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**buildingsystem**

ARCHITECTURAL ALUMINIUM SOLUTIONS



## Ground Floor Treatments

Technical Data Sheet

Thermally Broken Commercial Entrance Door & Framing

**Sapa Building System**

# Design

## Design Features

### ST Thermally Broken Commercial Entrance Door & Framing

- **Flexible design:** The Sapa Stormframe range of commercial doors and framing includes: a thermally broken door; a non-thermally broken door and non-thermally broken framing.

Together the Stormframe range offers specifiers a choice of systems to suit the specific demands of their clients.

Choice of pivot (with anti-finger trap stile option) or rebated doors can be installed with a BS8300 bottom rail adaptor, Part M compliant drained threshold and upto 32mm glazing. Designed to accept a wide range of industry standard hardware including Dorma, Axim and Adams Rite.

- **Superior thermal performance:** The Stormframe ST Door offers high levels of both thermal insulation achieving a U value of 2.2 W/m<sup>2</sup>K. This low U value can help building designers to achieve their Target Emissions Rate (TER) by being offset against the allowable U value of 6.0 W/m<sup>2</sup>K for high traffic doors when calculating the Building Emissions Rate (BER).

The ST Door can be coupled to Dualframe framing and Elegance 52 curtain walling to provide a complete solution for building facades requiring high levels of thermal performance.

- **Dual colour capability:** The Stormframe ST door and Dualframe systems can have differing finishes internally and externally.
- **Integrated design:** The Stormframe suite consists of a range of profiles that can be integrated with other products from the extensive range of systems including curtain walling.
- **Unique polyamide thermal barrier:** The ST door and framing provides thermal insulation via a high performance polyamide thermal barrier.
- **Ease of maintenance:** The design of the Stormframe system ensures that cleaning and other maintenance can be carried out easily.

#### ■ Product

Stormframe ST thermally broken commercial entrance door and framing.

#### ■ Design Variants

Can be constructed to form single or double doors to be inserted directly into masonry, side frames or curtain walling.

#### ■ Compatibility

Can also be integrated with other products from the Sapa range including Dualframe and Elegance 52 curtain walling.

#### ■ Application

Suitable for installation in new build or replacement projects in commercial or public buildings.

#### ■ Finishes

A wide range of polyester powder coat finishes is available to BS EN 12206:1 2004. Anodised finishes are to BS 3987 Grade AA25 etch silver with a range of special anodised finishes on application.

For more details, or to talk to a Project Consultant, contact the Marketing Department on 01684 853500.

# Performance

## Performance data



### Stormframe ST Thermally Broken Commercial Entrance Door & Framing

#### Composition and Manufacture

Aluminium profiles are extruded from aluminium alloy 6060 T6 complying with the recommendations of BS EN 755-9:2001.

Weathersealing is a combination of polypropylene backed woven pile and extruded synthetic rubber seals held in undercut grooves extruded in the aluminium profiles.

The thermal barrier section within the ST Door variation is achieved using two separate aluminium extrusions and two polyamide extrusions mechanically jointed to form a single compound profile.

Frame members are square cut for jointing with self tapping screws fixing into screw splines extruded in the aluminium profiles. Door leaf profiles are square cut and assembled with extruded aluminium brackets and clamp plates then fixed with M8 socket cap head machine screws. All joints are sealed against water entry during fabrication (see weather performance).

#### Weather Performance

There are no recognised performance standards for air and water leakage through commercial doors. However the **ST Door** has been tested in line with BS 6375: Part 1:2004 and has achieved the highest classification for doors when manufactured, installed and glazed strictly to the details outlined in the Sapa Product Manual.

Water Tightness	Class 3A (100 Pascals)
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Air Permeability	Class 2 (300 Pascals)
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Gust	Class A3 (1200 Pascals)
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Note - Adams Rite 4022 head and cill bolts to top and bottom of door must be used to obtain this classification.

In keeping with industry recommendations, it is advisable to give special consideration to doors on exposed sites. High wind pressures can cause inadvertent opening of pivoted doors and consequent draughts and water penetration. It may be advisable under such circumstances to provide protection by means of a porch or lobby.

All joints must be coated with Tremco small joint sealant or similar in order to effectively seal the frame and leaf assembly from water penetration.

#### Authority

BS 6262: Code of practice for glazing for buildings.

BS EN 755-9: Aluminium and aluminium alloys. Extruded rod/bar, tube and profiles.

Profiles, tolerances on dimension and form. BS 3987: Specification for anodic oxide coatings on wrought aluminium for external architectural applications.

BS EN 12206:1 2004: Specification for powder organic coatings for application and stoving to aluminium alloy extrusions, sheet and perforated sections for external architectural purposes.

#### Sizes

Door leaf maximum sizes will be determined by a combination of site exposure conditions and hardware specification.

For rebated doors, the overall leaf weight should not exceed 120 Kg for a two-hinge installation.

For centre pivot doors, suitable strengths closers must be fitted according to the width and area of the door leaf.

Maximum door leaf weight = 90 Kg.

Minimum door width is 910mm for Adams Rite exit device when panic bar is fitted.

Maximum opening size for pivot and rebate doors leaves are 2150mm high x 1175mm wide (1050mm wide for concealed closers).

For doors subject to Part M of the Building Regulations, and/or BS8300:2001, consideration should be given to the requirements within those documents for minimum opening widths and opening/closing forces when specifying door dimensions and hardware.

#### Hardware and Security

The standard fittings provided for these doors are:

Dorma RTS85 concealed overhead door closers for pivoted doors and Dorma pivot hinges for rebated doors.

Adams Rite MS 2200 security lock with hook bolt and European standard profiles cylinders with optional Adams Rite 4022 head and cill bolt to top and bottom of door.

Aluminium tubular pull handles and pad handles.

Variations by way of special handles, pivot hinges, latch lock, master key systems, emergency exit devices (as shown in the Sapa Product Manual), automatic door operation, electronic security etc can all be incorporated into the system as required.

#### Glazing

Glass must conform to the requirements of BS6262 for thickness and type. Glass is set dry against synthetic rubber gaskets. Glass is supported on adjustable setting blocks. Glazing beads and gaskets will accommodate glass and/or panels of 28mm and 32mm nominal thickness.

#### Thermal Performance

The graphs on pages 6 TO 11 show U value performance figures for a typical ST Door with drained low threshold, standard top, mid and bottom rails with anti-finger trap hinge stiles. Figures for are standard aluminium edge spacers.

