GXi

SLIDING WINDOW AND BALCONY DOOR

An elegant, robust and high specification sliding window and balcony door. Intelligent engineering and innovative design features for versatility and durability.

TECHNAL

GXi

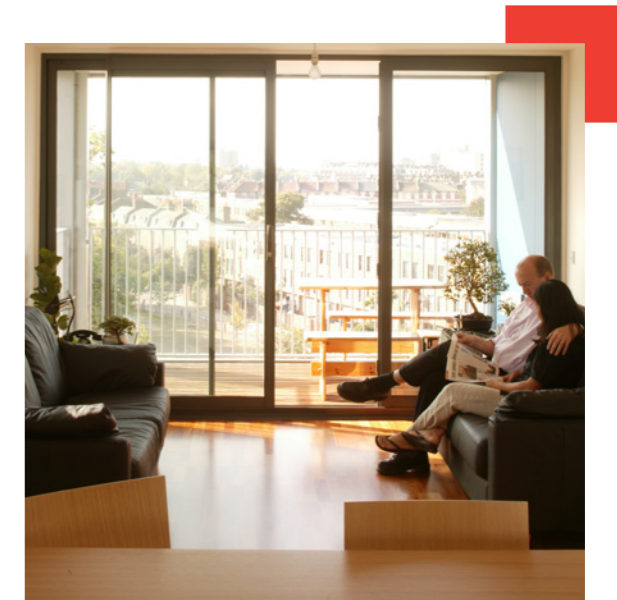## A High Specification Window and Balcony Door Solution

The GXi sliding window and balcony door has been designed with unrivalled attention to detail and a quality of finish that sets it apart.

The system incorporates a wealth of design features and a wide selection of options for comfort, safety, visual appeal and long-term durability, meeting specifiers' requirements for both function and form.

It offers:

- Contemporary detailing
- Outstanding weather resistance
- Concealed fixings
- Robust, unobtrusive closing tracks
- Ease of operation
- Enhanced thermal performance.

Key Features and Innovations

- **Clean, narrow sight lines.** 41mm sight lines maximise natural light and provide an attractive, modern finish.
- **Thermal efficiency.** A 9mm flush polyamide thermal break provides efficient performance to meet the latest Building Regulations.
- **Profile options.** Profiles can be flat-faced for a crisp appearance, or curved to add a more distinctive and stylish accent to the external treatment.
- **Choice of configurations.** Options range from a simple two-leaf bi-parting system, to a multi-panel sliding patio door or window on two tracks.
- **Ease of operation.** Robust frames, durable hardware, a quality track and roller system and structural accuracy combine to ensure low maintenance, superior reliability and a smooth sliding operation, even with the largest leaf sizes.
- **Range of sizes.** The window or door can be supplied in a choice of sizes to suit individual project requirements and separate slider tracks in aluminium, polyamide or stainless steel are available to carry varied leaf configurations.
- **Glazing options.** GXi can accommodate 20mm to 26mm glazed units.

Security

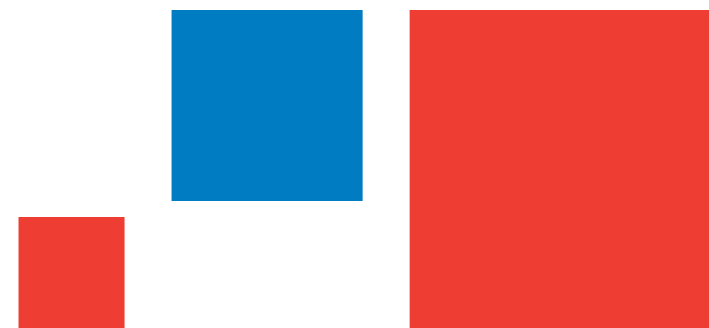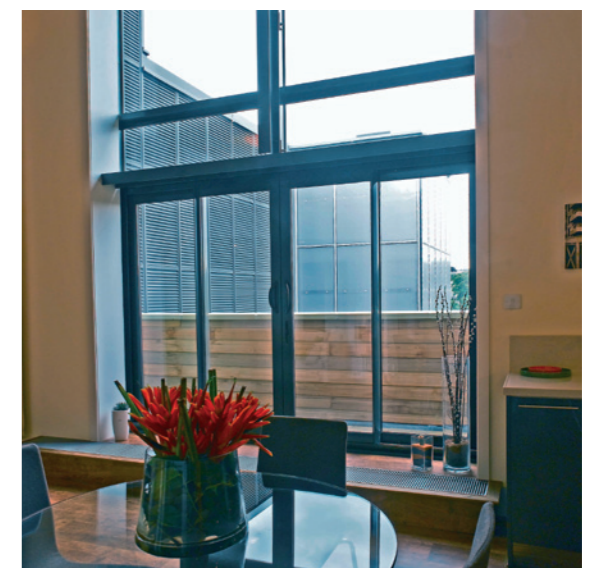GXi has a number of reassuring security features:

