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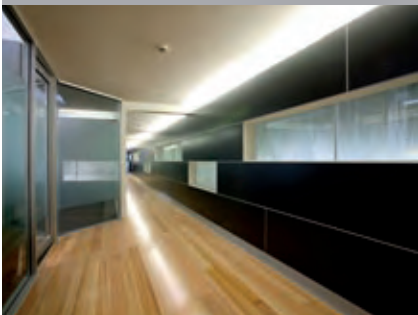
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Company Profile

smartfix® Industries - a proud Australian owned family company - can claim over thirty years of experience in commercial construction together with a truly enviable reputation for quality service.

During the building boom of the late nineties, preparing for the most successful Olympics ever, smartfix® Industries did indeed excel in their field of expertise, building facades, by developing superior fixing systems to replace the inferior products that were rife at the time.

- smartfix® systems have well exceeded the Australian Standard requirements AS4284 for Weather Performance and Structural Integrity.

The smartfix® system easily attained a pass at the CSIRO test laboratories – despite being bombarded with water at over fifty litres per second while subject to intense negative and positive pressure .

The smartfix® method has eliminated obtrusive and unsightly screws, tapes and heavy face sealants. smartfix® fixing components are easily adaptable to all termination points of the facade.

The CSIRO have referred to the smartfix® system as

“sharp and clean with pleasing architectural features which is both waterproof and self draining”

Leading suppliers, dealing in the gamut of construction panels, know all too well the necessity for a well engineered fixing system to achieve an optimum result that will maintain throughout the years. That is why smartfix® Industries has produced a mechanical fix system which is available in unlimited colours for all vertical and horizontal jointing, window framing and parapet cappings, for both internal and external applications.

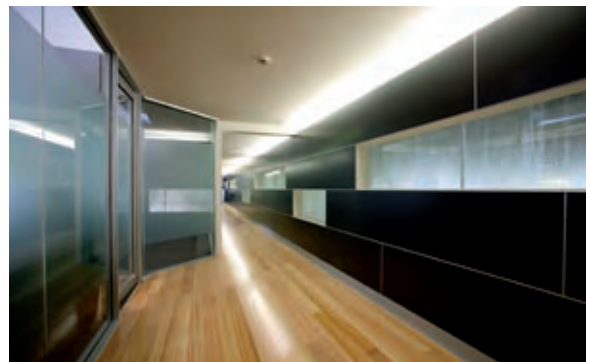
smartfix® Industries have been involved in some of the largest cladding projects in the construction industry, to name a few : the National Museum of Australia Façade rainscreen and the recently completed Department of Immigration (a recent MBA winner of building excellence).

smartfix® addresses all issues regarding the environment which allows all aluminum fixing components to be easily removed and reused or recycled.

smartfix® Industries’ credibility and commitment to quality of product are renowned nationwide.

Those at smartfix® Industries take a genuine pride in offering a product of unquestionable high quality that is enduring.

smartfix® *Committed to Australian building excellence.*



smartfix® Head Office - Canberra, ACT

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smartfix® Advantages



Hume City Council Building - Hume, Vic
Architects: Lyons Architects

- Concealed fixed facade system for internal and external applications.
- The smartfix® system has been specifically designed and engineered to suit Australian conditions.
- Suitable for commercial and residential applications.
- Cosmetically and structurally the smartfix® system has set the benchmark for facade design.
- Design flexibility is provided by the many different jointing and corner profiles.
- smartfix® profiles available in unlimited finishes. Included are Powdercoat finishes, Anodised finishes, Mill and Metallic finishes.
- Heavy silicones double sided tapes are a thing of the past with the use of the new smartfix® fixing technology.
- The smartfix® range of prefinished panels provides great versatility, all encompassed by the superior fixing system of smartfix®.



Joints available in unlimited colours

wide range of external and internal prefinished panels available. Award winning Aluminium composite panel and timber veneer panels. Acoustic panels also available.

- Pre-finished panels help eliminate the hazards of on-site painting
 - Dust.
 - Inclement weather (lost time).
 - Cost of scaffold.
 - Contamination of nearby sensitive surfaces.
 - In factory painting allows maximum control of all variables to ensure optimum long-term performance.
 - Easy to clean in the course of cyclic maintenance.
- The well designed smartfix® Boot gasket assists with acoustic performance as well as providing a water tight seal.
- The smartfix® fixing system is sold as a complete system with each nominated panel.
- Extensive warranties provided for the complete system with recommended panels.
- smartfix® is fully patent protected. smartfix® can only be used on panels which have been fully tested encompassing the smartfix® system.
- Recommended contractors & installers reside in each state of Australia.
- All contractors undergo inhouse training prior to the installation of the smartfix® system. This protects the quality of the finished product.
- smartfix® can assist with design solutions and provide samples for both architects and clients.
- The smartfix® Facade system has been tested and far exceeds Australian Standards requirements.
- Undoubtedly the smartfix® system adds exceptional value to the building.
- The team at smartfix® Industries provides free technical advice and on-site backup.



reddot design award honourable mention 2008

- In the context of outstanding performances, smartfix® have been awarded an honourable mention for successful detail solutions by an international jury in Essen Germany. This goes hand in glove with the privilege of carrying the "honourable mention 2008" quality seal which stands for outstanding design and belonging to the best in the industry.

smartfix® Fixing System



Australian Bureau of Statistics - Canberra, ACT
Architects: Woods Bagot

With an emphasis on flexibility, a wide range of smartfix® aluminum extrusions have been developed to provide the designer with a number of fixing options for both internal and external applications.

Engage a representative at the early planning stages and we can assist in showing how your facade can best utilise the efficiencies of the smartfix® fixing system.

A variety of extrusions can be configured in a number of ways to suit architectural needs. To create a facade free of exposed fixings was once an involved task, and more commonly achievable with the use of exposed silicones.

The smartfix® fixing system has been developed to introduce a more efficient way of creating a facade free of exposed fixings and sealants, acknowledging the importance of architectural and aesthetic demands.



Qantas Hangar - Canberra, ACT
Architects: Daryl Jackson Alastair Swain P/L



Australian National University, Medical School - Canberra, ACT
Architects: May Russell Architects



Pfizer Learning / Conference Centre - West Ryde, NSW
Architects: Project Control Group

smartfix[®] Aluminium Fixing Profiles - Colour Options

1. Untreated Profiles: (Mill Finish)

Aluminium profiles without surface treatment. Extrusions of various industrial and architectural aluminium profiles are available

2. Anodising & Electrocolouring:

Anodising is an electro-chemical process used to create a protective film, a wide range of colours and shades can be obtained on the surface of aluminium profiles through the process of electrocolouring. The coating grows from the base aluminium metal by this electro-chemical process. The coating is integral to the metal and can not peel or flake. The structure of the coating is many small hexagonal pores, which are filled with a "seal" that hydrolyses these pores to fill them with inert aluminium oxide. The anodised profile has excellent weatherability and is abrasion resistant. Anodising gives aluminium a deeper, richer metallic appearance.

3. Powder Coating:

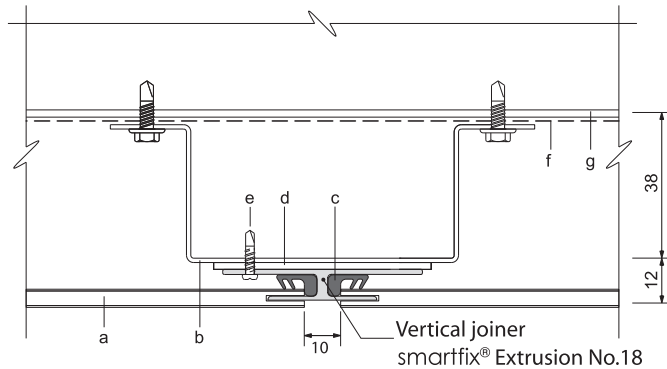
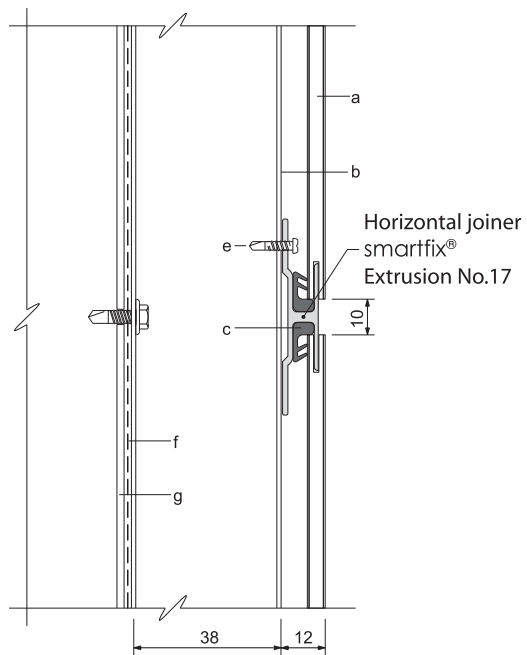
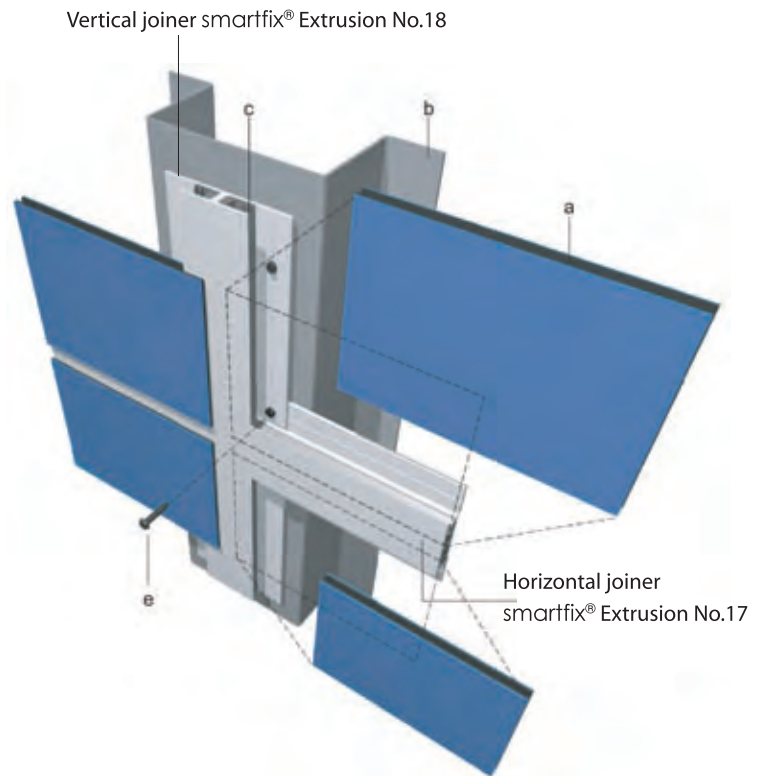
There are unlimited colours available to provide a wide leeway for the designers. It has stable properties and strong coating film adhesion. It cannot easily peel off. It is acid, salt and slurry corrosion resistant and has outstanding durability and weatherability. The powder coating film is not volatile or oxidised in the air. It is environmentally friendly and causes no pollution.

Jointing Options

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



Kingston Canberra commercial office suites 2002

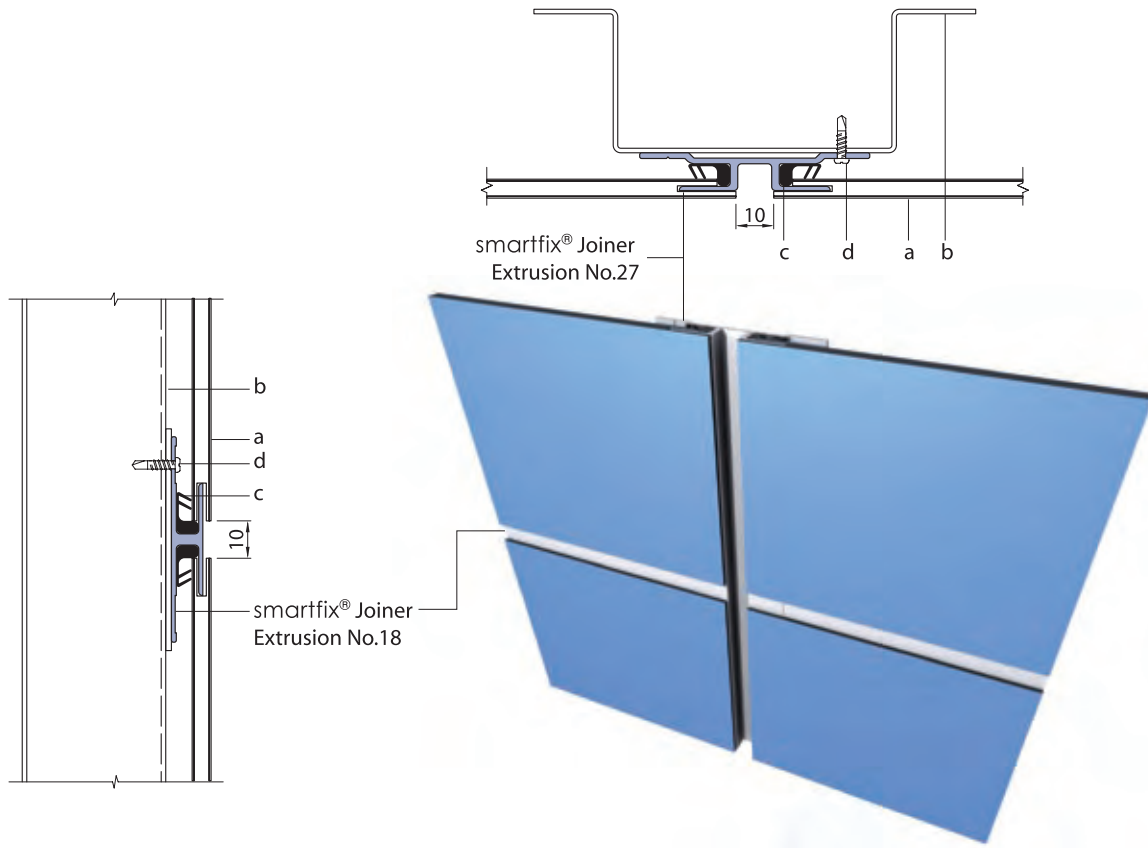


- a. 5mm symfix composite panel (please contact smartfix® for other panel options)
- b. 70x38x1.2mm top hat section or structure as required
- c. EPDM gasket or appropriate sealant for concealed weather seal
- d. Plastic packer
- e. Wafer head tek screws
- f. Vapour barrier between top hat and support structure
- g. Main support structure

