panels when designing service stations, warehousing, motor dealerships, hotels, financial institutions and franchise networks.



Mirvac Commercial Offices



Sydney University



Private Residence

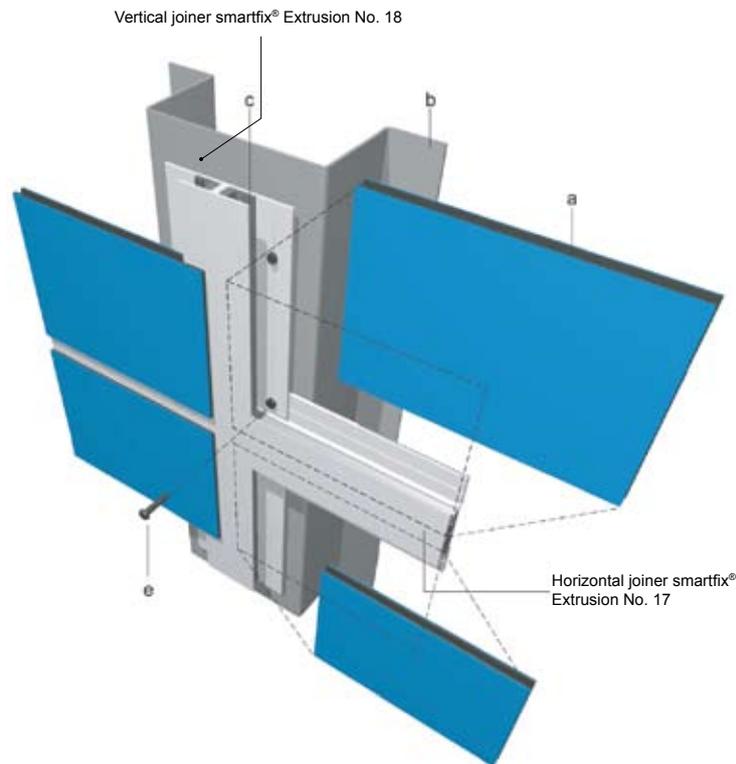


Botany Grove Business Park

HOW TO INSTALL SYMONITE

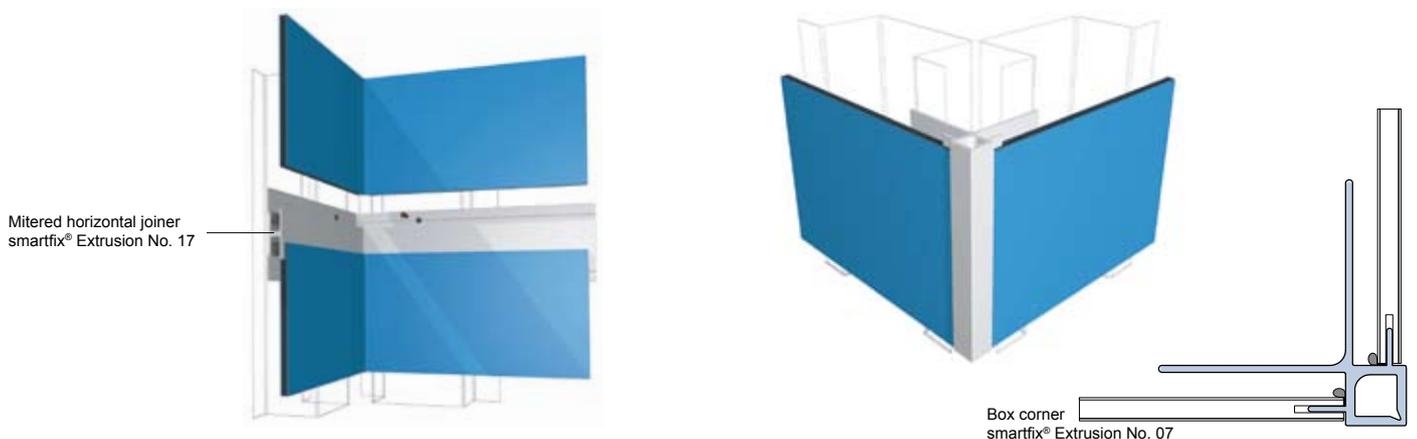
smartfix® Extrusions No. 17 and 18 Horizontal and Vertical Joiners

Joiner smartfix® Extrusions No.17 and 18 below are a quick and efficient way to join a variety of selected smartfix® panels. This method of fixing will enable the jointing process to become a part of the holistic approach to facade design. Jointing extrusions can be powder coated, anodised even reshaped to achieve a number of outcomes. Consult a smartfix® representative for all design alternatives and extrusion options.