- A wrap-around gasket for each leaf prevents removal of the glass from the outside
- Strong locking systems with up to four-point hook locks
- Additional locking on interlock sections.

Construction

- **Robust construction.** The outer frames are mitre-jointed using an epoxy bonded and mechanically crimped cleat which is designed to expand to the exact dimensions of the hollow, ensuring a strong, flush and accurate construction.
- **High standard of glazing.** The leaves are dry glazed with flush wrap-around EPDM gaskets designed to absorb the varying tolerances of paint and glass thickness, and provide an exceptional finish.
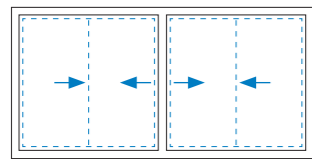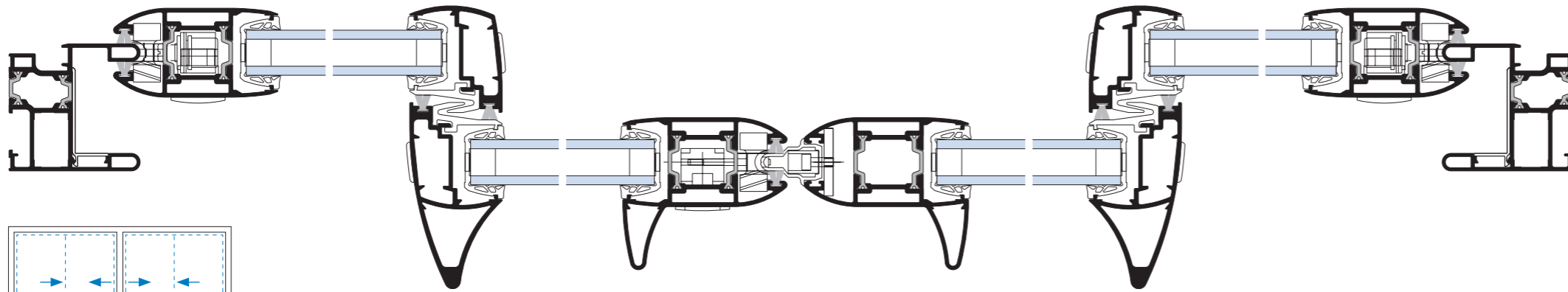
Fabrication and Installation

GXi uses common tooling, high quality components and accessories, and advanced manufacturing techniques for further assurance of fabrication quality, accurate installation and continued performance to specification.

- **Roller options.** Rollers can be standard or adjustable and are double to support the loadings of larger glazed units. The double roller can be replaced quickly and easily without dismantling the leaf or frame.
- **Full system compatibility.** GXi uses a 52mm module which is fully compatible with Technal's FXi52 casement window, to allow composite configurations to be created. The system can also be inserted into MX curtain walling, making it ideal for penthouse situations, or integrated into Technal's MODAL low-rise framing system.
- **Concealed fixings.** Mountings and fixings are concealed and there are matching end caps, plugs and seals for high quality finish.