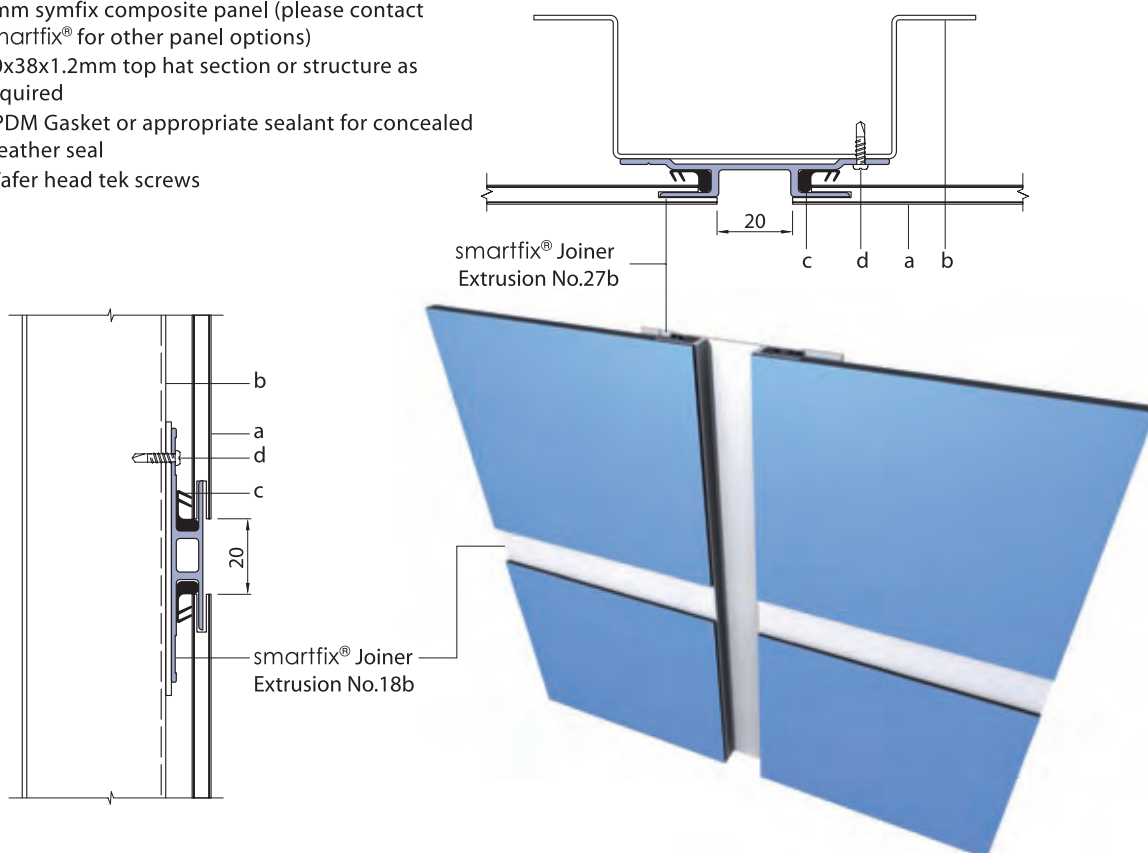


Joint Alternative Details

Jointing Alternatives Using smartfix® Joiner Extrusions No.27 & 27b

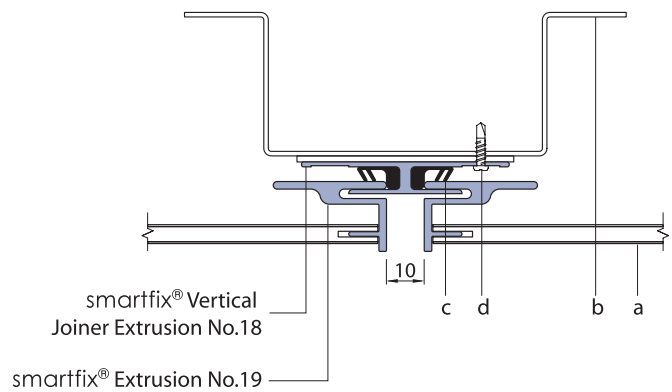
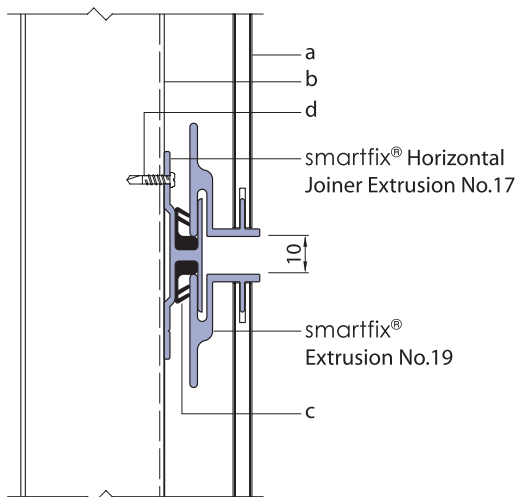
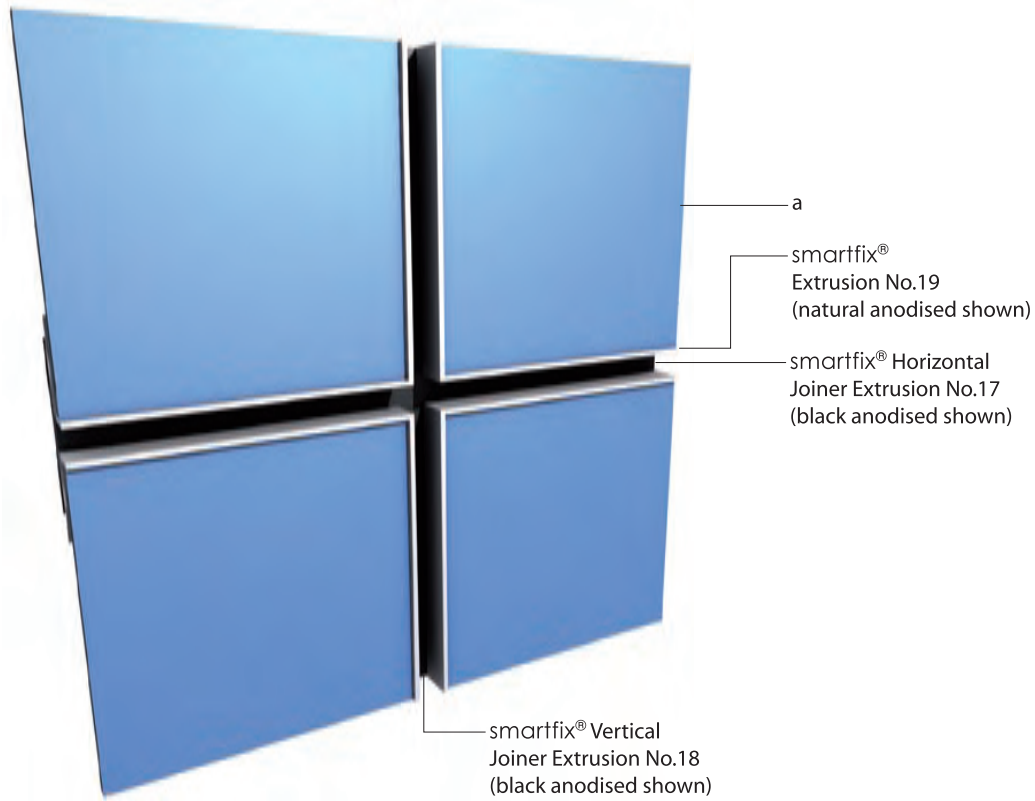


- a. 5mm symfix composite panel (please contact smartfix® for other panel options)
- b. 70x38x1.2mm top hat section or structure as required
- c. EPDM Gasket or appropriate sealant for concealed weather seal
- d. Wafer head tek screws



Joint Alternative Details

Jointing Alternatives Using smartfix® Joiner Extrusions No.17, 18 & 19

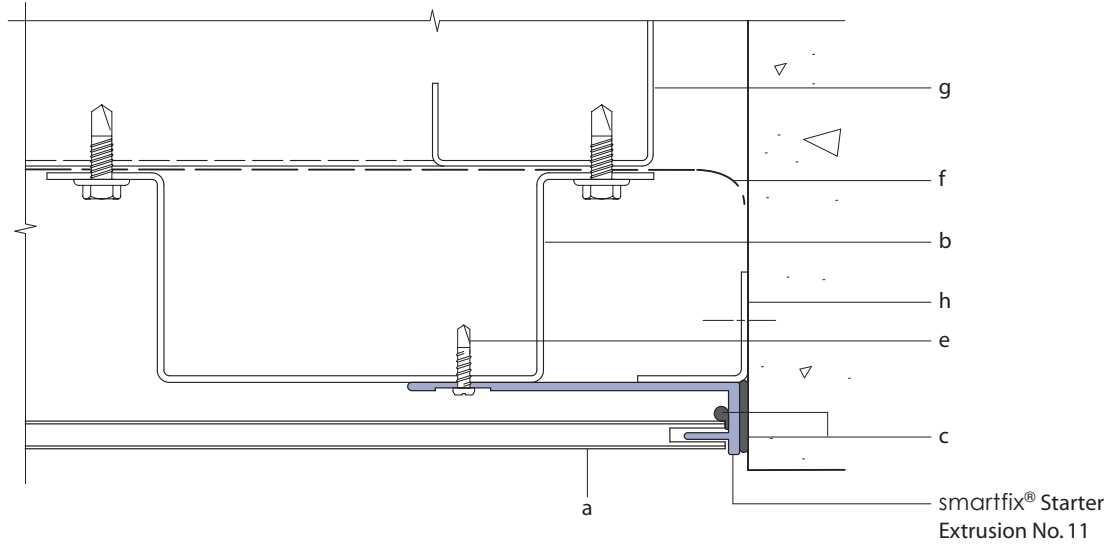


- a. 5mm symfix composite panel (please contact smartfix® for other panel options)
- b. 70x38x1.2mm top hat section or structure as required
- c. EPDM Gasket or appropriate sealant for concealed weather seal
- d. Wafer head tek screws

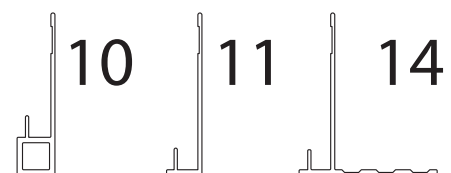
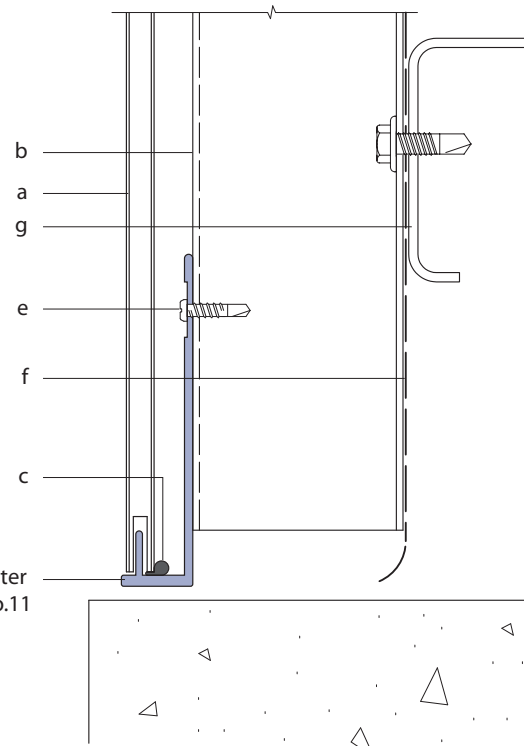
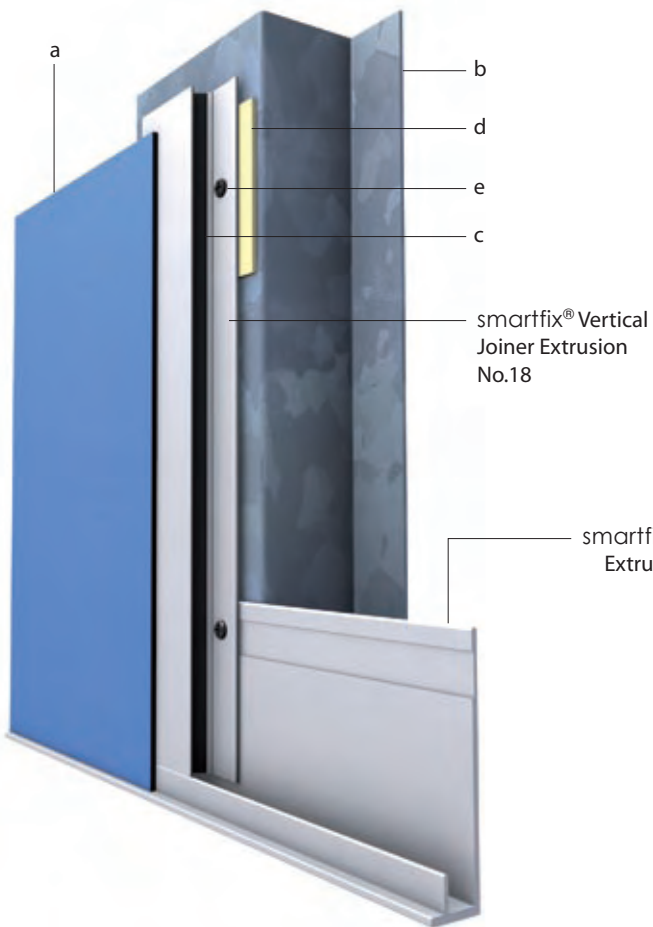


Starter & Abutment Details

Typical Starter & Abutment Details Using smartfix® Starter Extrusion No.11



- a. 5mm symfix composite panel (please contact smartfix® for other panel options)
- b. 70x38x1.2mm top hat section or structure as required
- c. EPDM gasket or appropriate sealant for concealed weather seal
- d. Plastic packer
- e. Wafer head tek screws
- f. Vapour barrier between top hat and support structure
- g. Main support structure
- h. Support Angle



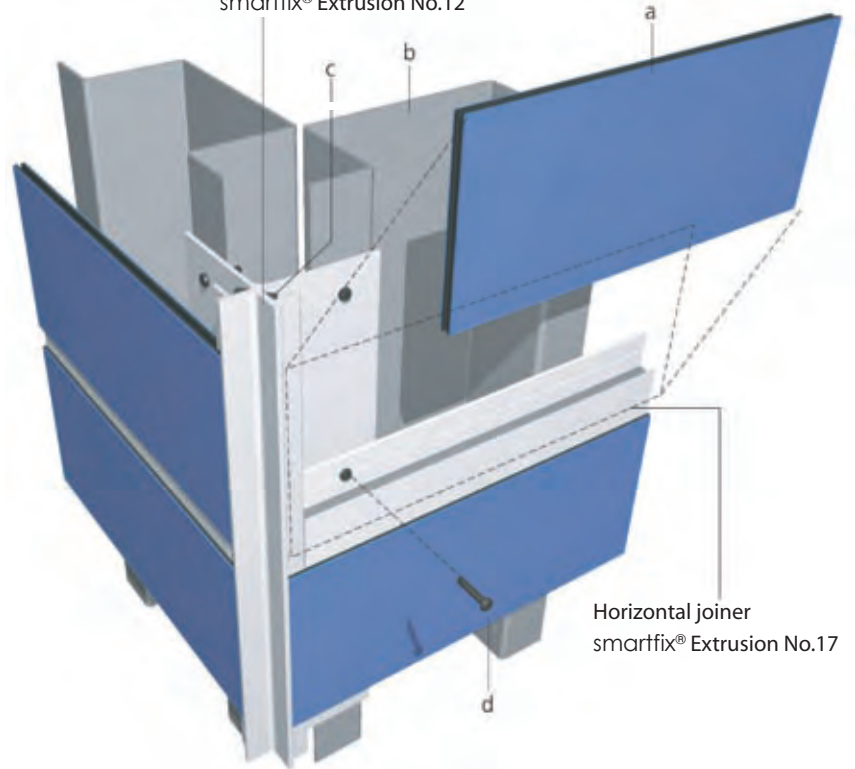
External Corner Details

smartfix® Extrusion No.12 External Corner Detail.

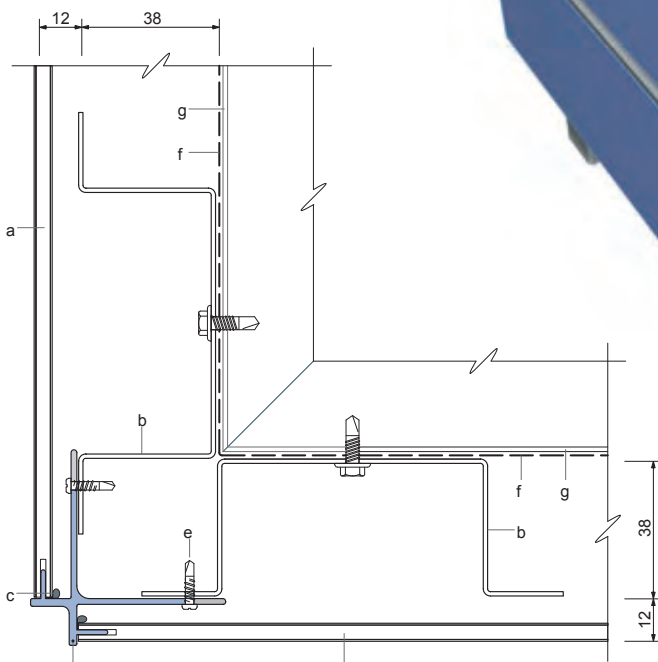


ANU Medical School - Canberra
Architects: May Russell Architects

Negative corner
smartfix® Extrusion No.12



Horizontal joiner
smartfix® Extrusion No.17



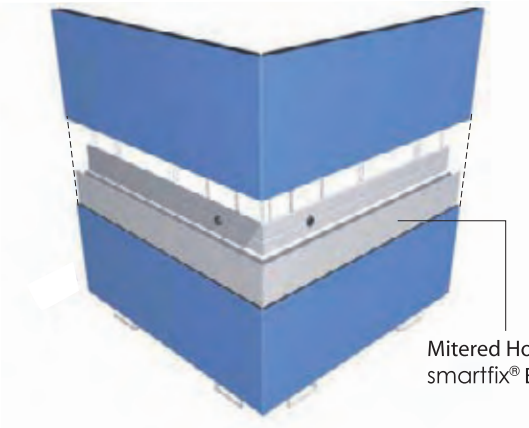
Negative corner
smartfix® Extrusion No.12