#### Site Work

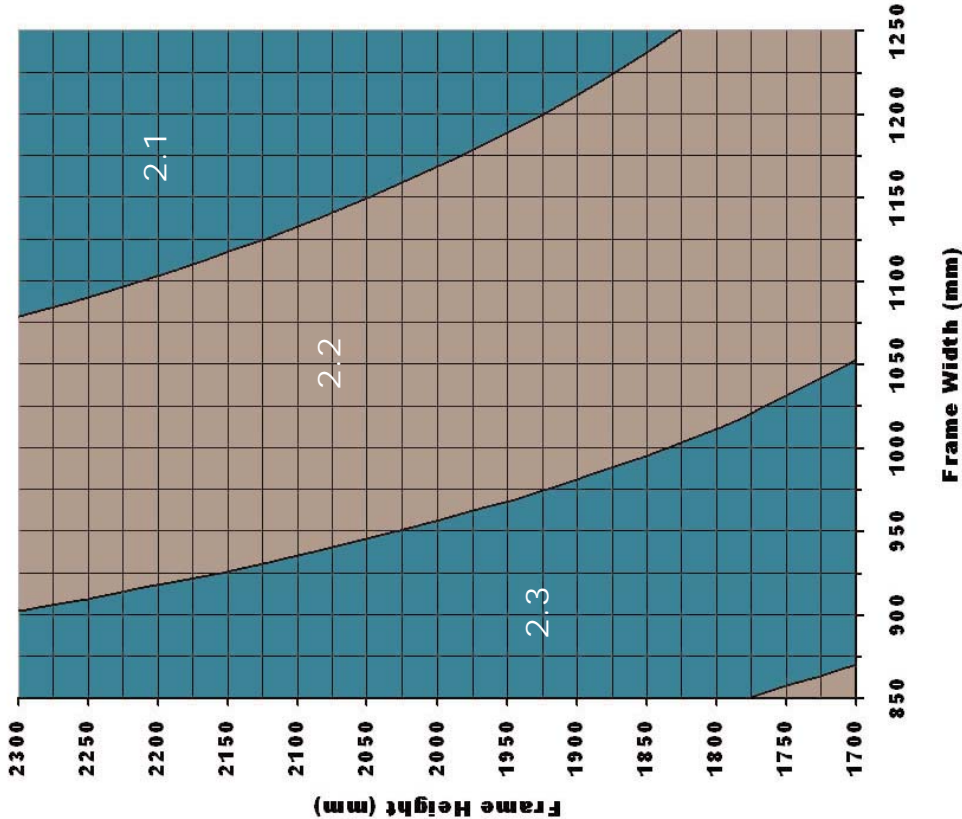
Fabrication, installation and glazing service is available through a nationwide network of fabricators & installers. For details of suitable fabricators & installers, please contact our Marketing Department on 01684 853500.

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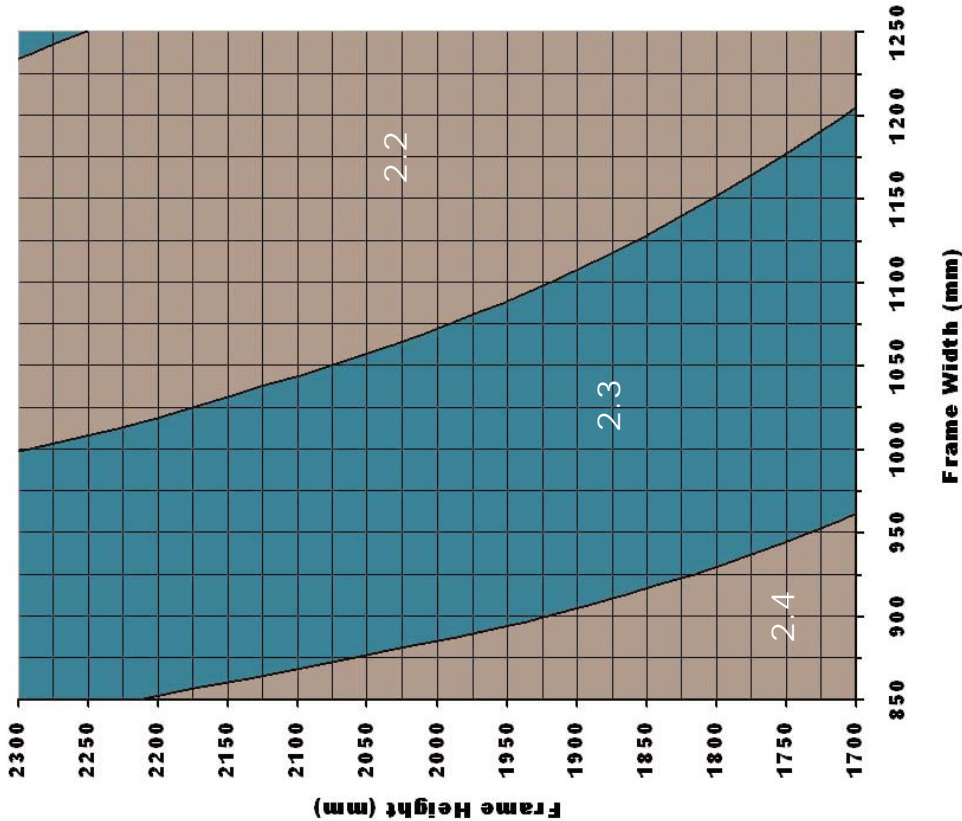