Alternate Corner Details

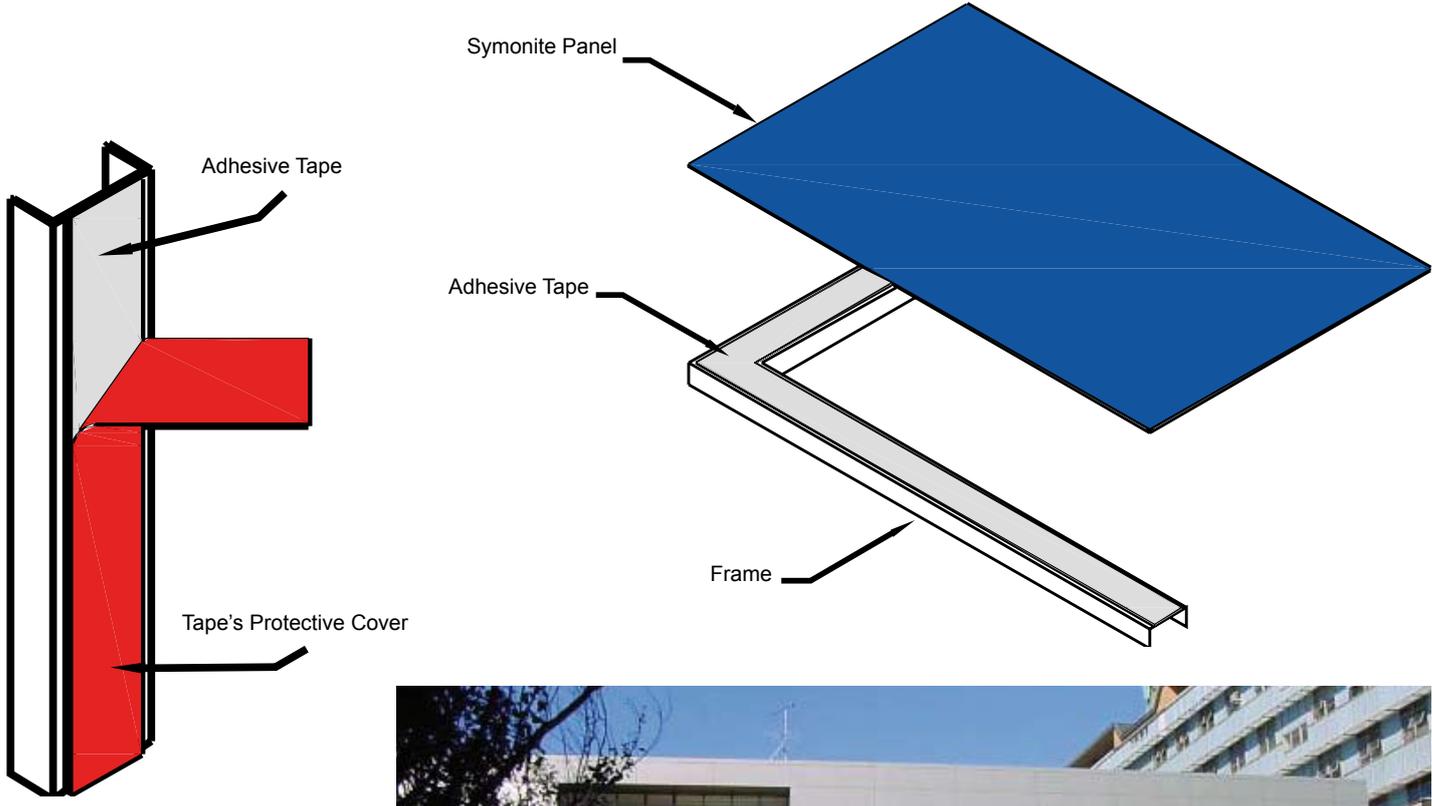
There are a variety of external and internal corner solutions available from the smartfix® range. This page indicates two of the more commonly used solutions for this application. If an extrusion detail is not what you require, facade panels can be folded at either external or internal corners, then supported by using the typical horizontal joiner extrusions No.17. A smartfix® representative can be contacted to assist on a variety of solutions.



For more information on smartfix® products visit www.smartfix.com.au

3M VHB Tapes

3M™ VHB™ Tapes expand the range of design and material options by joining dissimilar materials: 3M™ VHB™ Tape prevents bi-metallic corrosion. 3M™ VHB™ Tapes allows a greater range of material selection including the use of lighter weight and thinner substrates that cannot be fastened with conventional fasteners. Consult a 3M™ VHB™ Tapes representative for all tape options.



Cassette Fixing

These are cladding elements with folded edges on all sides. They are exclusively profiled to customer specifications or to meet specific architectural requirements.