- a. 5mm symfix composite panel (please contact smartfix® for other panel options)
- b. 70x38x1.2mm top hat section or structure as required
- c. EPDM gasket or appropriate sealant for concealed weather seal
- d. Plastic packer
- e. Wafer head tek screws
- f. Vapour barrier between top hat and support structure
- g. Main support structure



External Corner Alternatives

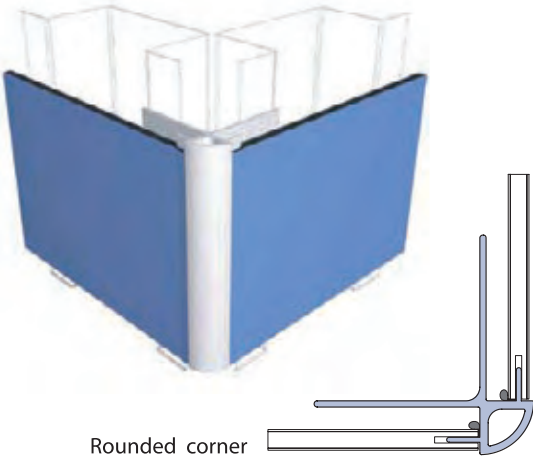
Alternate External Corner Details



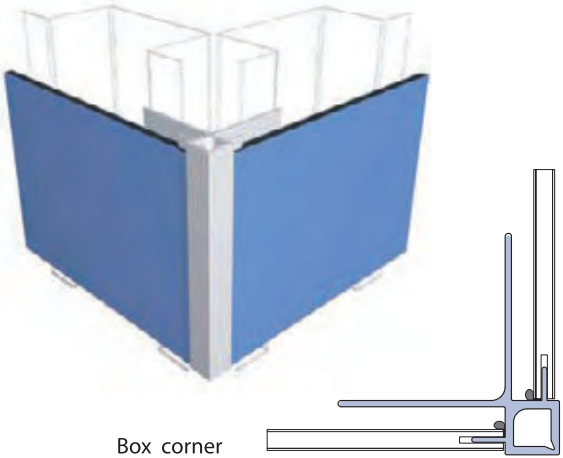
Mitered Horizontal joiner
smartfix® Extrusion No. 17



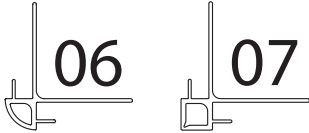
Folded panels for external corners



Rounded corner
smartfix® Extrusion No. 06



Box corner
smartfix® Extrusion No. 07

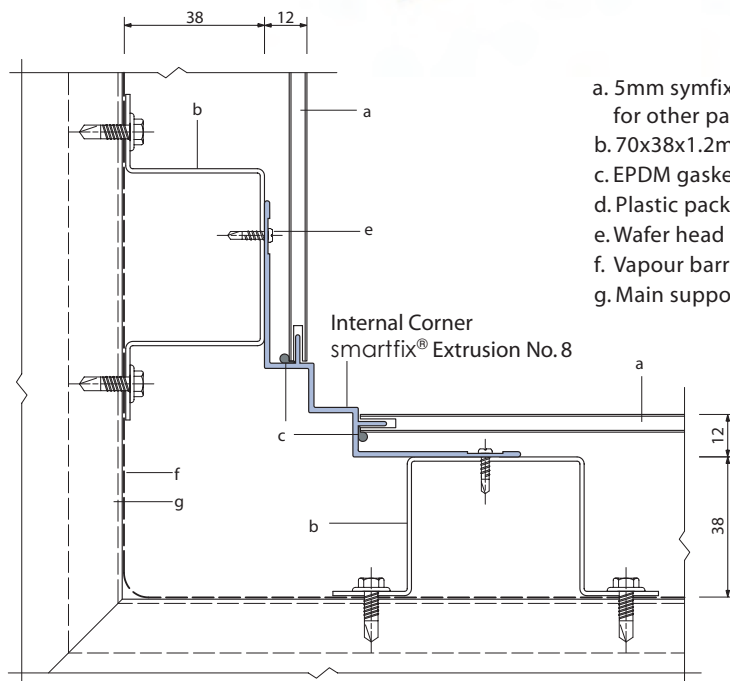
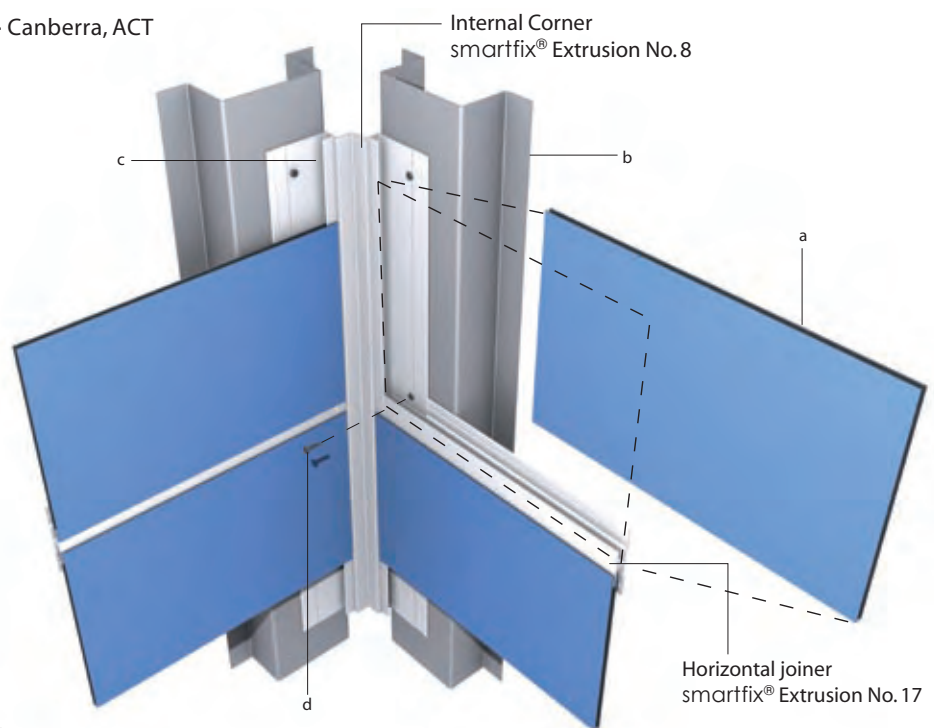


Internal Corner Details

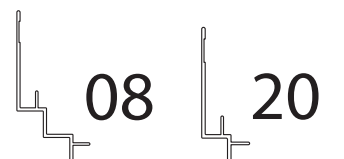
smartfix® Extrusions No. 8 and No. 20 Internal Corner Details



John Curtin Medical School - Canberra, ACT
Architects: Lyons Architects



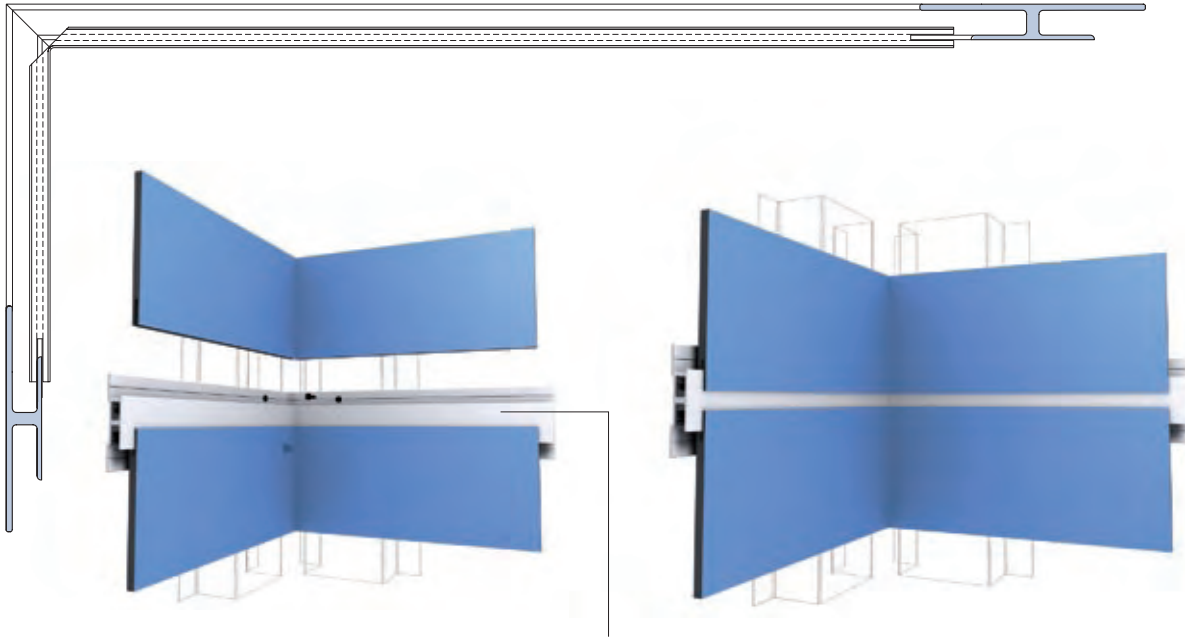
- a. 5mm symfix composite panel (please contact smartfix® for other panel options)
- b. 70x38x1.2mm top hat section or structure as required
- c. EPDM gasket or appropriate sealant for concealed weather seal
- d. Plastic packer
- e. Wafer head tek screws
- f. Vapour barrier between top hat and support structure
- g. Main support structure



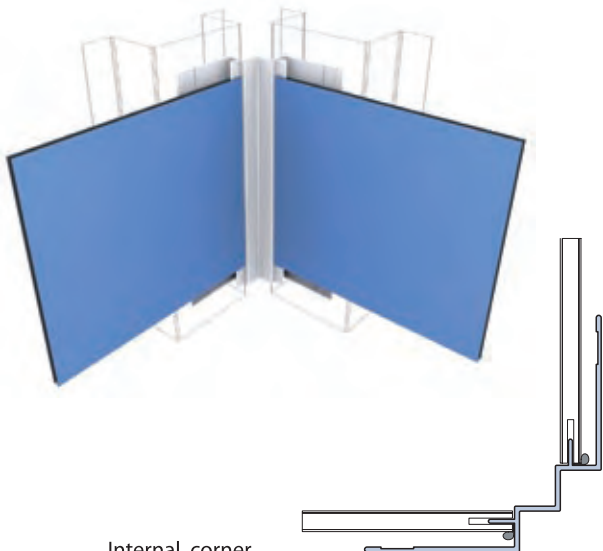
Internal Corner Alternatives

Alternate Internal Corner Details

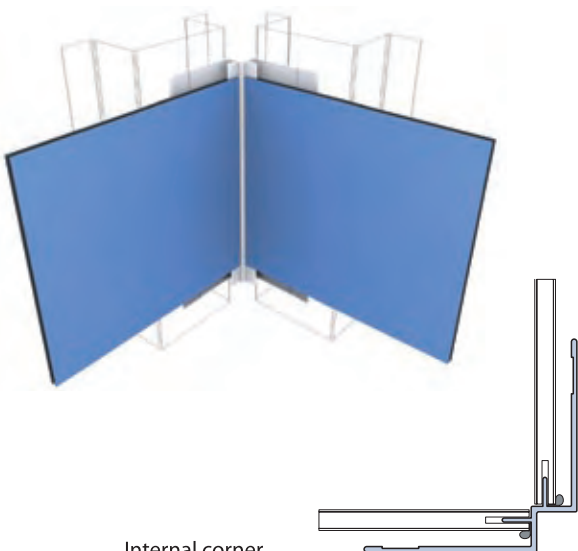
Folded panels for internal corners



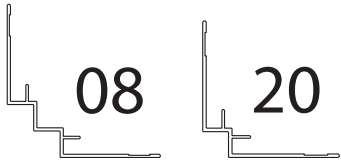
Mitered Horizontal joiner
smartfix® Extrusion No. 17



Internal corner
smartfix® Extrusion No. 08

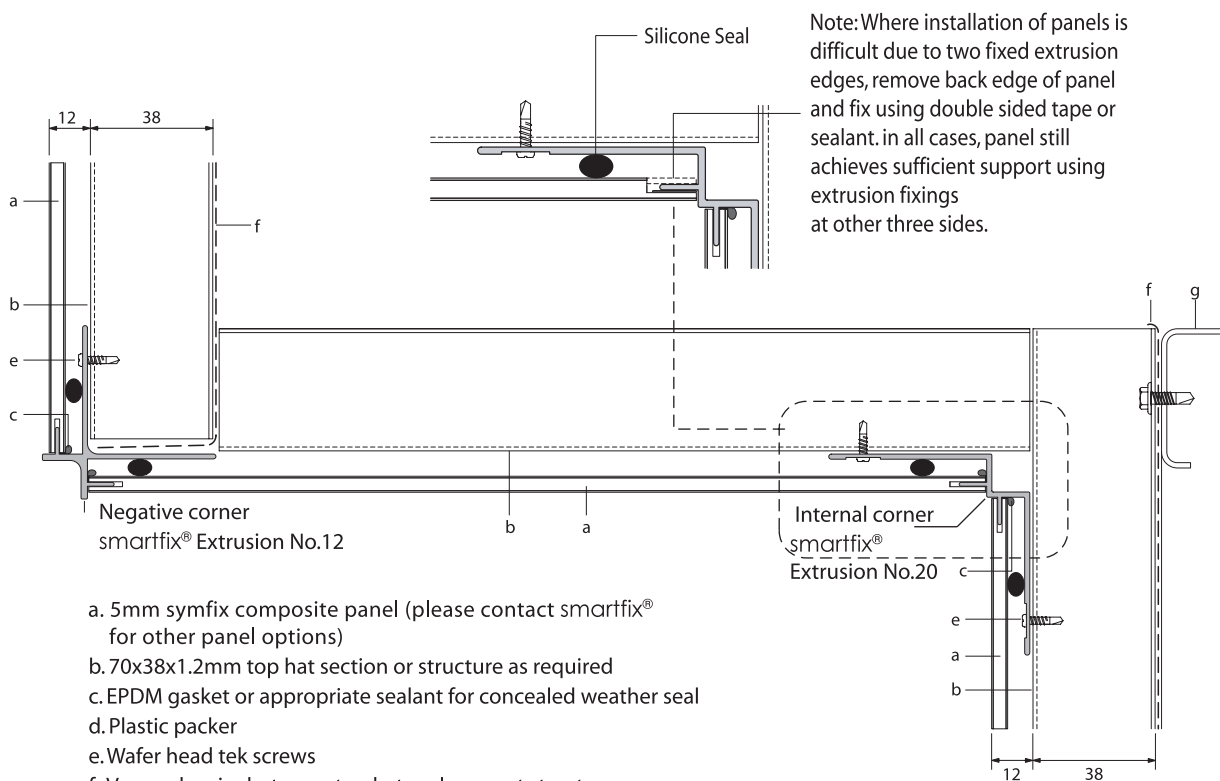
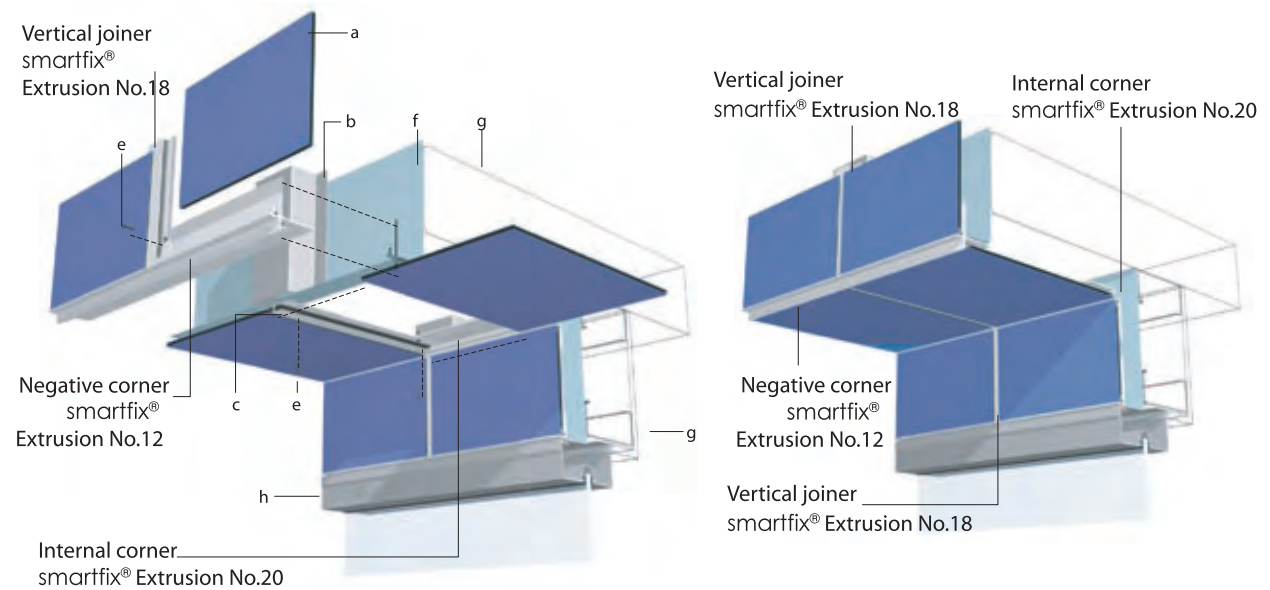