U Value Graphs  
Standard lock stile, Anti Finger Trap Hanging Stile

1.2 Centre Pane Without Midrail



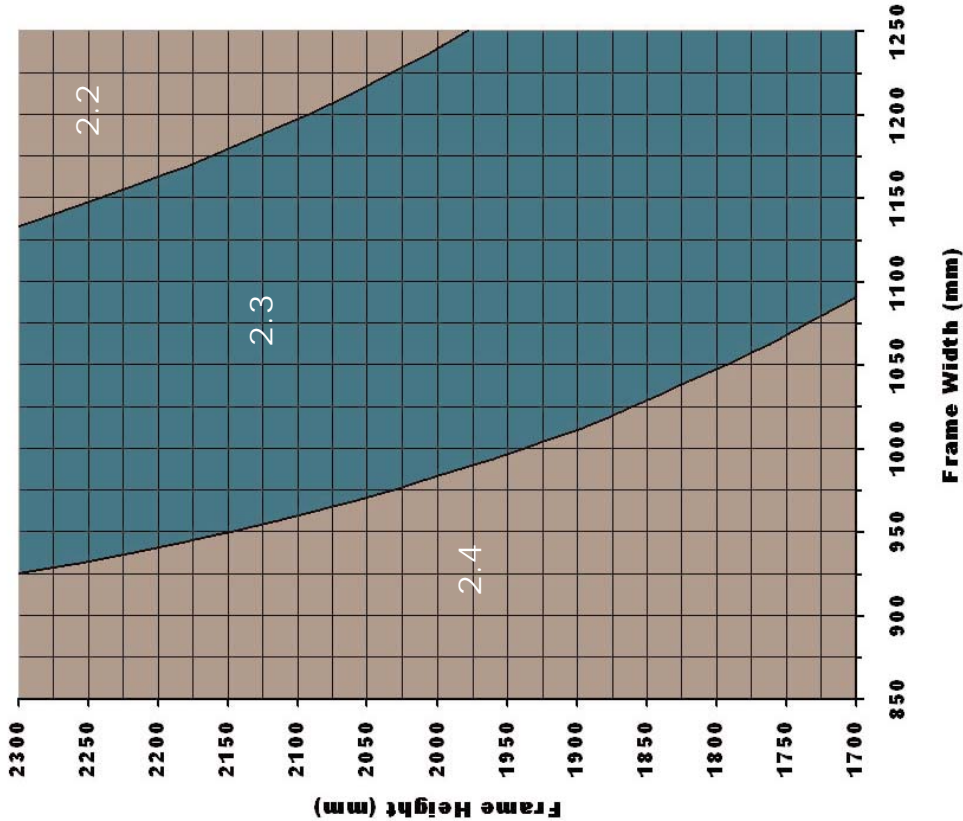
1.3 Centre Pane Without Midrail



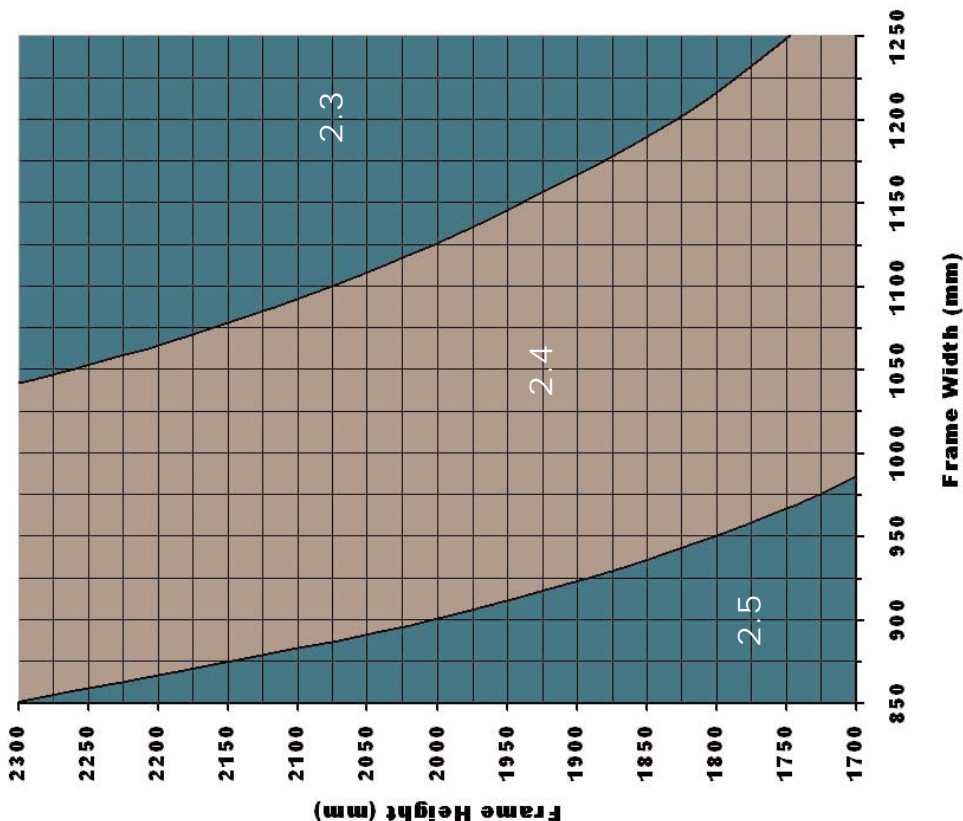