- **Concealed drainage.** Special profiles can be supplied to conceal drainage and remove the need for unsightly caps. The system can also be face drained through the cill.
- **Long-term durability.** The leaves are square cut and silicone sealed, and the stiles are bolted into the rails for lasting performance.
- **Choice of hardware.** A range of hardware and accessory options is available, including a half-moon semi-automatic handle, and a discrete finger-pull locking lever.
- **Design flexibility.** There is the option of single or dual colours.
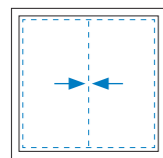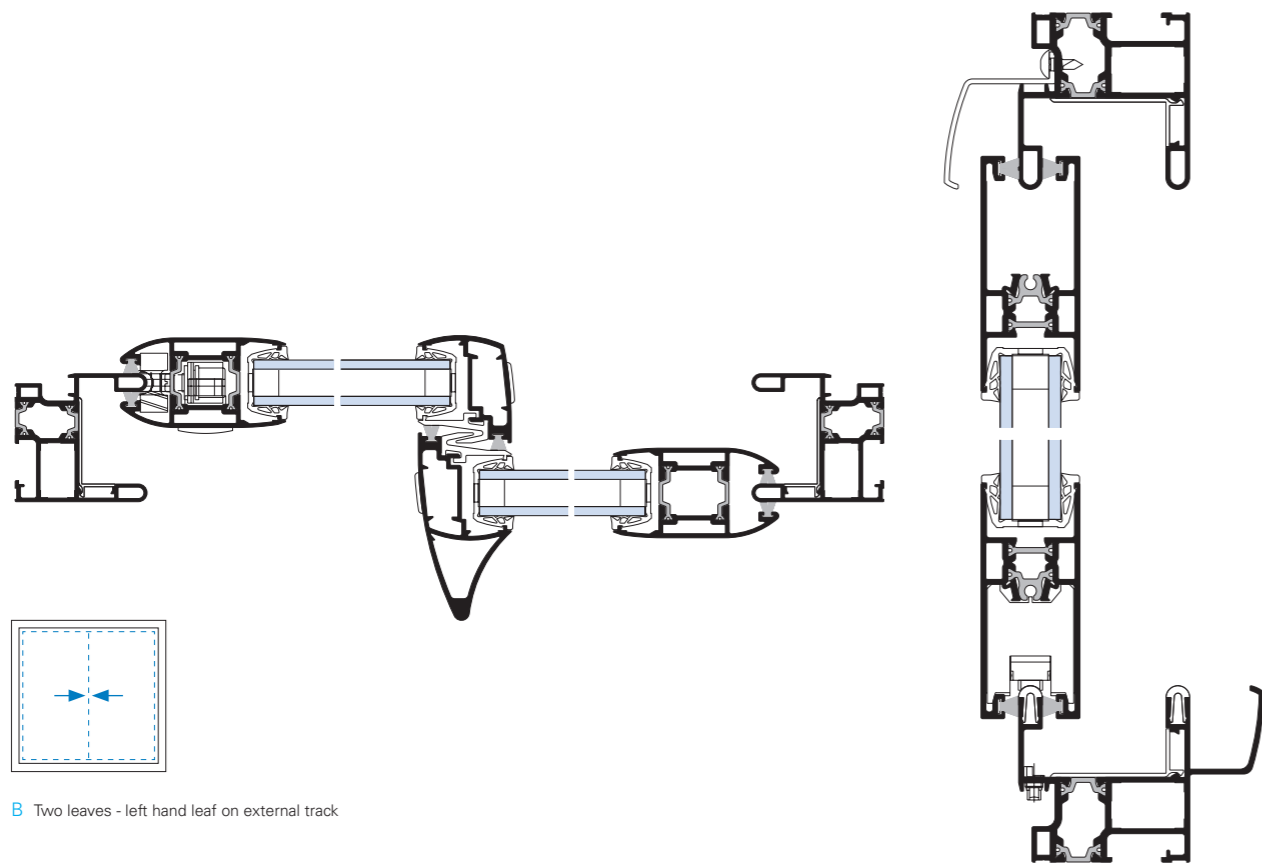- **A proven system.** GXi has been rigorously tested to 20,000 open/close cycles.
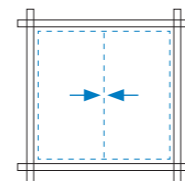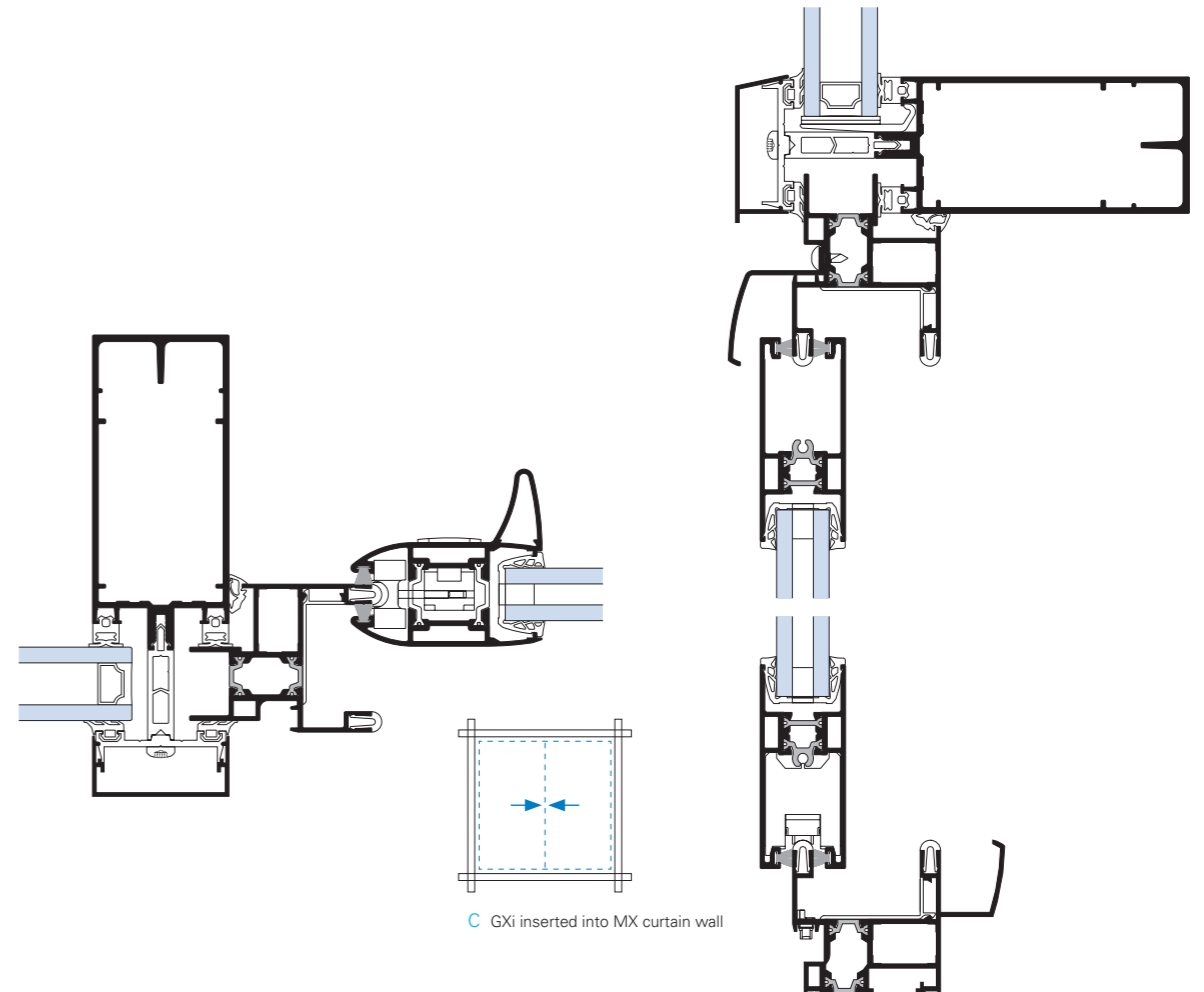
GXi