Internal corner
smartfix® Extrusion No. 20

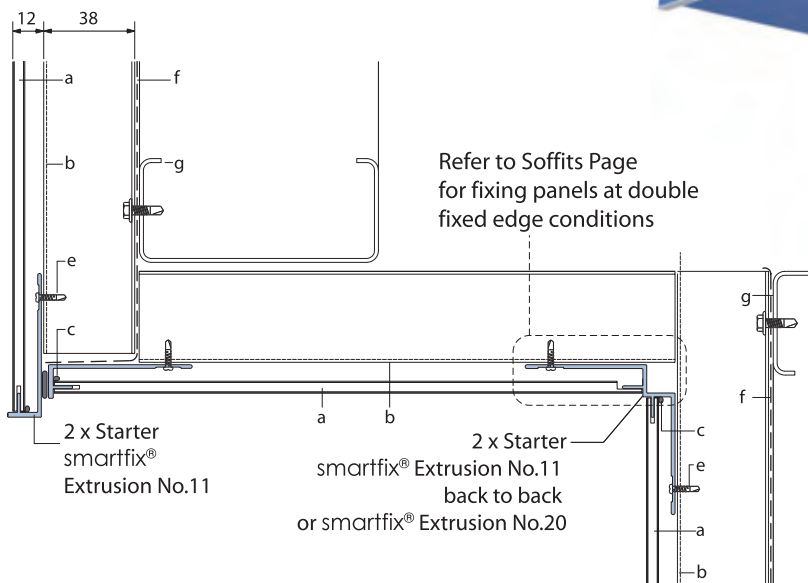
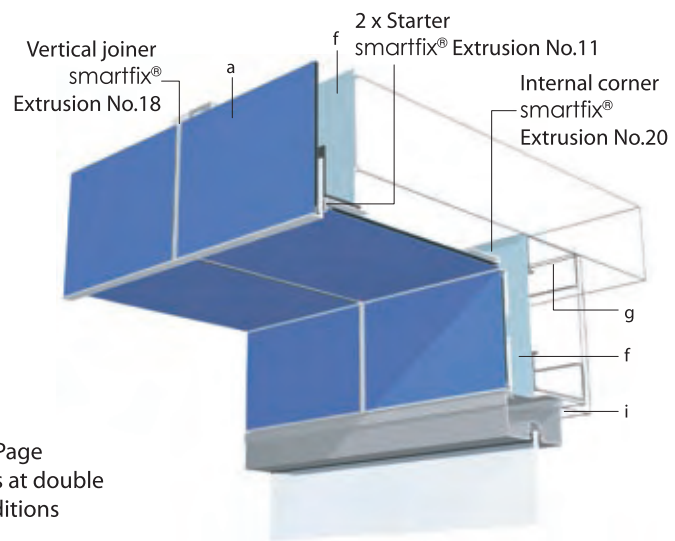
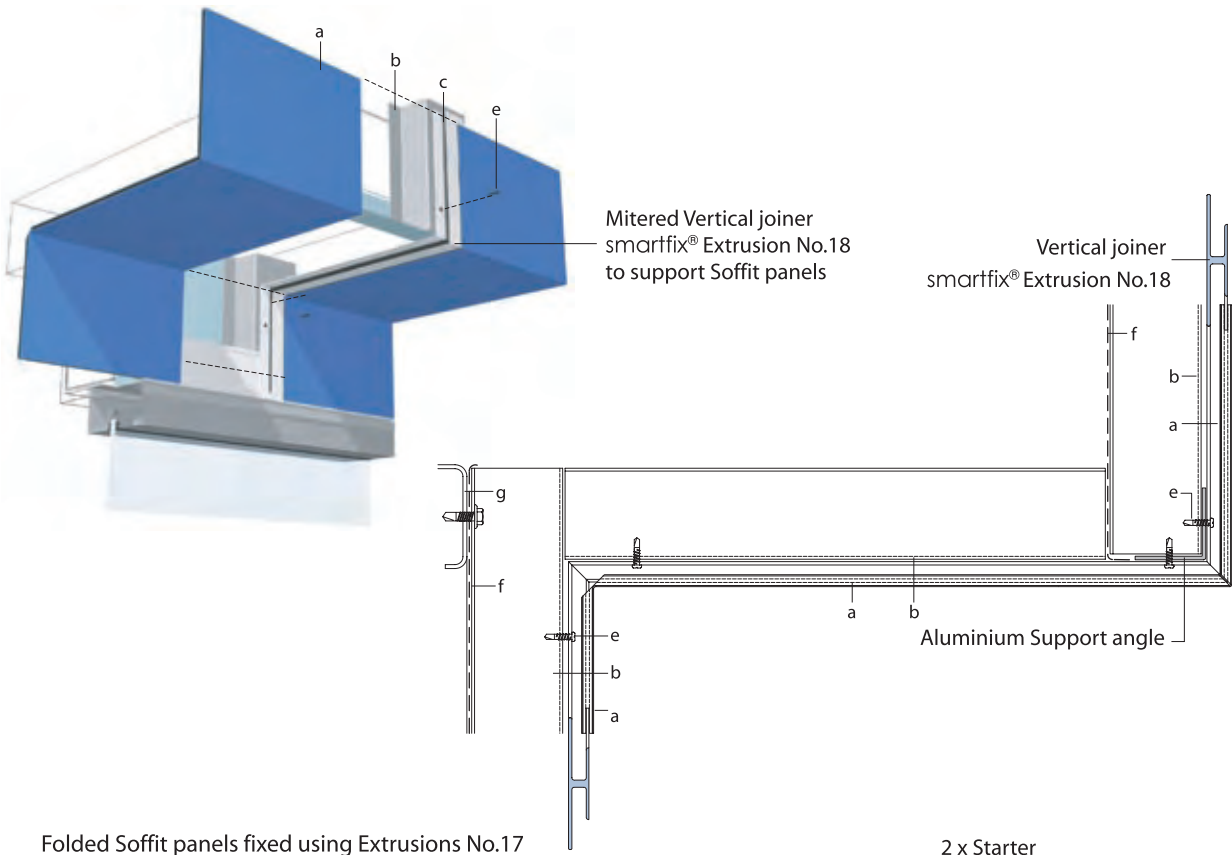


Soffits

smartfix® Extrusion No.12 & No.20 Soffit Details



Alternative Soffit Details



Soffit panels fixed using a combination of Extrusions No.11 & 20

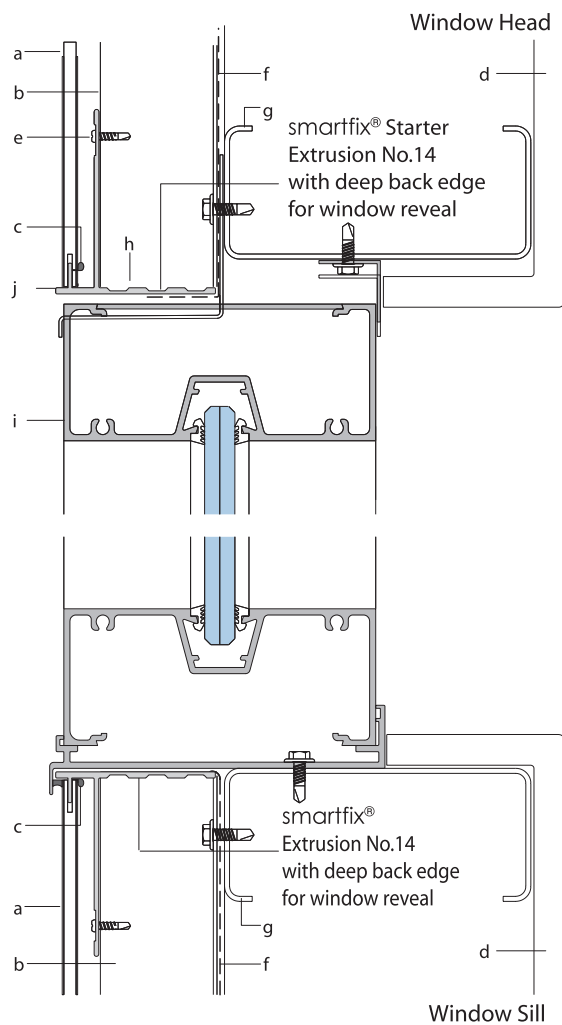
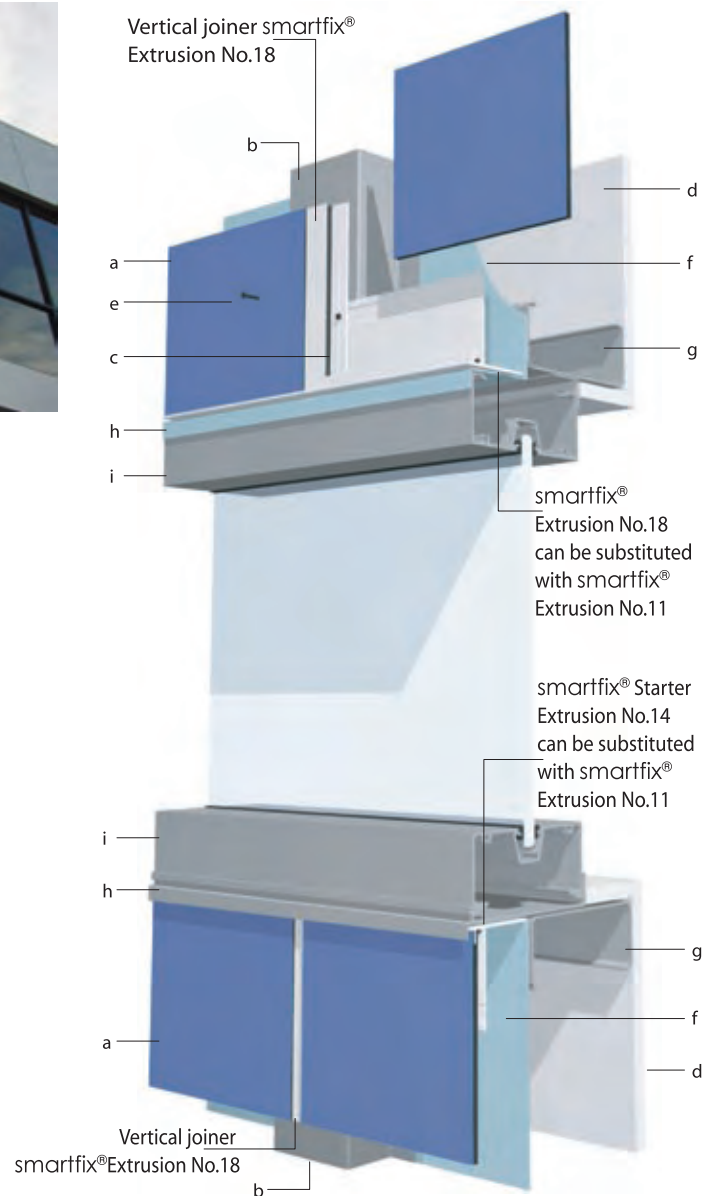


Window Frame Details

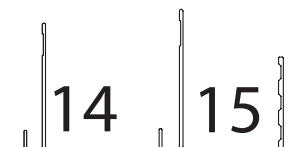
Window head and sill detail using smartfix® Extrusion No.14



Kingston Canberra commercial suites



- a. 5mm symfix composite panel (please contact smartfix® for other panel options)
- b. 70x38x1.2mm top hat section or structure as required
- c. EPDM gasket or appropriate sealant for concealed weather seal
- d. Internal lining
- e. Wafer head tek screws
- f. Vapour barrier between top hat and support structure
- g. Main support structure
- h. Vapour barrier flashing
- i. Glazing head & sill frame fixed using smartfix® Extrusion No.14

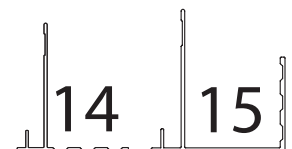
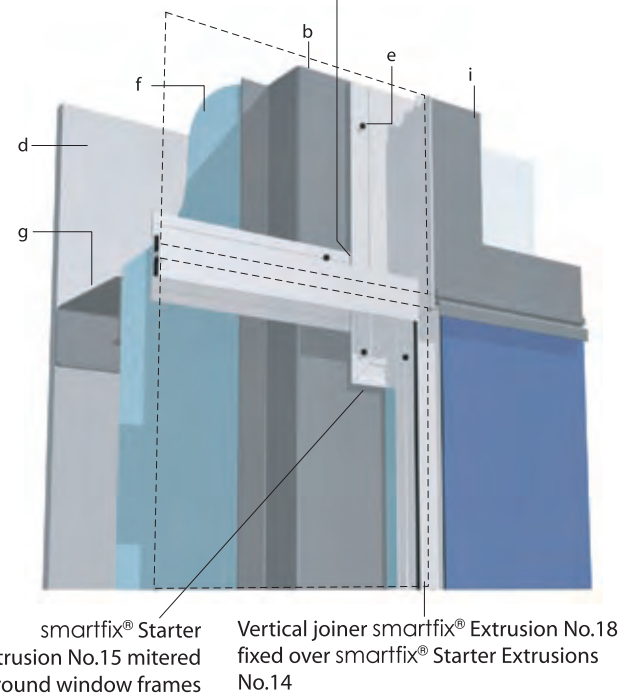
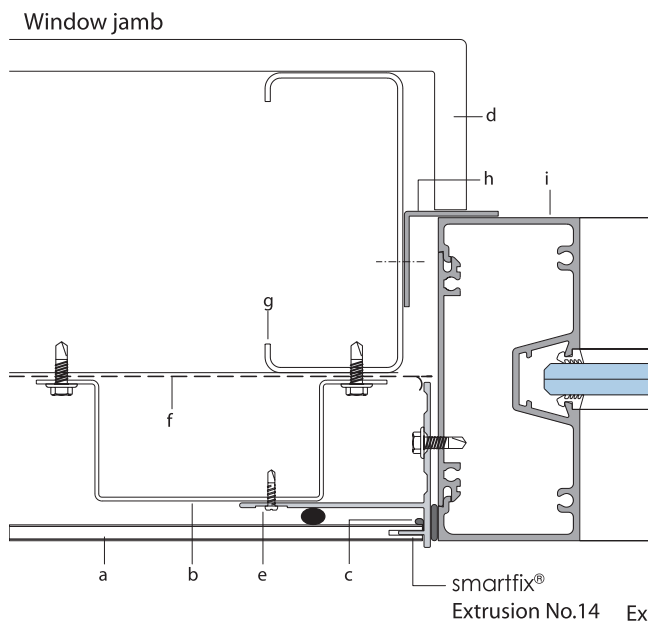
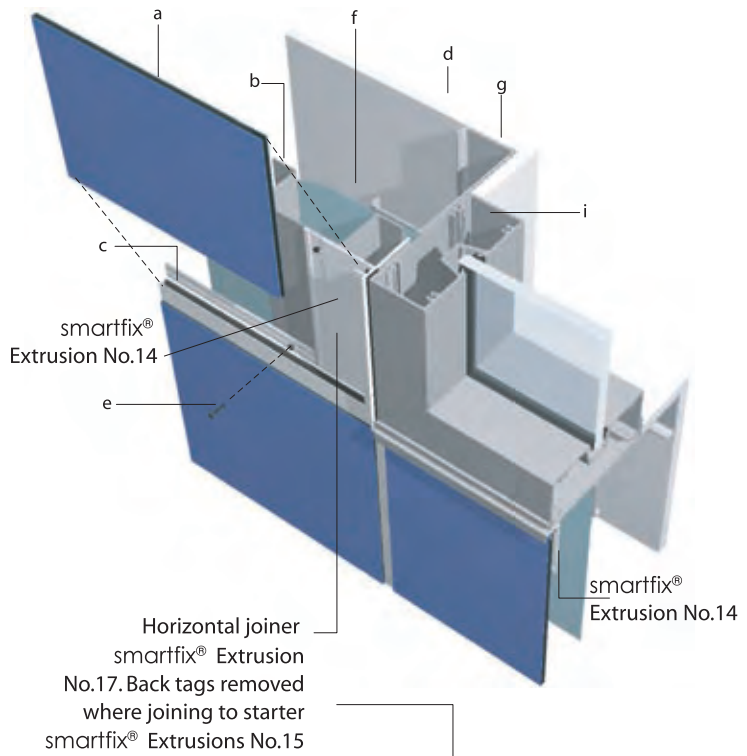