U Value Graphs  
Standard lock stile, Anti Finger Trap Hanging Stile

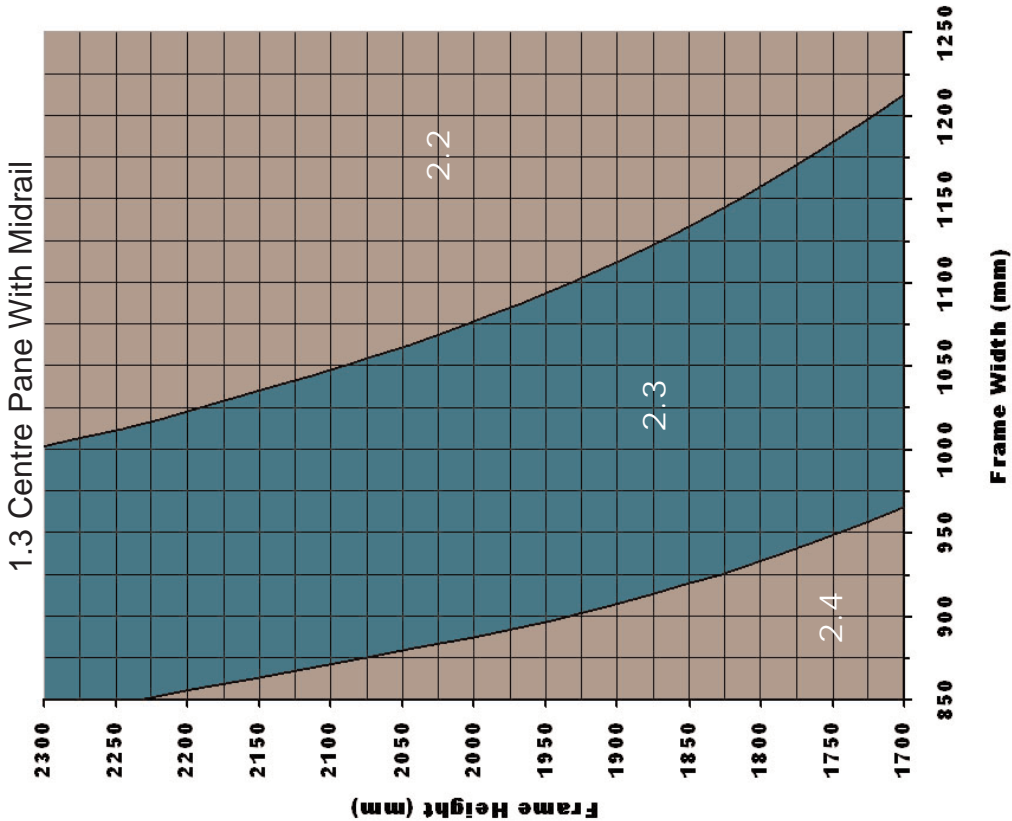
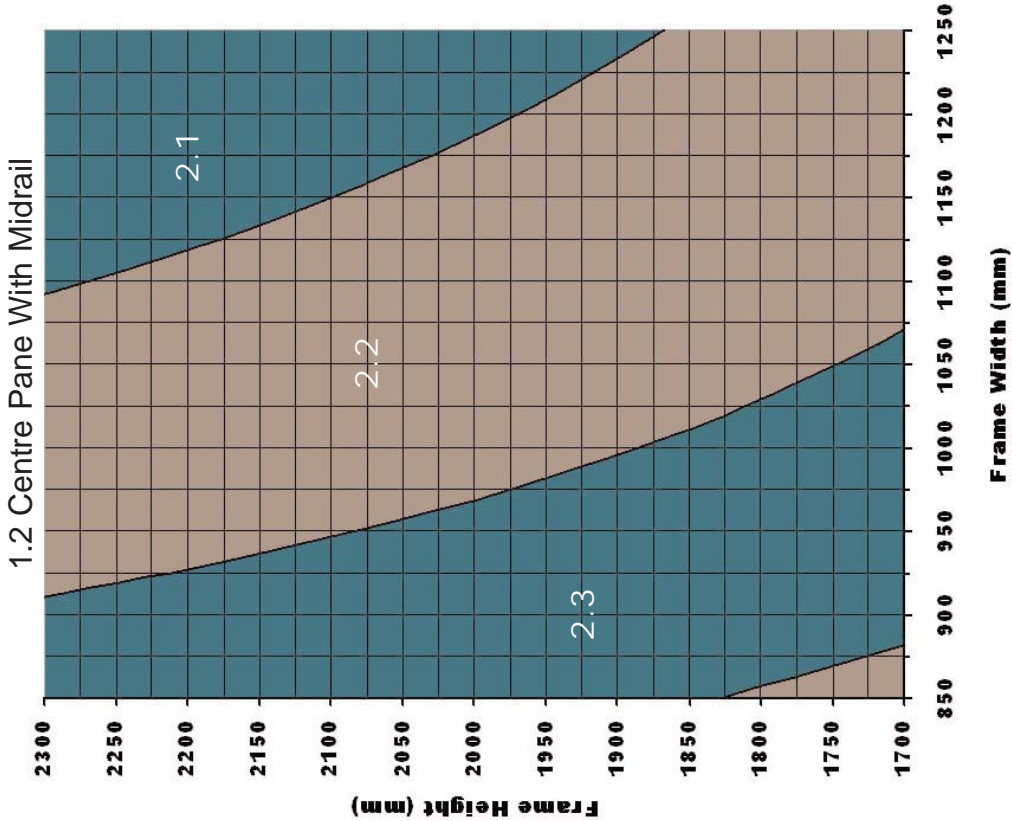
1.4 Centre Pane Without Midrail