Sliding window and balcony door

A Four leaves - outside leaves on external track

B Two leaves - left hand leaf on external track

C GXi inserted into MX curtain wall

D GXi integrated within MODAL low rise façade

Size and Weight Limitations

Size limitations are determined by windloading, profile inertia values and roller weight limitations. Maximum leaf sizes are 2000mm wide x 2500mm high. Height to width ratio not to exceed 3:1

Track	Roller	Maximum weight
Aluminium or Steel	Non-adjustable or adjustable roller	200 kg per leaf
Polyamide	Non-adjustable or adjustable roller	120 kg per leaf

Weather Performance

The GXi sliding window and balcony door has been tested in accordance with BS EN Standards achieving the following results:

	Test Size (mm)	Air Permeability	Water Tightness	Wind Resistance
GXi 2 Leaves	1140 x 1420h	A*3	E*7A	V*C4
GXi 2 Leaves + Sub Cill	2190 x 2160h	A*3	E*8A	V*B4
GXi 3 Leaves + Sub Cill	2100 x 2400h	A*3	E*8A	V*B4

Thermal Performance

Examples of U values achievable for given GXi sizes follow. Technal's technical department can advise on values for specific situations.

U-Value Glass (centre pane)			
	1.4	1.3	1.2
Size (mm)			
1850 x 2500h	2.3	2.2	2.1
1850 x 2500h	2.2	2.2	2.1
2800 x 2250h	2.1	2.0	1.9

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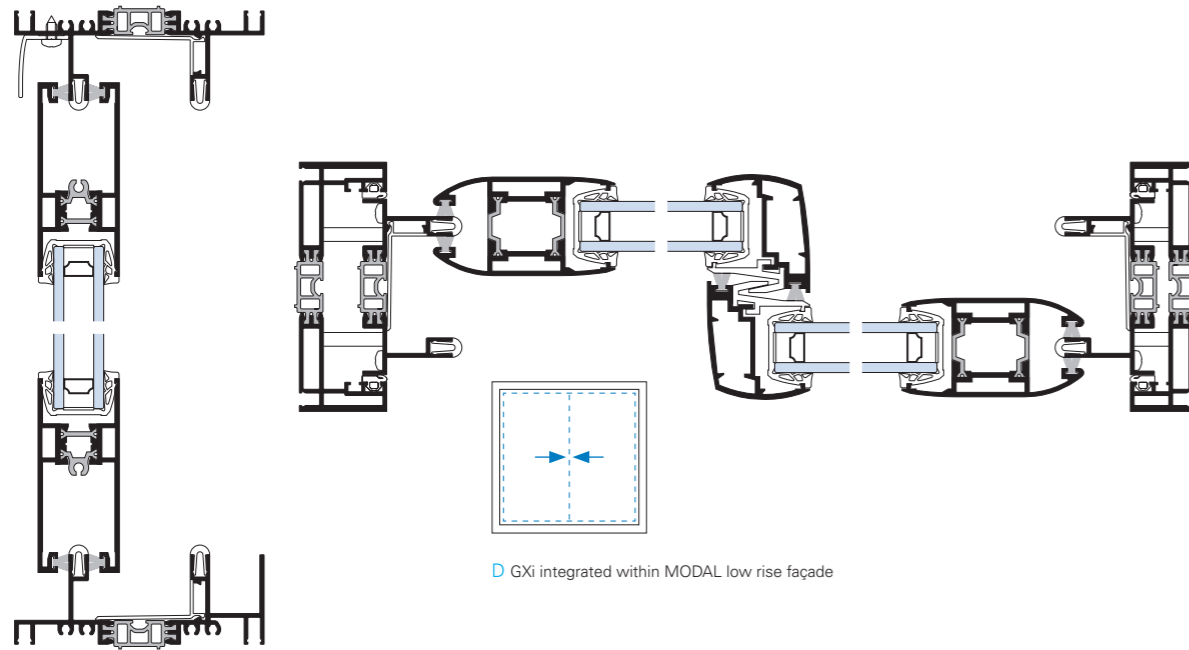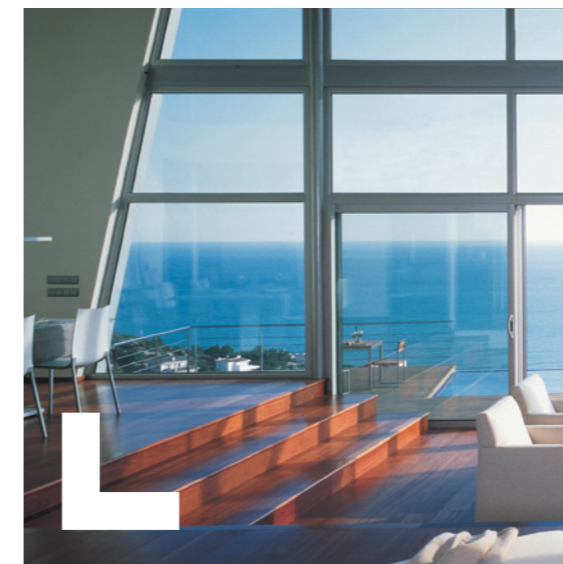## Design Specifications

Materials and Components

As with all Technal products, only the highest quality materials and components are used for the GXi system for low maintenance and performance over time:

- Aluminium profiles are extruded from alloys 6005 T6, 6063 T6 or 6060 T5 to BS EN 12020, BS EN 573-3, BS EN 515 and BS EN 775-1 to 9
- Accessories are cast from Zamak 5 or A-S9G03 to BS EN 12844
- Glazing gaskets are EPDM SH 60-75
- Polyamide thermal breaks are extruded from PA6-6 (0.25 FV)
- Screws and components are either stainless steel, cadmium-plated steel or other corrosion-resistant materials
- The system is glazed in accordance with BS EN Standards and Section N of the Building Regulations.