Window Jamb Details

Window jamb detail fixed using smartfix® Extrusion No.14

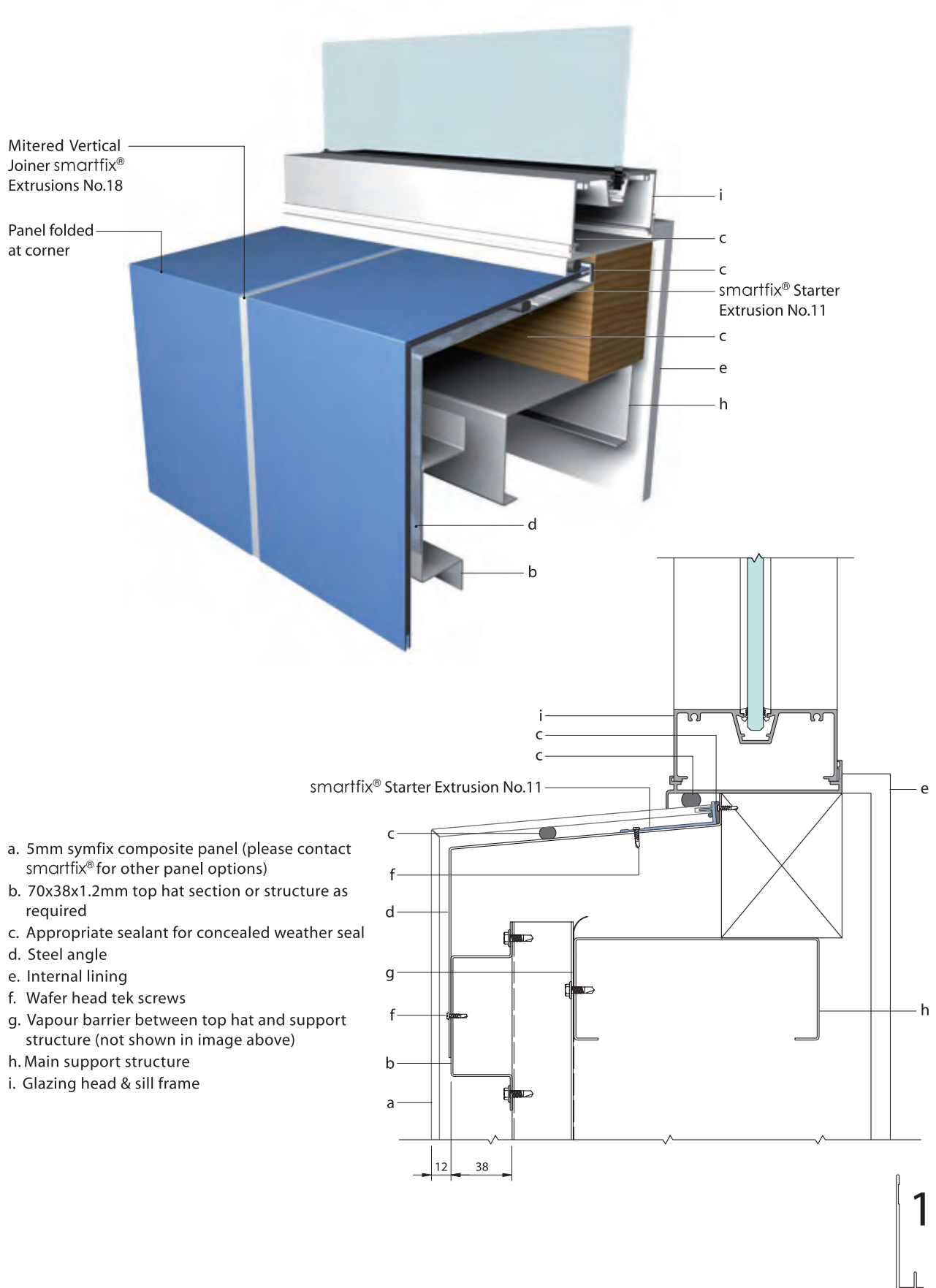


Hume City Council Building - Hume, Vic
Architects: Lyons Architects



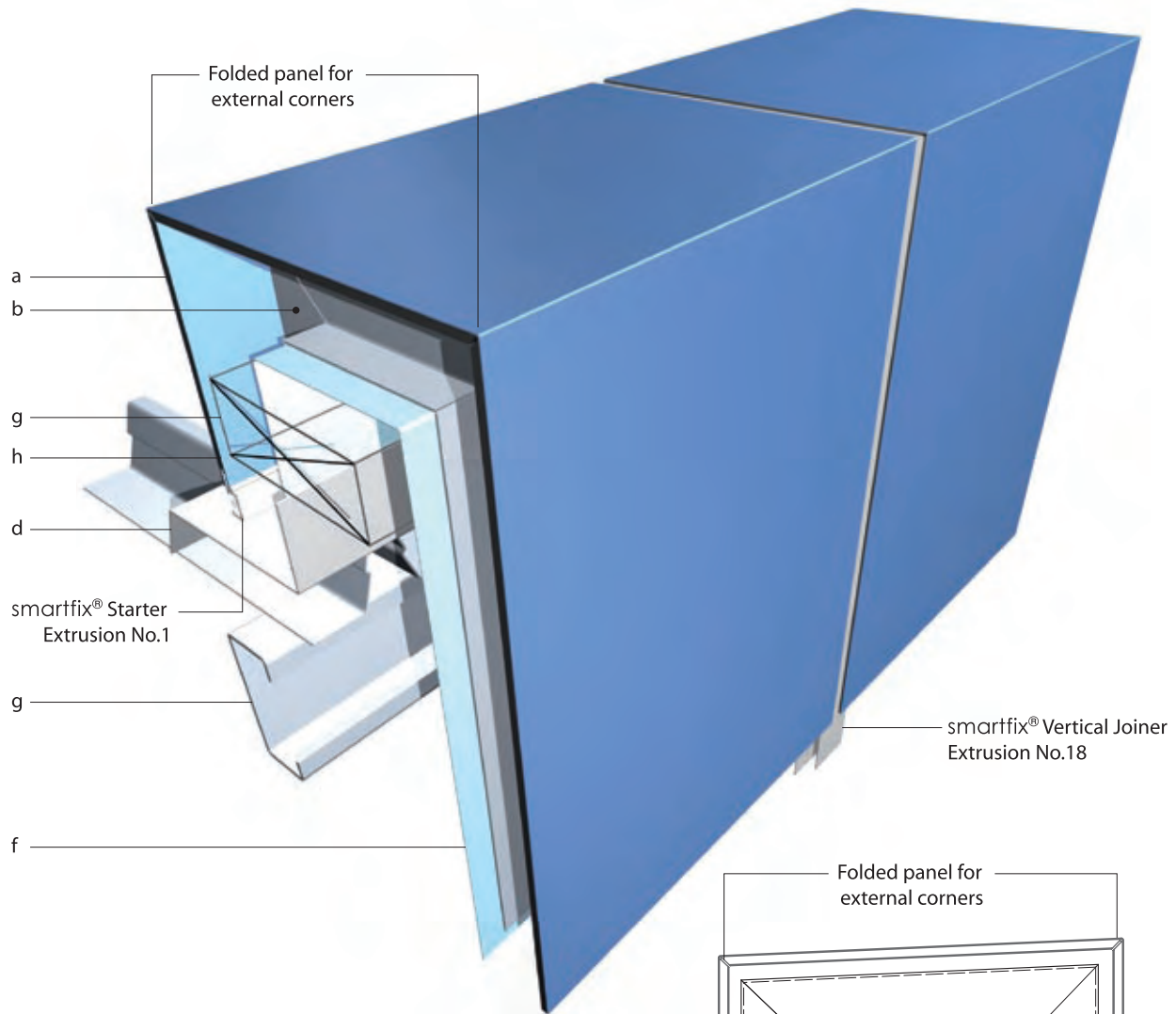
Window Sill Details

Window Sill Details Using smartfix® Extrusion No.11

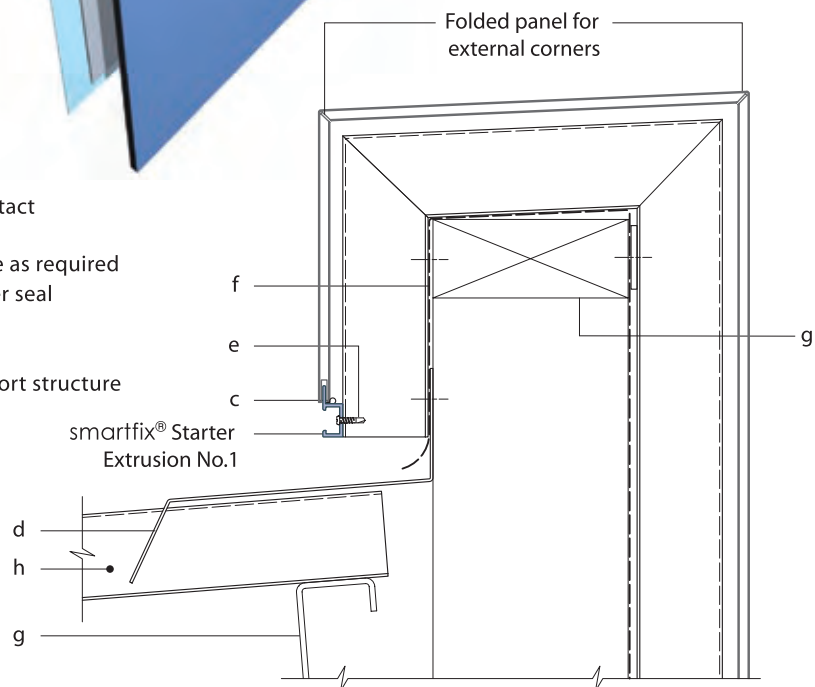


Capping Details

Capping Details Using smartfix® Extrusion No.1 & No.18



- a. 5mm symfix composite panel (please contact smartfix® for other panel options)
- b. 70x38x1.2mm top hat section or structure as required
- c. Appropriate sealant for concealed weather seal
- d. Flashing
- e. Wafer head tek screws
- f. Vapour barrier between top hat and support structure (not shown in image above)
- g. Main support structure
- h. Roofing



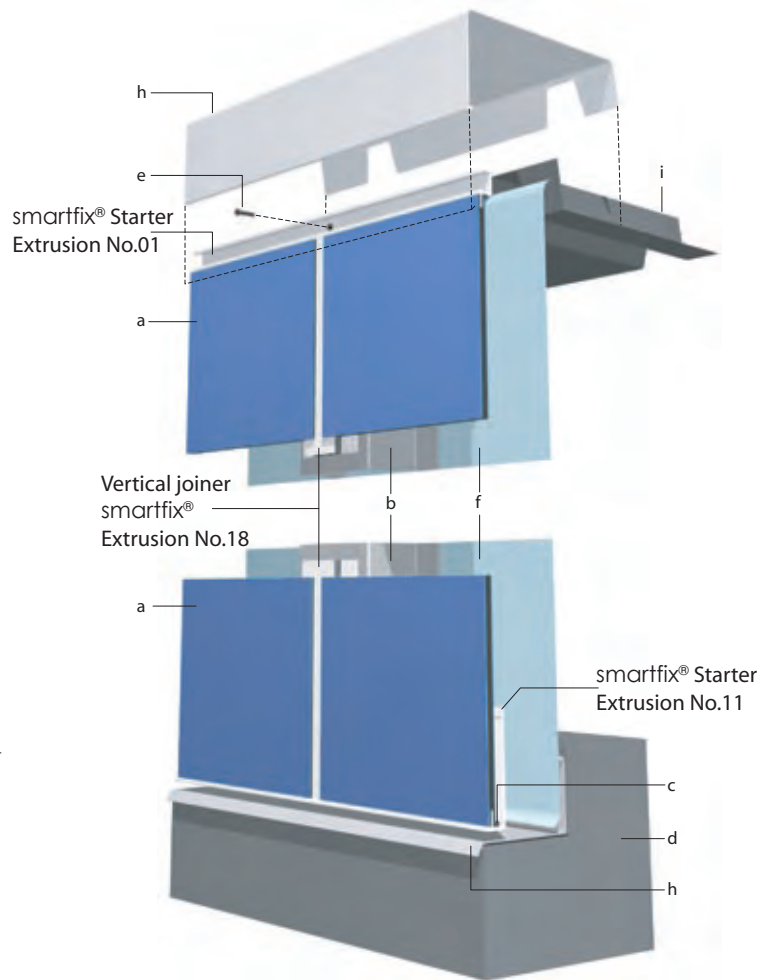
Capping Alternative Details

Capping Alternative Details Using smartfix® Extrusion No.1 & No.11

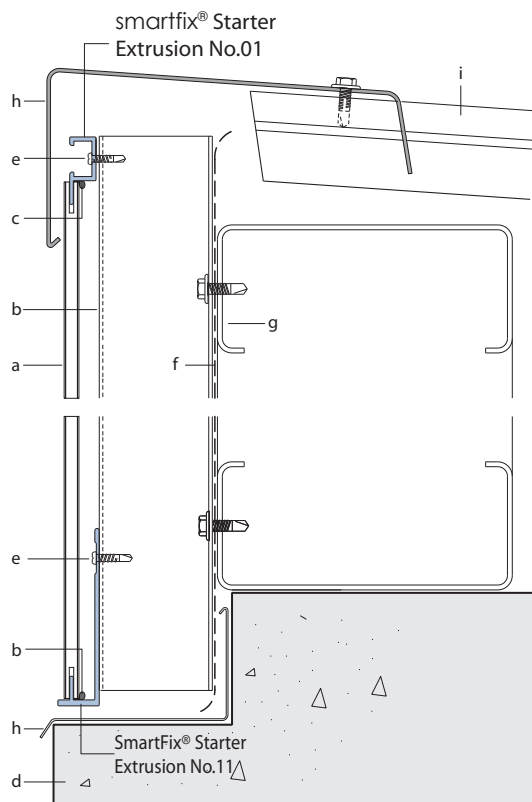


Qantas Hanger - Canberra ACT
Architects: Alistar Swayne Jackson

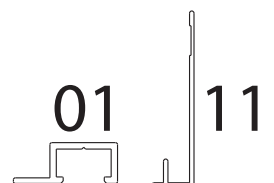
Typical Capping details



Typical abutment detail to slab



- a. 5mm symfix composite panel (please contact smartfix® for other panel options)
- b. 70x38 or 50x38x1.2mm top hat section or structure as required
- c. EPDM gasket or appropriate sealant for concealed weather seal
- d. Concrete slab
- e. Wafer head tek screws
- f. Vapour barrier between top hat and support structure
- g. Main support structure
- h. Capping and flashing
- i. Roofing