1.5 Centre Pane Without Midrail

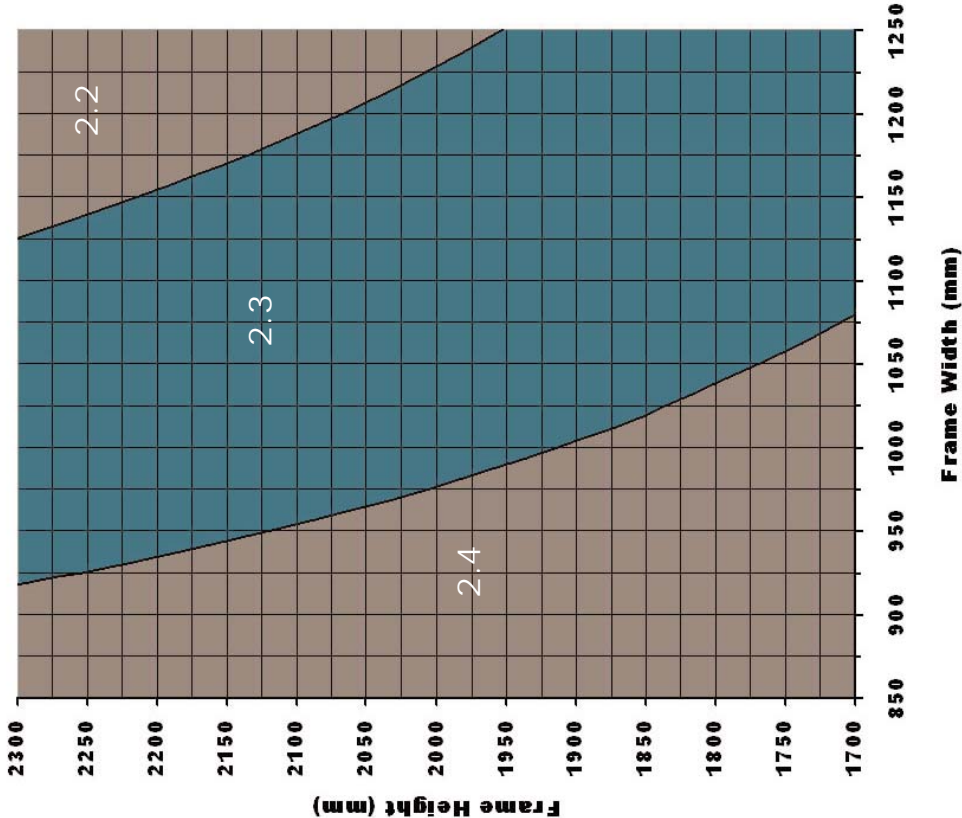


U Value Graphs  
Standard lock stile, Anti Finger Trap Hanging Stile

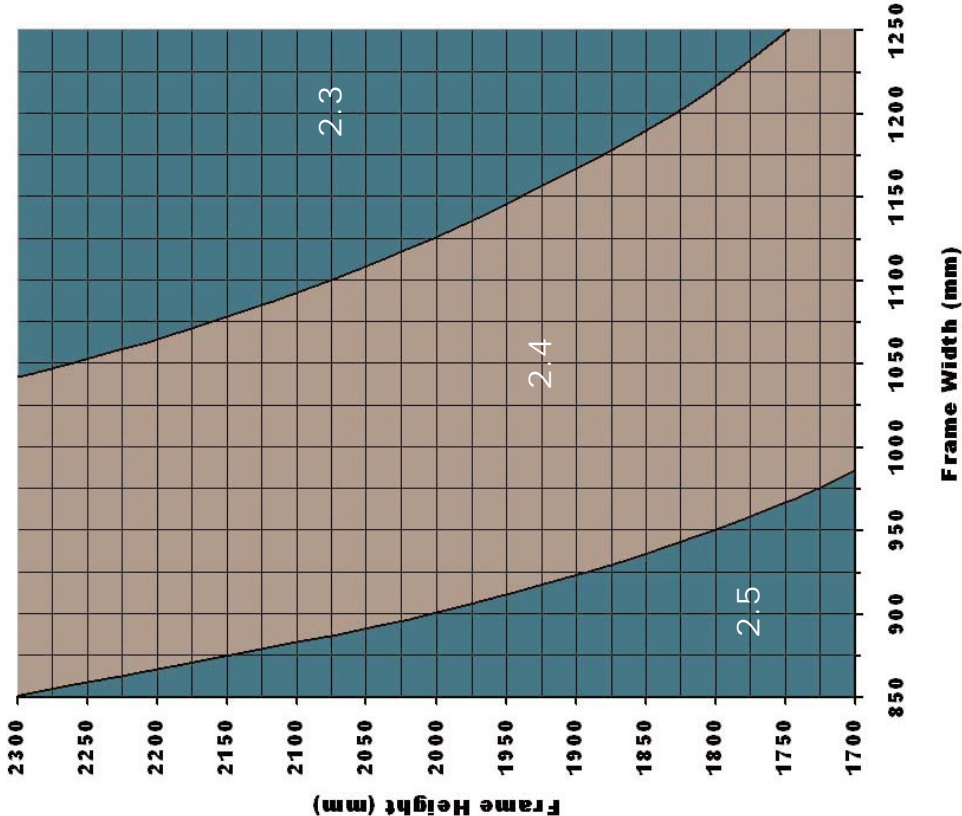


U Value Graphs  