Cassette cladding allows a great deal of flexibility in relation to formats, the layout of joints and fixing principles. Folded edges on every side allow large sheet metal parts to lie even with the cladding surface.

Fixing is usually achieved by riveting, screwing, using angle brackets or using bolt hooks to fix the cassettes directly to the frame.

FINISHES & COATINGS

Symonite can be supplied in a wide range of colours and finishes.

The following are the more popular colours and finishes on Symonite.



Champagne Metallic (PVDF)



Graphite (PVDF)



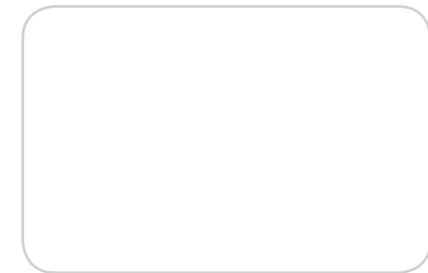
White Lace (PVDF)



Altnum Bronze Metallic (PVDF)



Storm Grey (PVDF)



Kosciusko White (PVDF)



Smoke Blue Metallic (PVDF)



Tangerine Metallic (PVDF)



Coral White (PVDF)



Pewter (PVDF)
Other metallic finishes are also available.



Mill Finish Stucco
Stucco is available in a range of colours.



Alliance Grey (PVDF)

TECHNICAL DATA

Symonite is an Australian manufactured composite panel, produced exclusively by Symonite. It is suitable for curtain walling and cladding, fascias, columns, furniture, signage, soffits, spandrels, balustrades or wherever a non-flammable, strong yet lightweight panel is required.

Standard Panels

Thickness: 4mm or 6mm. Other thicknesses available up to 25mm.
Width: 1220mm
Lengths: 1850mm, 2150mm, 2500mm, 2850mm
Mass: 4mm – 6.7kg/m² 6mm – 9.4kg/m²

Standard Symonite is manufactured with 0.5mm aluminium faces; the exterior face is coil coated with PVDF, the interior face is normally mill finished. Other sizes, thickness and finishes may be available on request.

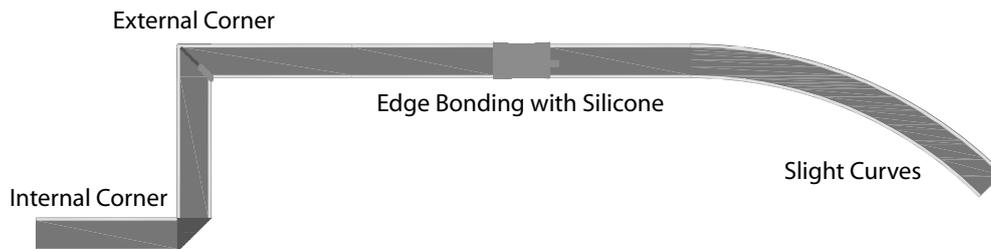
Core

The core is fully cured fibre reinforced Phenolic Resin bonded under heat and pressure to the outside metal faces.

Curved Shapes, Physical & Mechanical Properties

Minimum Radius	Modules of Rupture (Bending)	Bending Stiffness (EI x 1000)	Ultimate Sheer Resistance (in plane of core)
4mm panel 450mm	190 MPa	245 Nmm ² /mm	11.5 MPa
6mm panel 600mm	190 MPa	615 Nmm ² /mm	11.5 MPa

It is recommended that the tensile stress in a panel under maximum wind load should not exceed 71 MPa.



Thermal Expansion

Coefficient of thermal expansion: 22×10^{-6} mm/mm/°C

Thermal Resistance

Symonite is stable up to a temperature of 150°C. 4mm – 0.010m²K/W; 6mm – 0.018m²K/W

Acoustic Properties

4mm – 29dB; 6mm – 30dB

Fire Performance

- AS1530.3 – 1989: Tests for Early Fire Hazard properties of materials: Ignitability Index (Range 0 – 20) – Rating 0; Spread of Flame Index (Range 0 - 10) – Rating 0 – 1.
- BS476 Part 6: Method of test for fire propagation of materials. Result: Index i_1 -0.0; Index i_2 -0.5; Index i_3 -0.2; Fire propagation Index – 0.7.
- BS476 Part 7 1987: Method for classification of the surface spread of flame of products. Classification – Class 1.
- Building Code of Australia: Symonite complies with the BCA requirements regarding materials suitable for the exterior cladding of a building façade on a multi storey building. See CSIRO Opinion Number FCO-1024 for full details.

Durability

No change in bond strength after 1000 hours of acid salt spray exposure in accordance with ASTM B287-74.

Technical Advice

For further information on design, test results, specifications, manufacture and installation of Symonite Composite Panels & Flooring please contact Symonite on +61 2 9677 0555.

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