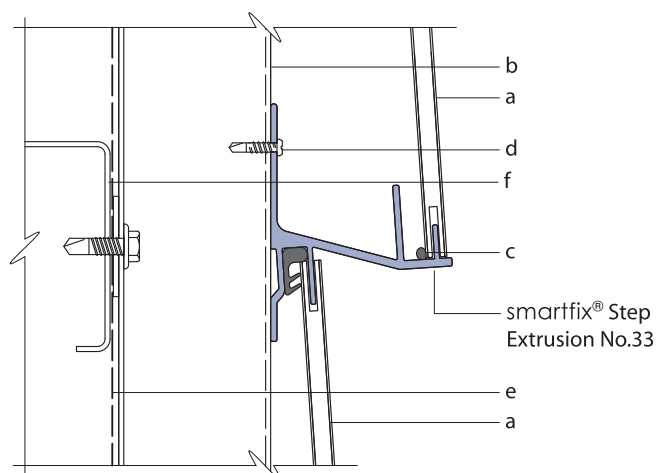
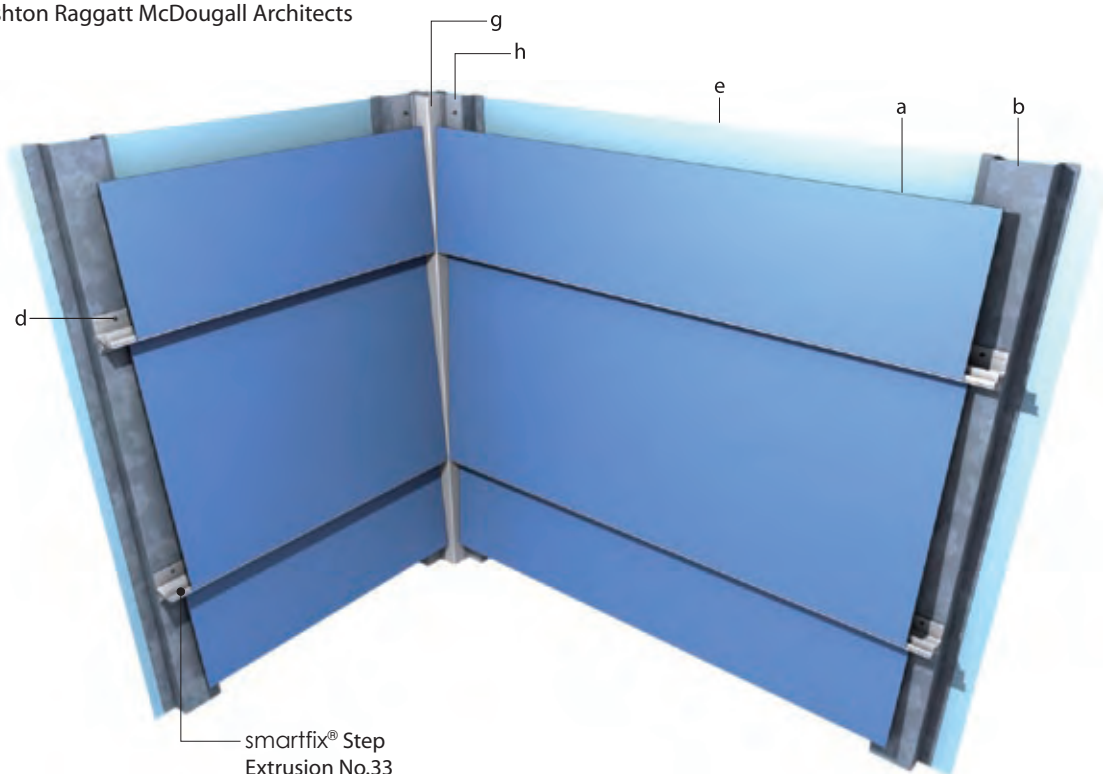


Step Facade Details

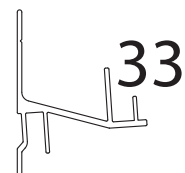
Step Facade Details Using smartfix® Extrusion No.33



Albury Library & Museum - Albury, NSW
Architects: Ashton Raggatt McDougall Architects



- a. 5mm symfix composite panel (please contact smartfix® for other panel options)
- b. 70x38x1.2mm top hat section or structure as required
- c. Appropriate sealant for concealed weather seal
- d. Wafer head tek screws
- e. Vapour barrier between top hat and support structure
- f. Main support structure
- g. 45x45mm anodised SHS
- h. 12x40mm unequal angle



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smartfix® Aluminium Fixing Profiles

Standard smartfix® Profiles

Joiner Extrusions - Horizontal and Vertical



smartfix®
Extrusion No. 17



smartfix®
Extrusion No. 18

(See Joining Options)

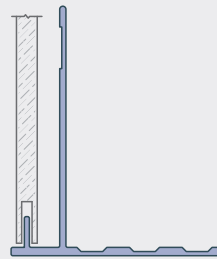
Starter, Abutment & Window Extrusions



smartfix®
Extrusion No. 10



smartfix®
Extrusion No. 11



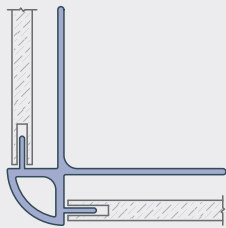
smartfix®
Extrusion No. 14



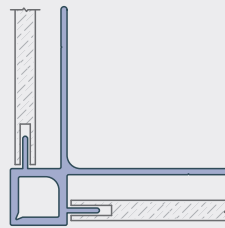
smartfix®
Extrusion No. 14b

(See Capping & Abutment Details)

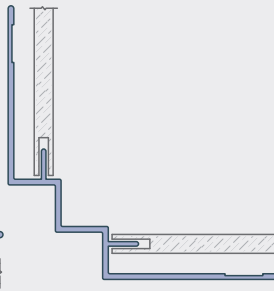
Corner Extrusions - Internal & External



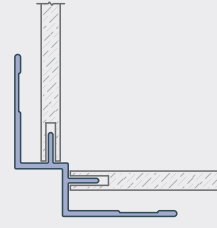
smartfix®
Extrusion No. 6



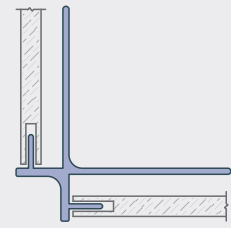
smartfix®
Extrusion No. 7



smartfix®
Extrusion No. 8



smartfix®
Extrusion No. 20

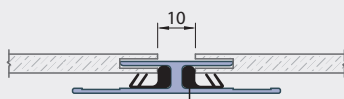


smartfix®
Extrusion No. 12

(See Corner Alternatives)

Waterproof Gaskets

Primary Gasket



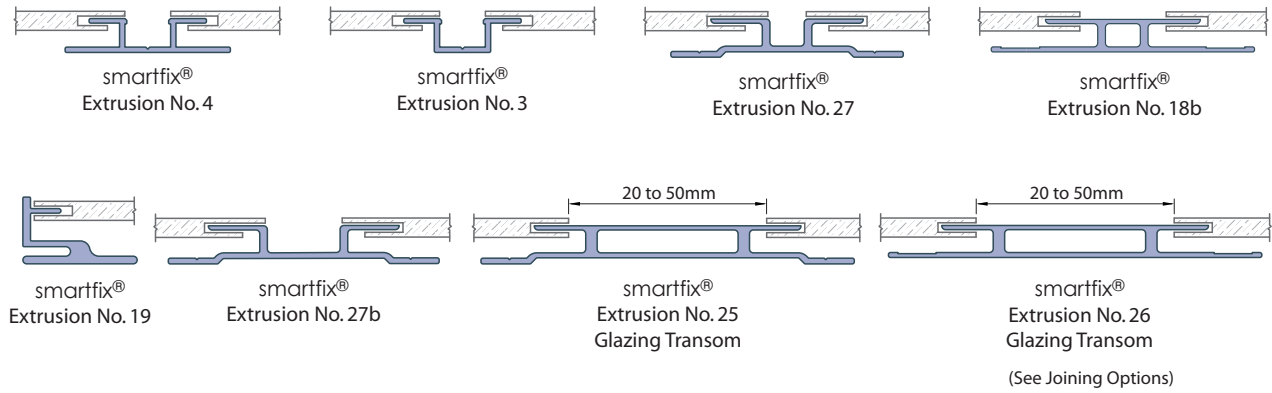
EPDM Bootseal Gasket



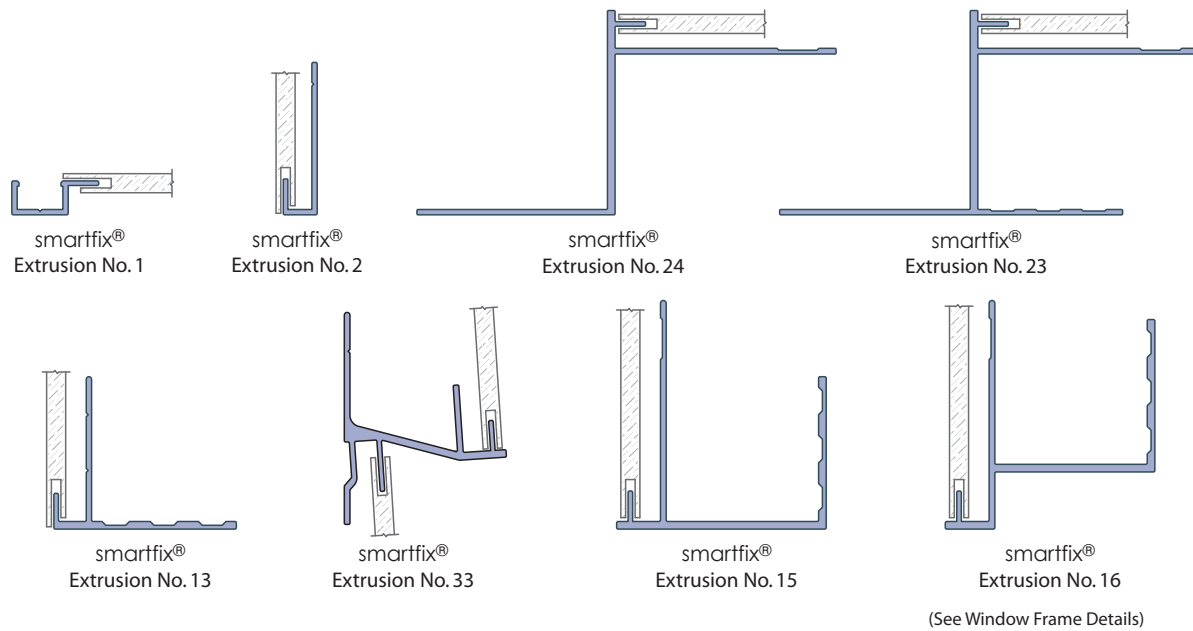
smartfix®
EPDM Bootseal Gasket No. 1

Optional smartfix® Profiles

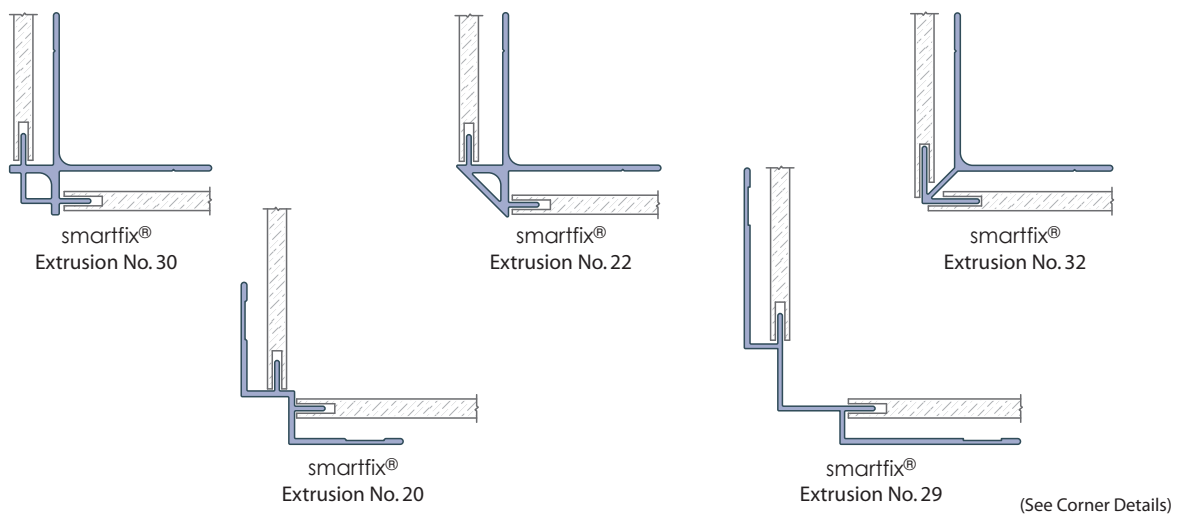
Joiner Extrusions - Horizontal and Vertical



Starter, Abutment & Window Extrusions



Corner Extrusions - Internal & External



Schools & Universities



John Curtin Medical School - Canberra, ACT
Architects: Lyons Architects



Batman Tafe - Melbourne, Vic
Architects: Lyons Architects

Commercial Offices & Institutions



Fairfax Media Offices - Sydney, NSW
Architects: HPA Architects



Australian Bureau of Statistics - Canberra, ACT
Architects: Woods Bagots



Hume City Council Building - Hume, Vic
Architects: Lyons Architects



smartfix® Head Office - Canberra, ACT
Architects: Turco Hunter Architects

Airports



Qantas Hangar - Canberra, ACT
Architects: Daryl Jackson Alastair Swayn P/L

Hospitals & Clinics



Symonston Eye Hospital - Canberra, ACT
Architects: Dowse Norwood Architects



John Hunter Hospital - Newcastle, NSW
Architects: Rice Daubney



Symonston Eye Hospital - Canberra, ACT
Architects: Dowse Norwood Architects



Adelaide Womens Hospital - Adelaide, SA
Architects: Jackson Teece Architects



Warehouses



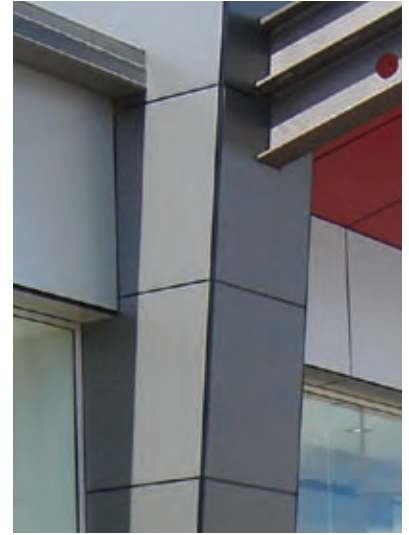
Kingston Warehouse - Canberra ACT
Architects: Dowse Norwood Architects

Macquarie Goodman - Botany NSW

Retail Shops



Rivoland Tiles - Queanbeyan, NSW



Jigsaw Food - Canberra, ACT

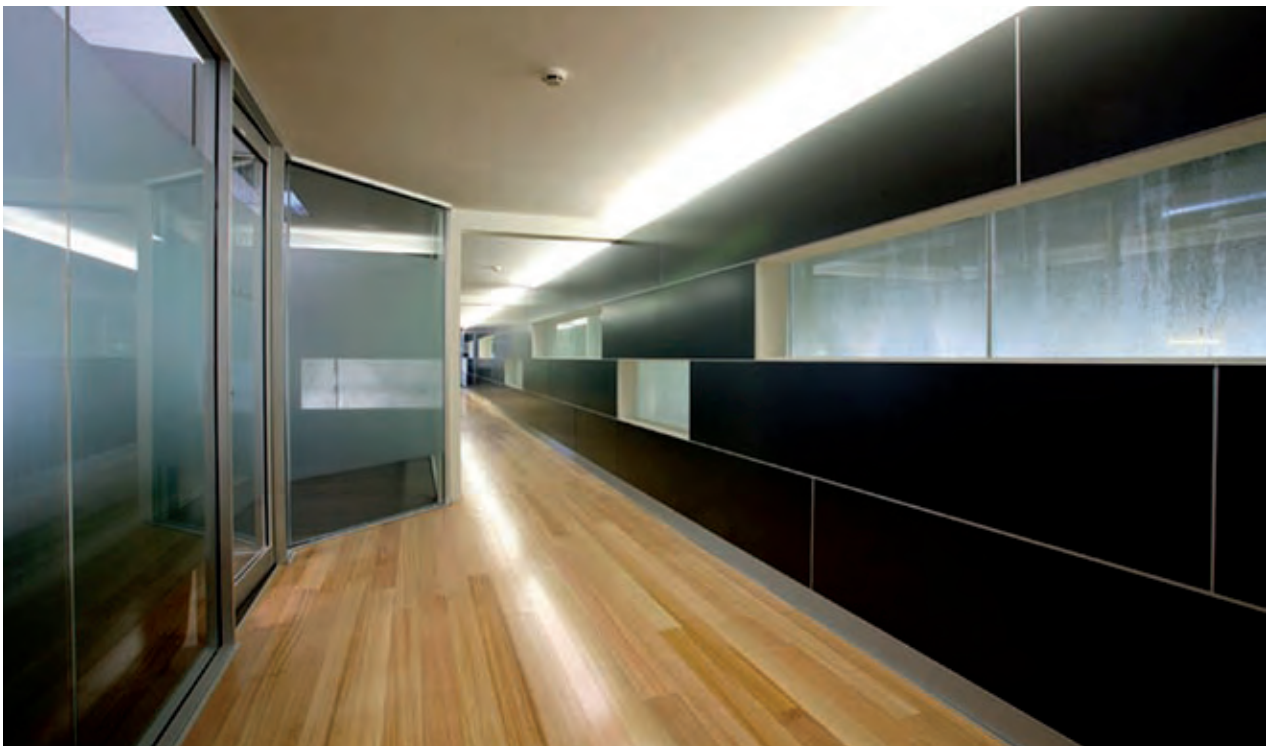


Nick Scali Furniture - Canberra, ACT

Sports & Aquatic Centres

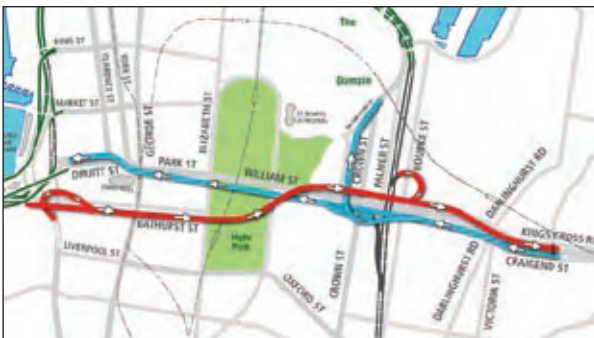
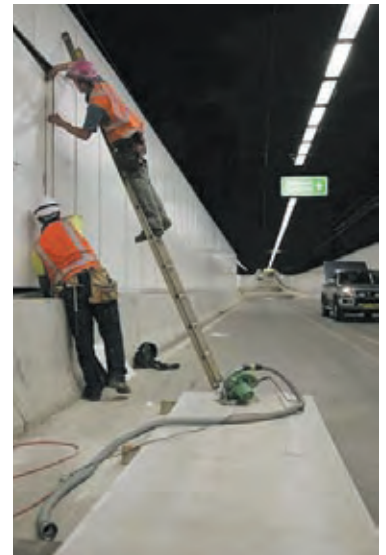