Standard lock stile, Anti Finger Trap Hanging Stile

1.4 Centre Pane With Midrail

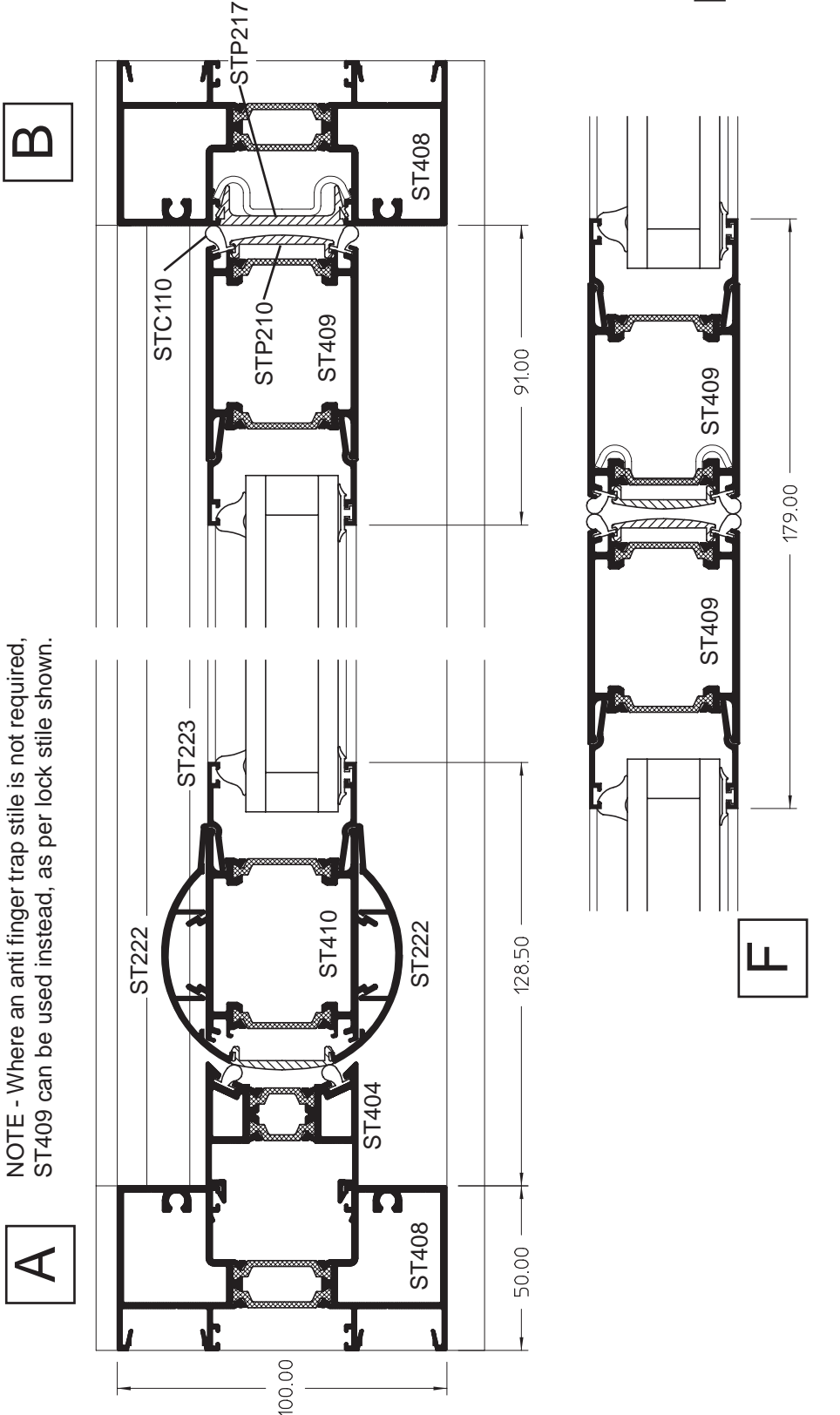


1.5 Centre Pane With Midrail



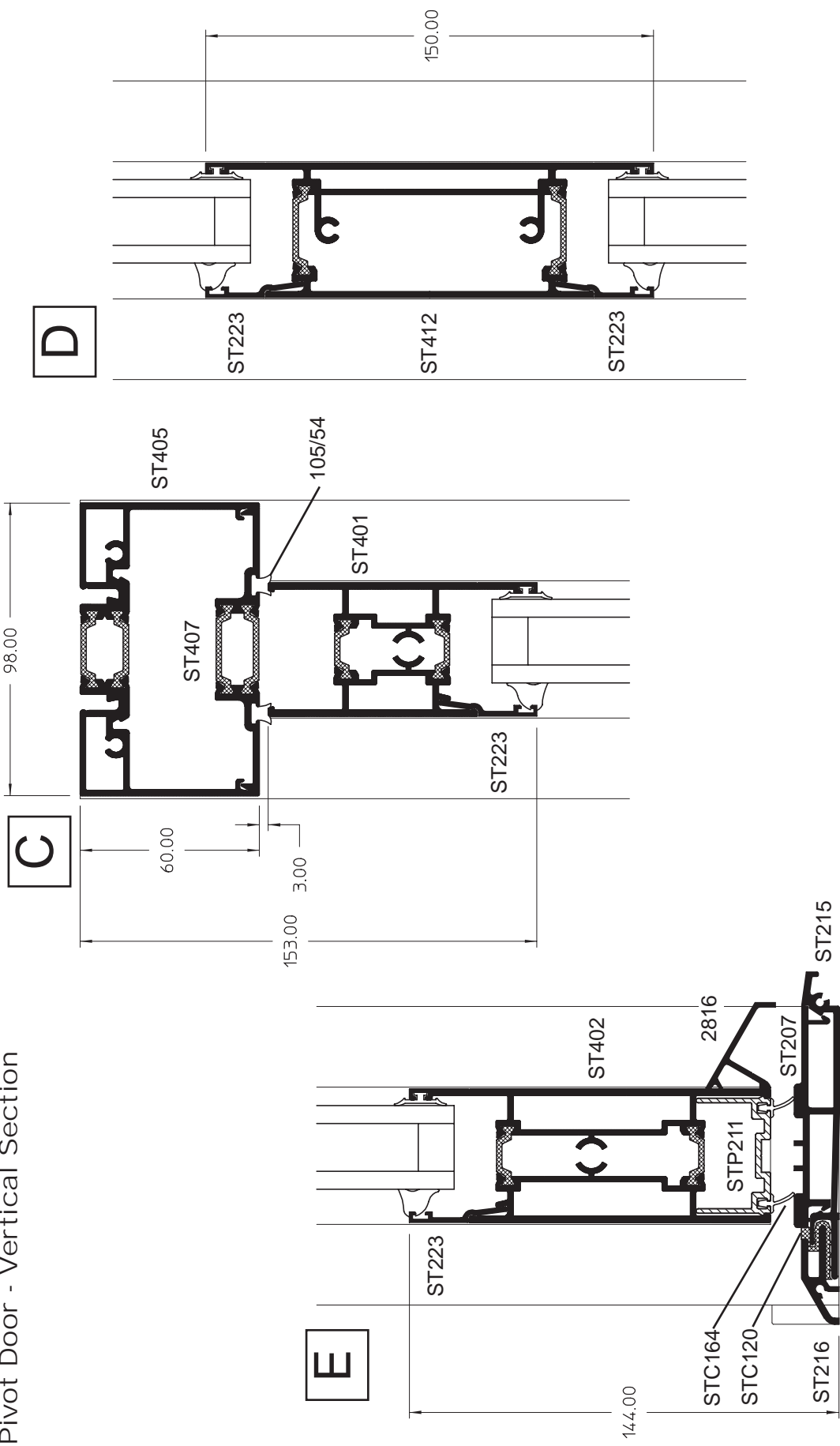
GENERAL ARRANGEMENTS

Centre Pivot Door - Horizontal Section - Standard Stiles