Finishes and Colours

A wide range of finishes is available for the GXi system to meet individual project requirements, complement existing buildings and offer additional design freedom for architects and specifiers:

- Natural self-colour or Anolok anodised in accordance with BS EN 12373-1:2001 and BS 3987
- Stoved polyester powder coated finishes in a wide palette of colours and in accordance with BS 6496
- GXi is also available in Technal's exclusive flecked gloss Cendré polyester powder coated colours for a stylish and contemporary appearance.

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Inspirational Façade Solutions

Innovative Product Portfolio

The Technal brand from Hydro Building Systems was created 50 years ago and is a pioneering international specialist in architectural aluminium façade systems.

Technal has established an unrivalled reputation for innovative and inspirational design solutions and has built up an impressive portfolio of award-winning projects.

With a history in the UK which spans more than 30 years, Technal's systems have been used to create purpose-designed façades for buildings in sectors as diverse as offices, airports, leisure, schools and higher education, healthcare and apartments.

Technal has a clear understanding of the requirements of architects, contractors, developers, building occupiers and fabricators, which has enabled it to engineer an innovative, technically advanced and highly flexible product portfolio.
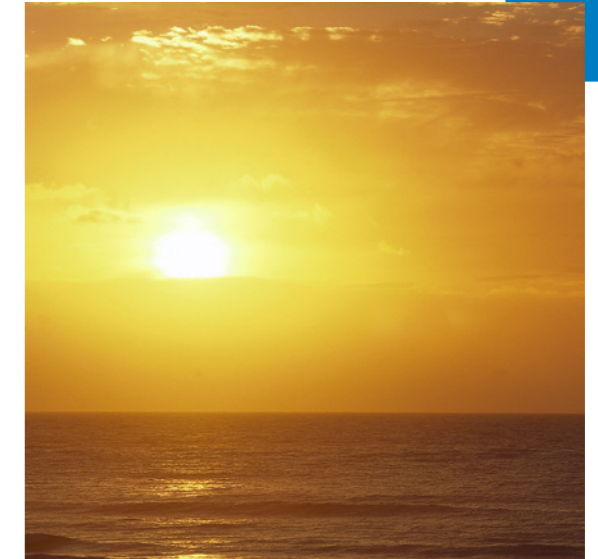
Technical Support for Architects and Contractors

A comprehensive range of support services is available to architects and contractors, which includes technical assistance with design development, through to the preparation of specifications.

To help specifiers in the production of faster and more accurate project drawings, CAD files for all the façade systems offered by Technal can be downloaded from the specification section of the Technal website.

Technal also has the capabilities and resources to respond to individual project needs through more bespoke designs for specific schemes, performance enhancements and new innovations to enhance both new and existing architecture.

National Network of Fabricators and Installers

Technal has a national network of approved fabricators and installers, and recognises the importance of fabrication and installation for the long-term performance of its systems.

As a subscribing sponsor of the Centre for Window and Cladding Technology and an active member of the Council for Aluminium in Building, Technal is committed to advising and providing training support for its network of fabricators and installers from its dedicated training centre to ensure standards of the very highest quality.

Committed to Protecting the Environment

Technal is working with leading industry specialists and associations to continually improve the recyclability of aluminium and to reduce carbon emissions during the life cycle of its products.

Its research and development work has also achieved an impressive four-fold increase in the thermal performance of its systems over the last 20 years. And the demand for larger glazed spans generates increased solar gain in winter and reduces the reliance on artificial lighting.

The inherent qualities of aluminium, its infinite recyclability, strength and lightness, durability and low maintenance qualities mean it is one of the most sustainable building materials.

An average of 95 per cent of the aluminium in buildings is collected for recycling. This process saves 95 per cent of the energy needed to produce prime metal and typically, 95 per cent or more of the original material is still recoverable (source: Council for Aluminium in Building).

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