Ern Webbs Sports Store - Wollongong, NSW
Architects: ADM Projects



smartfix® Head Office - Canberra, ACT
Architects: Turco Hunter Architects

Tunnels



Cross City Tunnel - Sydney, NSW
Architects: RTA

Conference Centres



Pfizer Learning / Conference Centre - West Ryde, NSW
Architects: Project Control Group

Libraries



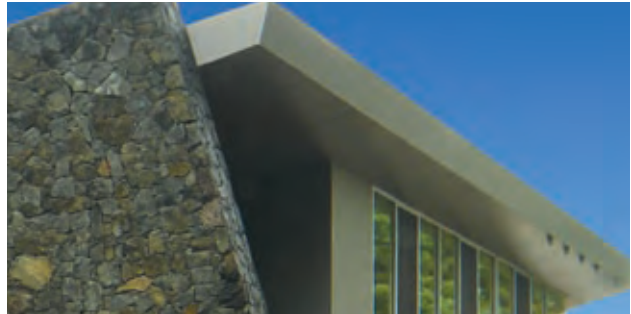
Albury Library & Museum - Albury, NSW
Architects: Ashton Raggatt McDougall Architects



Residential



Vaucluse Waterfront - Sydney, NSW
Architects: Client



Mugga Way - Canberra
Architects: Cox Humphries Moss



Woonona Beachfront Townhouses - NSW
Architects: ADM Projects

smartfix® Internal



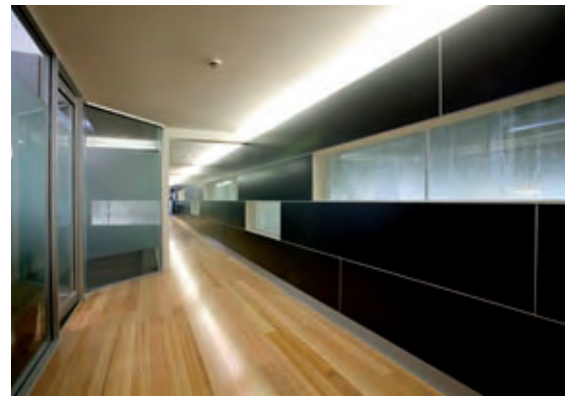
The smartfix® Facade System can also be used for internal applications. Due to the systems versatility, it can be easily fixed to stud and track directly.

Advantages of smartfix® Internal Application

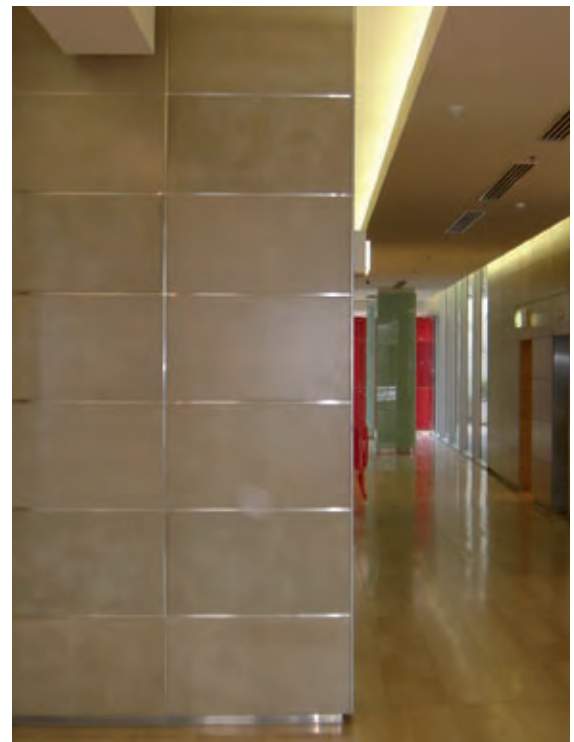
- Requires no painting trades as the smartfix® system is pre finished.
- Extremely cost effective and easy to install.
- smartfix® Panels can be easily penetrated for light fittings, overhanging signs and air conditioning diffusers. * Can be fitted directly to stud and track.
- It has both mechanical and adhesive fixings.



Australian Bureau of Statistics - Canberra, ACT
Architects: Woods Bagot



smartfix® Head Office - Canberra, ACT
Architects: Turco Hunter Architects



Moore Street - Canberra ACT
Architects: Peckvonhartel Architects

smartfix® SymFix® - Aluminium Composite Panel

SymFix® is an Australian manufactured composite panel, produced exclusively by Symonite Australia Pty Ltd.

With the combination of the smartfix® Fixing system and Symonite panel SymFix® is suitable for curtain walling and cladding, fascias, columns, furniture, signage, soffits, spandrels, balustrades etc or wherever a non-flammable, strong, lightweight panel is required.

Standard Panels

Thickness: 5mm or 6mm

Width: 1220mm

Lengths: 1850mm, 2150mm, 2500mm & 2850mm

Standard SymFix® is manufactured with 0.5mm aluminium faces; the exterior face is coil coated with PVF2 (PVFD), the interior face is normally mill finish. Other sizes, thickness and finishes may be available on request.

Core -

Data

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

	5mm	6mm
Minimum Radius	450mm	600mm
Modulus of Rapture (Bending)	190 MPa	190 MPa
Bending Stiffness (EI x 1000)	245 Nmm ² /mm	615 Nmm ² /mm
Ultimate Sheer Resistance (in plane of core)	11.5 MPa	11.5 MPa

Curved Shapes -

Physical and Mechanical Properties

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 x 10⁻⁶ mm/mm/°C

Thermal Resistance

SymFix® is stable up to a temperature of 150°C. 4mm - 0.018m²/K/W

Acoustic Properties

4mm - 29dB; 6mm - 30dB

Fire Performance -

SymFix® PVF2 COATING

A. AS1530.3 - 1989

Tests for Early Fire Hazard Properties of materials:

Ignability Index (Range 0 - 20) - Rating 0

Spread of Flame Index (Range 0 - 10) - Rating 0



John Curtin Medical School - Canberra ACT
Architects: Lyons Architects

Heat Evolved Index (Range 0 - 10) - Rating 0

Smoke Developed with Index (Range 0 - 10) - Rating 0 - 1

B. BS476 Part 6

Method of test for fire propagation of materials.

Result : Index i1 - 0.0, Index i2 - 0.5, Index i3 - 0.2

Fire propagation Index - 0.7

C. BS476 Part 7 1987

Method for classification of the surface spread of flame of products.

Classification - Class 1

D. Building Code of Australia : SymFix® complies with the BCA requirements regarding materials suitable for the exterior cladding of a building facade 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.

The advantages of SymFix's core

The advantages of SymFix® over other composite panels available to building professionals stem from its unique thermosetting core construction.

Extreme Impact Resistance makes SymFix® a suitable building element where compartmentalisation of fire is an important aspect in fire safety engineering and design.

High Degrees of Stiffness and Rigidity reduces facade engineering and construction costs through superior wind loading characteristics.

High 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 and also reducing fabrication and installation costs.

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

smartfix® - Keystone® Panels - Acoustics & Architectural Interior Panels

Keystone® Acoustics panels and architectural interior lining are Australian designed and manufactured in Australia. With the combination of the smartfix® Fixing system and Keystone® the panels can be used in numerous applications, wall linings, ceilings, balustrades, feature panels, reception paneling etc.

Standard Panels

Thickness: 9mm, 12mm or 16mm

Width: 1200mm

Lengths: 2400mm, 2700mm, 3000mm or 3600mm

Panels are available in custom sizes including basic geometric shapes.

Please contact us for more information.

Types Of Panels -

smartfix® – Keystone® Acoustic panels are available in veneers, laminates, and Euroline.

Painted and prefinished panels with Polyurethane, Polyurethane with increased UV protection and certain Acrylic Finishes.

Substrates : MDF – EO rating available

Ply – Environmentally friendly source

Please note suppliers of Keystones raw product, source material from approved Eco friendly sources.

Acoustic Options -

Standard slotted options range from 6.0mm slot to 30mm slot in a number of layouts

Standard perforated options range from 4.5mm holes to 100mm holes.

A wide variety of standard patterns available, although our design team can customize a panel on request.

All standard panel layouts can be re-engineered to meet most open area requirements, to give you the acoustic performance you require with your chosen substrate. Please note the integrity of panel is the limiting factor.

Acoustic Performance

Acoustic performance will most commonly be predetermined by an acoustics engineer's requirement, which is the substrate and open area required to achieve a workable solution.

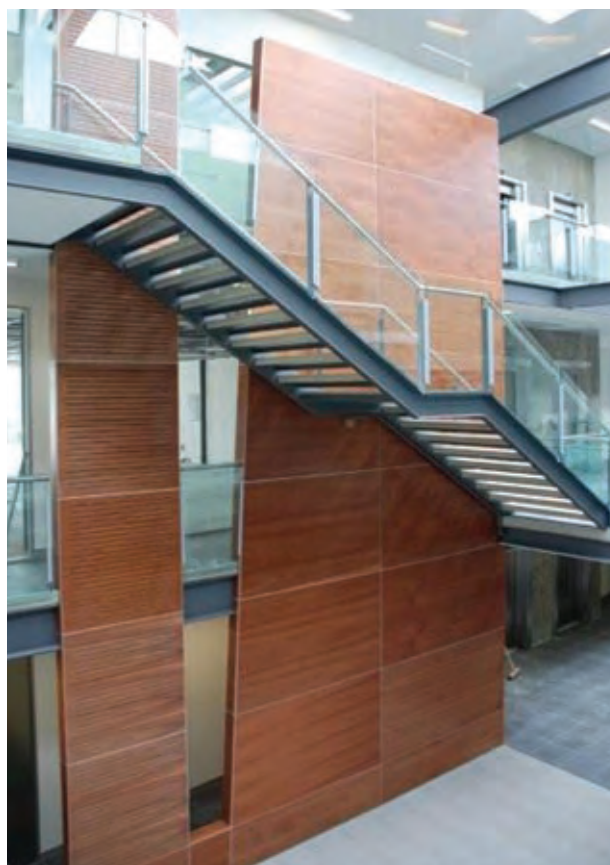
Please contact Keystone Acoustics for more information on this if required.

Fire Performance -

Substrate – MDF

Fire Hazard Indices (AS/NS 1530.3:1999)

Test	MDF
Ignitability	14



Deakin Offices - Canberra, ACT
Architects: Turco Hunter Architects

Spread of flame 7 – 8

Heat Evolved 6 – 7

Smoke Developed 3 – 4

Substrate – Ply

Fire and Termite retarding available to AS 1530.3

Advantages of Keystone® Acoustic Panels

- Australian owned and manufactured products.
- Offers a complete package of panels, balustrades, privacy screens and fixing options.
- Custom made products available on request.
- Variety of panel substrates :
MDF, Plywood, Plasterboard, Laminates, Composite Material, Fibre cement and Compressed Fibre cement.
- R + D available as along with Engineering drawings.
- Wide variety of perforating options.
- Best lead time in the industry.
- 40 years in the Industry.
- Product delivered Australia wide as well as internationally.
- Exclusive of the smartfix® fixing system.

smartfix® - Parklex® Panels - Timber Composite Panel

High Performance Timber Finish

Parklex 1000® is an exterior grade, high performance composite panel finished with specially treated natural timber veneers - an exciting new product offering design options previously unavailable in the Australian industry. In conjunction with the Smartfix® fixing system, Parklex 1000® can be installed effectively and attractively in many external applications such as wall claddings, louvre systems, fascias, column encasements, signage, soffits, spandrels, balustrades, etc or wherever a timber finish is designated.



Standard Panels

Thickness: 5mm or 6mm

Width: 1220mm

Lengths: 2440mm

Parklex 1000® panels comprise an inner core of Kraft® paper and wood chip based thermoset phenolic resin lined with natural timber veneer material that is impregnated with thermo-hardened resins and prefinished with a clear, Parklex® proprietary coating system.

Parklex 1000® panels are available in standard thicknesses of (mm): 3, 6, 8, 10, 12, 14, 16, 18, 20 & 22. Other non-standard thicknesses are available upon request.

Technical Properties & Test Certificates

A full set of technical properties and test certificates available for download from the smartfix® web site.



Durability

Minimum maintenance is required; clean with water and non-abrasive cleaner. Parklex 1000® is highly resistant to varying climatic conditions, including freeze/thaw, salt spray, dry climate and UV ray exposure. It is non-toxic and resists mold, mildew, fungus and is impervious to termite attack.



Key features of Parklex 1000®

Similarly to the Symimonite aluminium composite panel core material, the advantages of Parklex 1000® core over other materials in composite panels available to building professionals stem from the superior technology of thermoset phenolics which originates in the aerospace industry and which was developed specifically for dimensional, chemical and structural stability under extremes of temperature, humidity and climatic variables. As such, Parklex® offers performance factors that by far exceed those of solid timber: high impact and abrasion resistance, high fire resistance, dimensional stability, structural strength and stiffness and UV resistance.

Additionally, the environmental friendliness of Parklex® is considerably greater than other cladding products. The timber veneers are sourced from renewable sources and the embodied energy of timber is much lower than that of other materials.

NOTE: Traditional Parklex fixing systems also supplied by smartfix®.

smartfix[®] Axolotl Finishes

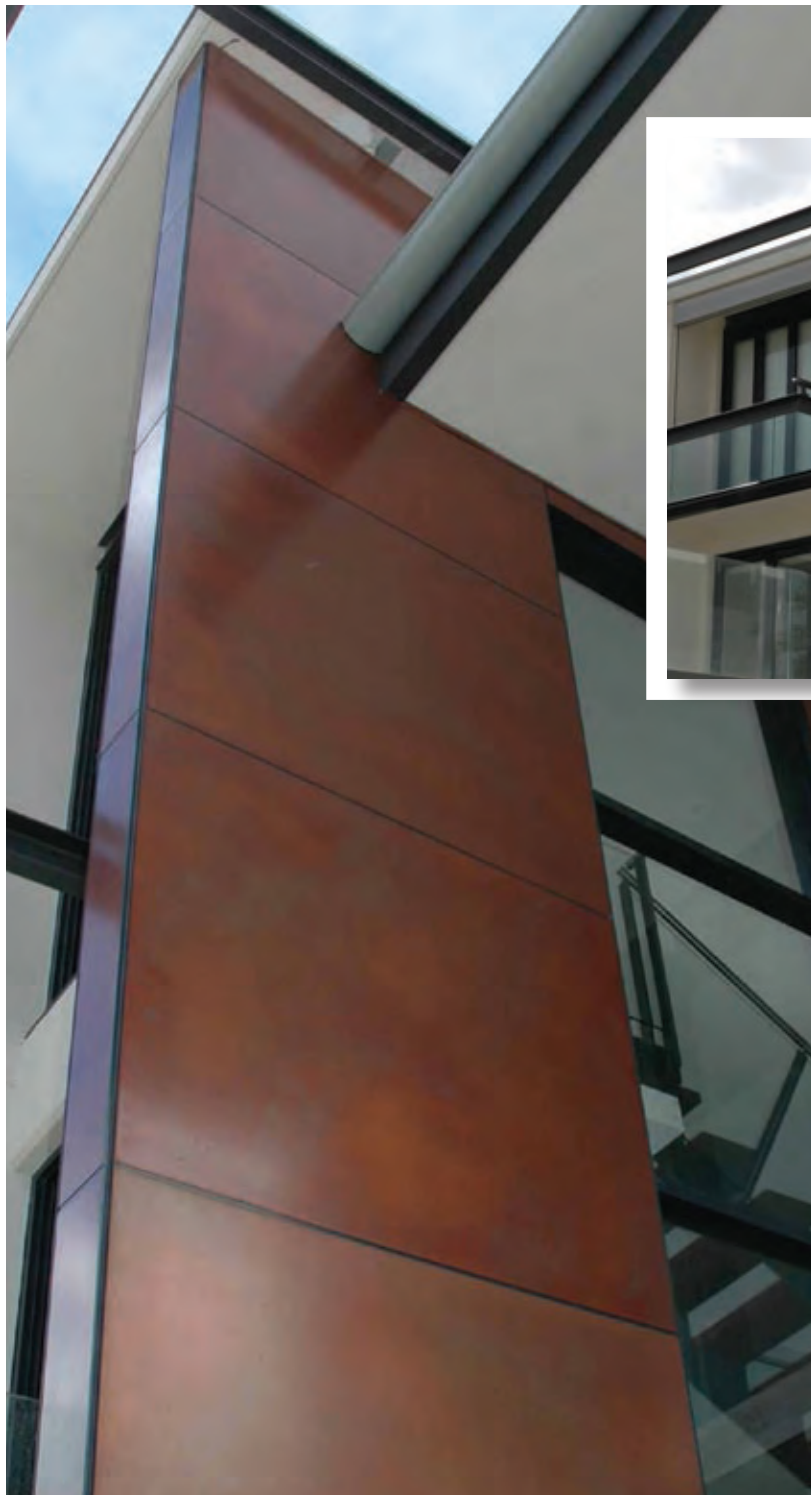
Axolotl

Axolotl Metal is a specialist finishing company. Axolotl produce authentic and unique metal coatings for interior and exterior surfaces.