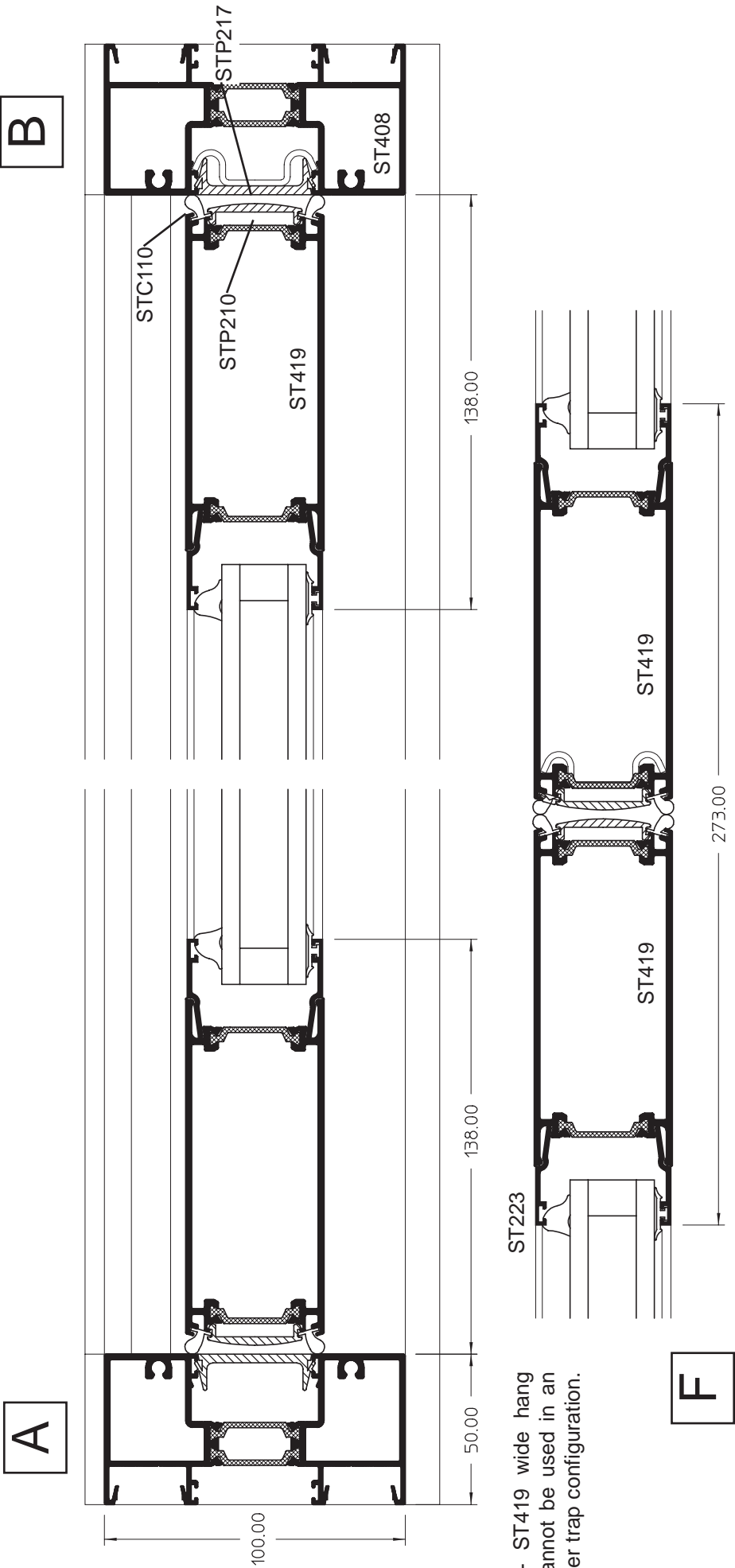


Centre Pivot Door - Vertical Section



GENERAL ARRANGEMENTS

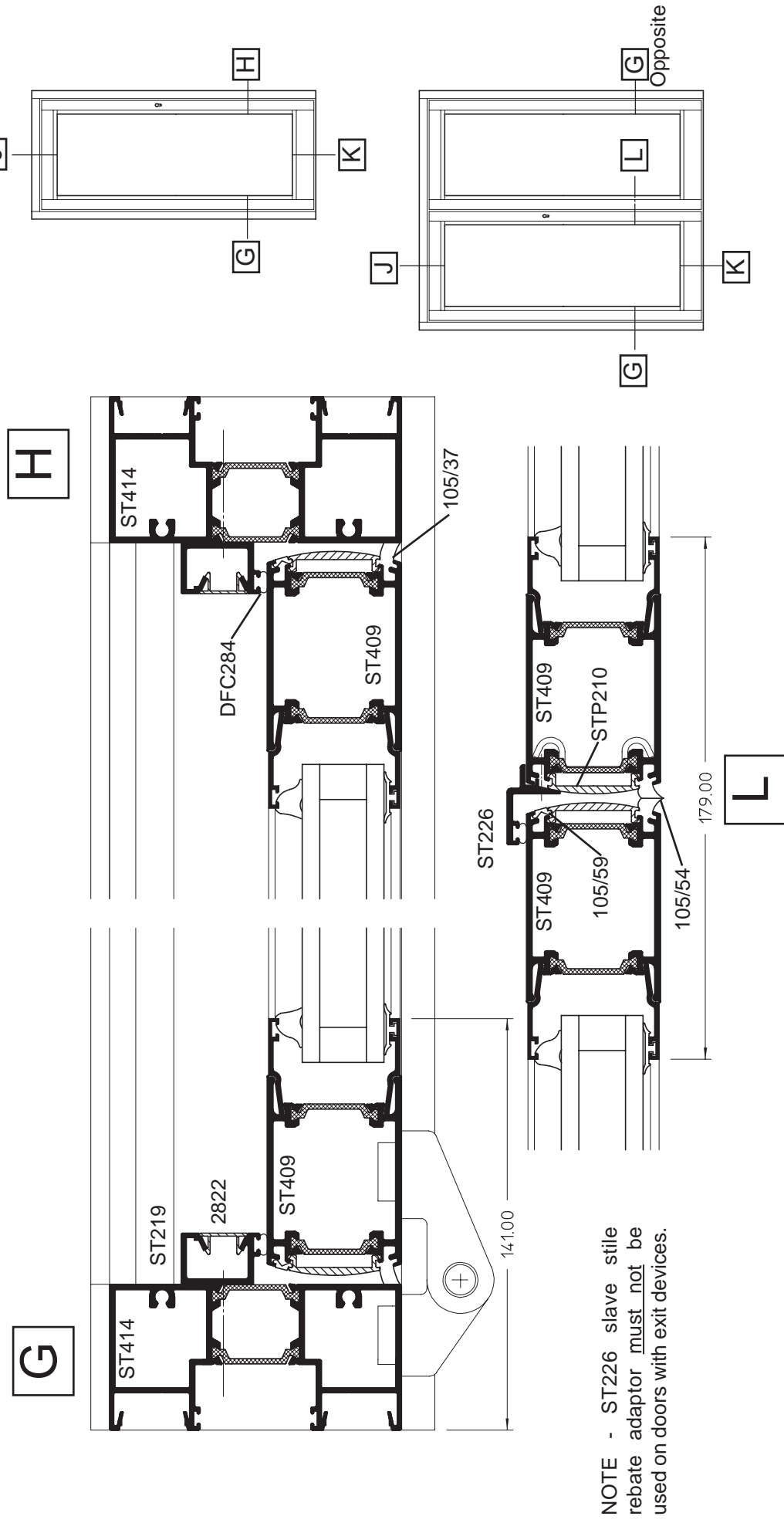
Centre Pivot Door - Horizontal Section - Wide Stiles