Their finishes provide a source of inspiration for architects and designers. They extend the design and construction potential of any substrate by allowing that substrate to be treated as if it were solid metal.

Axolotl finishes can be applied onto a number of recommended panels provided by smartfix[®].

The combination of smartfix[®] and Axolotl creates a truly beautiful facade.



Components

smartfix® Facade Panel

EXTERNAL

Panels ranging from 5 to 9mm thick are suitable for the smartfix® aluminium fixing system. 5mm specified aluminium composite panel is the recommended panel option for both internal and external applications due to the flexibility in design and finishes available. Sheets are pre-grooved and cut by computer controlled means to the required size.

Top Hat Framing

The support frame for the smartfix® system is made up of 75 x 38 x 1.2mm zincalume top hat sections and can be fixed vertically or on any desired angle.

Design Wind load Tables are provided in the 'Product Testing and Wind Loading' section.

Optional framing - smartfix® Anodised Top Hat 35 x 30 x 2mm

Sisalation

We require that medium to high strength Sisalation be used to provide an adequate moisture barrier between the substrate and the smartfix® Facade System.

Extrusions

smartfix® aluminium fixing profiles are used around the perimeter of the panel to fix it to vertical top hats. All extrusions can be provided in mill, Anodised or Powder coated finishes, unless otherwise requested. smartfix® Industries recommends that all extrusions that can be seen externally, be painted, anodised or powder coated.

Fasteners

All fixings are to be Class 3 or 4. smartfix® aluminium fixing profiles are to be screwed back to top hat support framing with class 3 10 x 16 x 16mm wafer tek screws. Top hats to be screwed to substrate with 12 x 30mm hex head screws (class 3).

Structural Adhesives

Polyurethane sealants are required with the smartfix® system.

At intermediate top hats where "spot adhesives" we recommend Sikaflex 252, or equivalent. In all sealant applications we recommend Bostik Seal 'n' Flex 1, or equivalent.

Installation Procedure

Sub-frame

Ensure all wall members, girts and the like are straight and plumb and in line to grid and RL's on architectural drawings.

Note: Nylon packers can be used under top hats for minor adjustments.

Sisalation

Sisalation is required behind the smartfix® Facade System. Sisalation must be lapped (150mm) and sealed with foil tape.

Top Hats

Space top hats at 600mm centres on wall girts using suitable (class 3) hex head screws*.

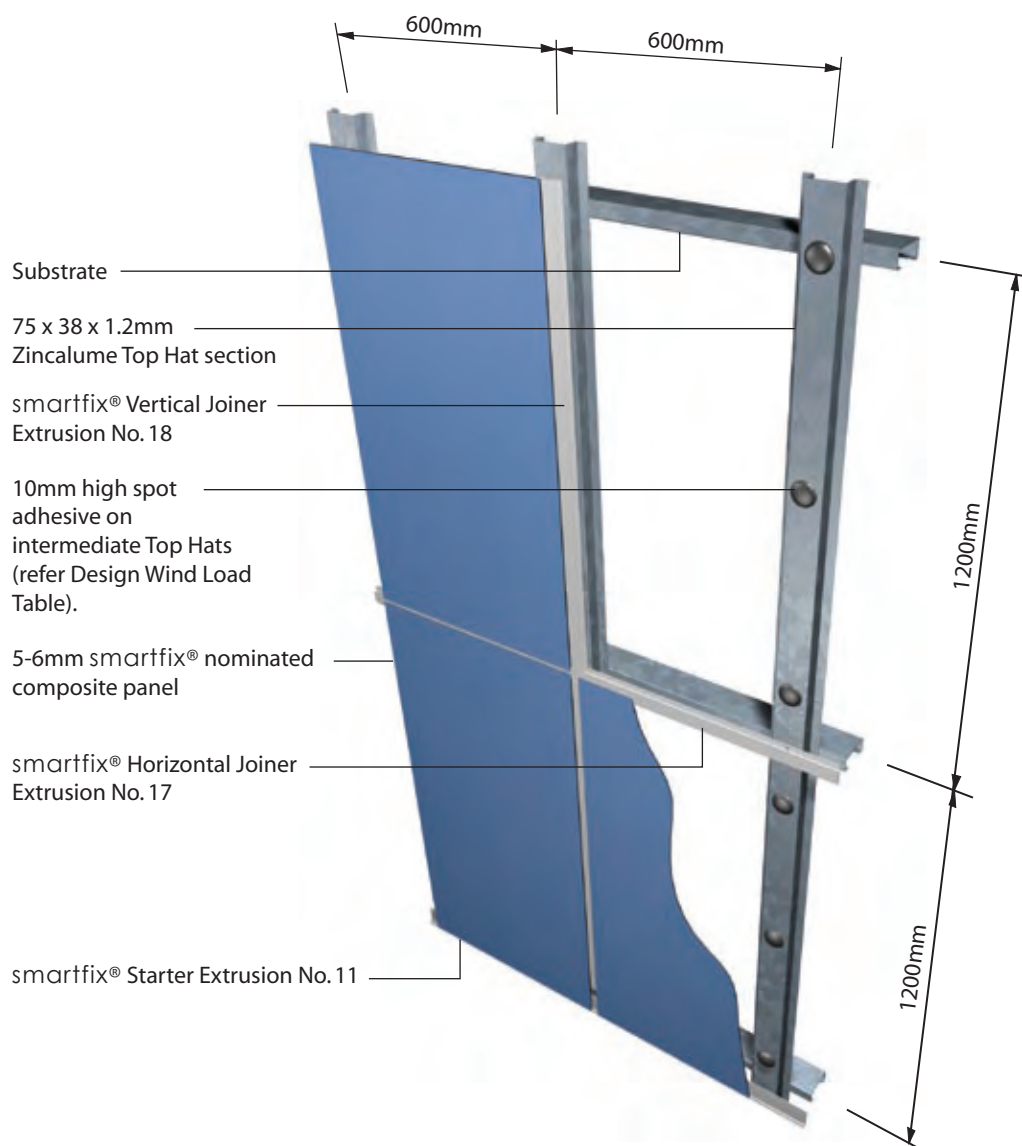
* Generally 600mm or less. For more information see Design Wind Load tables.

smartfix® Panel installation

Typical sections and plan views show layout of extrusions and panels for the smartfix® Facade System.

It is recommended that installation begins at the bottom run of the wall and works from bottom up.

Substrate Setout



Product Handling

All components of the smartfix® Facade System to be stored in area allocated by the project manager. All materials shall be stored above ground, laid flat and covered at all times. Avoid excessive stacking and dragging. An optional protective plastic on the face of the panels is available. Please consult a smartfix® Industries representative for this option.

Tools & Accessories

Router bits are available for hand held electric routers for on site routing where panels need to be specifically cut. Custom-made smartfix® router bits have been developed for use with all recommended panels.

Note: Please consult with a smartfix® representative prior to any on site routing. smartfix® aluminium fixing profiles are not to be used on panels other than those recommended and supplied by smartfix® Industries.

Fasteners, Adhesives, Sealants and Sisalation

	Type	Application
Fasteners	Buildex Class 3-4 Wafer Head Tek screws. 10 x 16 x 16mm	Fixing extrusions to top hat sections
	Buildex Class 3-4 12x30 mm Hex Head	Fixing Top Hats to steel girts
	Buildex Class 3-4 Series 500 Hex Head	Fixing Top Hats to heavy secondary steel
Structural Adhesives	Sikaflex 252 Bostik Seal'n'Flex	Adhesive between the Top Hats and panels at intermediate Top Hats
	Sikaflex 252 Bostik Seal'n'Flex	Sealant between smartfix® extrusions and panels
	Sikaflex 252 Bostik Seal'n'Flex	Sealant to waterproof intersection of smartfix® extrusions (error in extrusion alignment from installer may require sealing)
Sisalation	Medium-high density reflective foil	Vapour barrier, behind smartfix® system

smartfix® Fixing System

Generic Specification

General

Ensure all conditions and requirements are fully adhered to for the project specific requirements and the like, including warranties, quality assurance and approvals. Sample colour to be approved by Architect prior to manufacturing of panel.

smartfix® Aluminium Fixing Profiles

smartfix® aluminium fixing profiles are supplied by smartfix® Industries fully tested and to fit computerized Grooved. Grooved panel to be in compliance with the specified tolerances as recommended by smartfix® Industries.

Fixing, Adhesives and Framing

- smartfix® Extrusion profiles
- Fasteners - Buildex Climaseal Class 3 Teks, 10 x 16 Teks and 10 x 30 Hex Head
- Adhesives - Silkaflex 252, Bostik Seal'n Flex
- Top Hats - BHP Junction Stud Z200 - G300 75 x 38 x 1.2mm Zincolume angle
- *Optional framing* - smartfix® Anodised Top Hat 35 x 30 x 2mm
- Secondary steel by others.

Installation

Installation shall be carried out by a recommended smartfix® contractor. Installation and induction to be undertaken by contractors in accordance with the smartfix® Industries recommended instructions.

SymFix[®] Composite Panel with smartfix[®] Aluminium Fixing Profiles - Specifications

General

Ensure all conditions and requirements are fully adhered to for the project specific requirements and the like, including warranties, quality assurance and approvals. Sample colour to be approved by Architect prior to manufacturing of SymFix[®] facade panels.

Fixing System

Aluminium extrusions are supplied by smartfix[®] Industries fully tested and to fit computerised grooved SymFix[®] Composite Panel.

Fixing, Adhesives and Framing

- smartfix[®] Extrusion profiles
- Fasteners - Buildex Climaseal Class 3 Tekes, 10 x 16 Tekes and 10 x 30 Hex Head
- Adhesives - Silkaflex 252, Bostik Seal'n Flex
- Top Hats - BHP Junction Stud Z200 - G300 75 x 38 x 1.2mm Zinalume angle
- *Optional framing* - smartfix[®] Anodised Top Hat 35 x 30 x 2mm
- Secondary steel by others.

SymFix[®] Panel

Fire resisting Symonite Aluminium Composite Panel, nominal 5mm thick, comprising a phenolic resin core sandwiched between two skins of 0.5mm thick aluminium.

SymFix[®] Coating

Factory prefinished PVDF based coating applied through a continuous coil coated process. Total dry film thickness shall be 25 microns minimum consisting of an inhibitive primer and metallic or solid coating. The finished surface shall be factory protected with a self adhesive film. The film should be removed as soon as practicable after installation.

Installation

Installation shall be carried out by a recommended smartfix[®] contractor. All materials shall be stored above ground, laid flat and avoid stacking on edge and dragging.

SymFix[®] - Colour Range

SymFix[®] composite panels are finished with a PVDF (polyvinylidene difluoride) coil coated paint system.

The PVDF paint system provides great protection, one of the most durable paint finish on the market today with an expected useful life, under normal conditions, of a minimum of 20 years. The paint finish is well known for its consistency in colour from panel to panel and also its superior resistance to fading and chalking. Finished panels are supplied with a strippable pvc film for protection of the paint finish during transportation and assembly.

There are an excellent range of SymFix[®] colours to choose from including metallic finishes solid colours - Kosciusko White, Silver Pearl Metallic, Matte Grey Metallic, Champagne Metallic, Altnum Bronze Metallic and Smoke Blue Metallic.

There are also limited quantities of non-standard stock colours available upon request: Kurrewa Blue, Boss Blue, Village Sand, Light Grey, Tindal Grey, Poly Beige, Eucalyptus Green, Brunswick Green, Titan Green, Ord River Red, Tropical Yellow.

On larger projects we are able to match a selected colour in a PVDF paint finish. Minimum quantities and lead times apply.

Product Testing

Wind Load Tables

smartfix[®] Aluminium Extrusion No 11, 17 and 18

Span Condition	Span	Ultimate Wind Load (kPa)							
		0.75	1.00	1.50	2.00	2.50	3.00	4.00	5.00
3 Span	400	✓	✓	✓	✓	✓	✓	✓	✓
	600	✓	✓	✓	✓	✓	✓	✓	✗
	900	✓	✓	✓	✓	✓	✗	✗	✗

Notes - Horizontal aluminium extrusions are fastened to top hats with one screw and one patch of SikaFlex 252 at 450mm, 600mm or 900mm centres as shown above.

- Deflection criteria for aluminium section limited to L/60 under Permissible Design Pressures

Aluminium 6063-T5

Aluminium 6063-T6

SikaFlex 252 Structural Adhesive spacings

Top Hat Spacing	Ultimate Wind Load (kPa)								
	0.75	1.00	1.50	2.00	2.50	3.00	4.00	5.00	
450	400	400	400	400	400	400	400	300	
600	400	400	400	400	400	400	300	200	
900	400	400	400	400	300	200	200	✗	
1200	400	400	400	300	200	200	✗	✗	
1800	400	400	200	200	✗	✗	✗	✗	

Notes - Spacings of SikaFlex 252 Adhesive are based on a 40 mm diameter patch.

- SikaFlex 252 Adhesive to be installed per manufacturers guidelines.

- Spacings are to be taken as the centre to centre distance between patches of adhesive along the top hats.

Hugh Keithly, Principal Facade Engineer, Hyder Consulting Pty Ltd

CSIRO Test Report

REPORT No. DTF750

Smartfix Façade System

Page 13 of 46

7.2 Final Tests

Sample	Date	Test	Standard	Result
1	13 Sept 2005	Static Water Penetration	AS 4284 -1995 7.5	No leaks observed
		Cyclic Water Penetration	AS 4284 -1995 7.6	150 Pa to 300 Pa – No Leaks Observed
				300 Pa to 600 Pa – No Leaks Observed
2 ¹	12 Oct 2005	Structural Test	AS 4284 -1995 7.3	Passed at serviceability design pressure of ± 3 kPa
		Proof Test	AS 4284 -1995 7.7	Passed at ultimate design pressure of ± 4.5 kPa ²

1. Note that the sample was tested three weeks after installation in the test rig, to provide adequate curing time for the silicon used.

2. Note that Sample 2 held a pressure of -6.9kPa for approximately 1 minute after the completion of the proof test (see Section 5).

B Chant
Engineer

Dr R. Sankaran
Technical Manager
Façade Engineering & Weather Performance

Issued : 24 November 2005

smartfix® Fixing System Warranty

Warranty Period : 20 Years - For project specific warranties please consult a smartfix® representative.

- (a) Without limiting the generality of anything else herein contained, this warranty does not cover any defect, failure or deterioration of the goods resulting from or substantially from:
- Failure to follow smartfix® Industries recommendations in respect of installation.
 - Fair wear and tear.
 - Modifications to the goods not authorised by smartfix® Industries.
 - Malicious mischief, vandalism, impact, misuse, abuse or negligent use.
 - This warranty covers the waterproofing and integrity of the system for the specified period.
 - The goods must be carefully inspected by the customer upon receipt. Defects which such an inspection may reveal must be reported in writing to the company within 14 days of delivery.
- (b) In the event of a valid claim the sole liability of smartfix® is to provide replacement of defective goods or to repair the defective goods. All other costs including the cost of removal and refitting of defective goods will be borne by the customer.
- (c) This warranty is conditional upon strict compliance by the customer with the terms of payment and other conditions express or implied under which the goods were supplied.