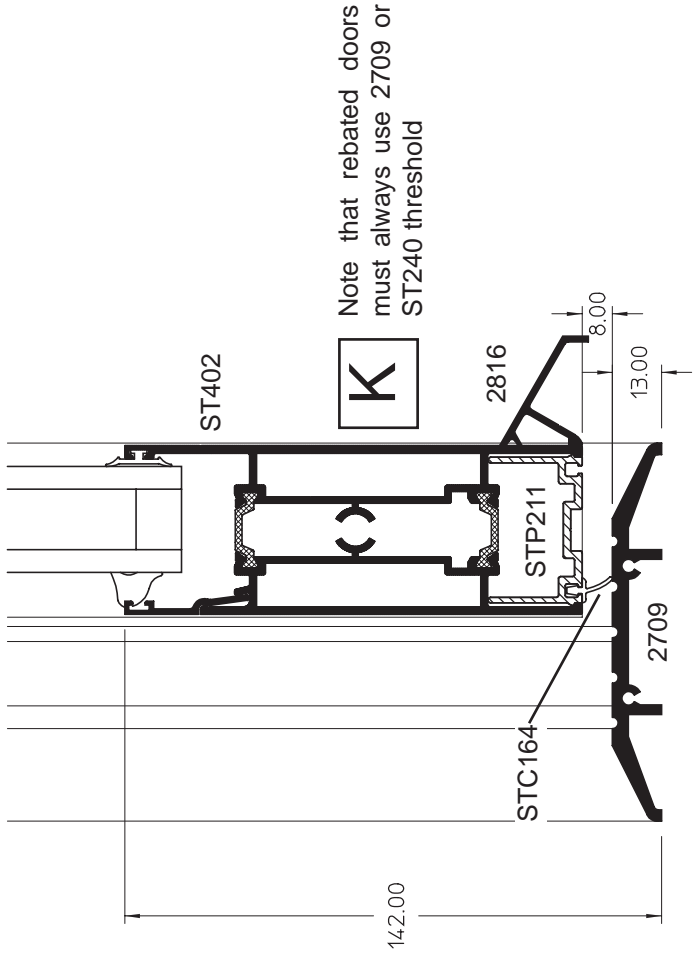
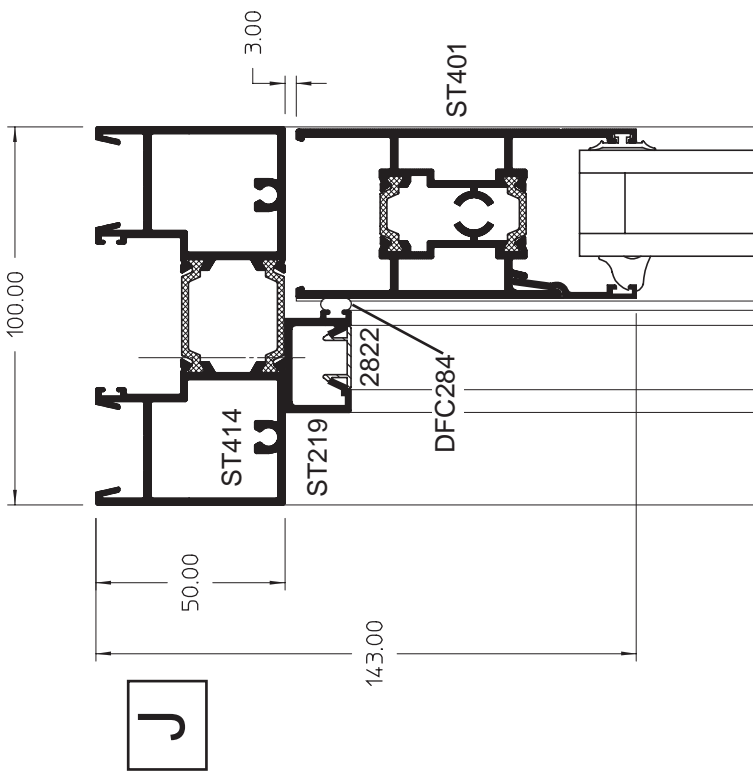
NOTE - ST419 wide hang stiles cannot be used in an anti finger trap configuration.

GENERAL ARRANGEMENTS

Rebated Door - Horizontal Section



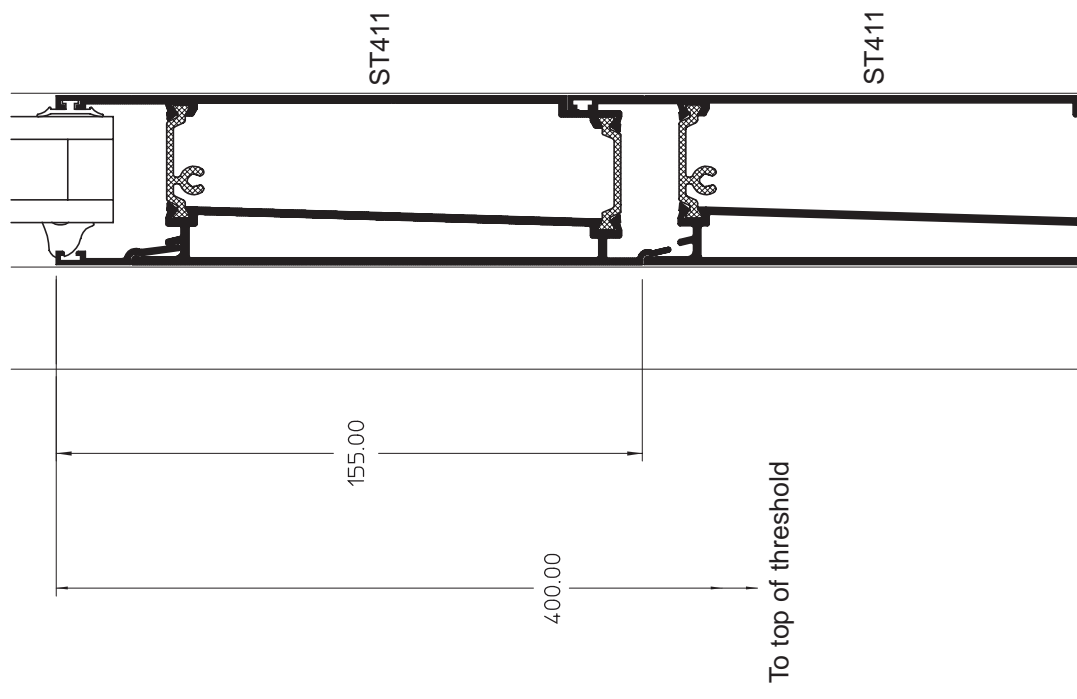
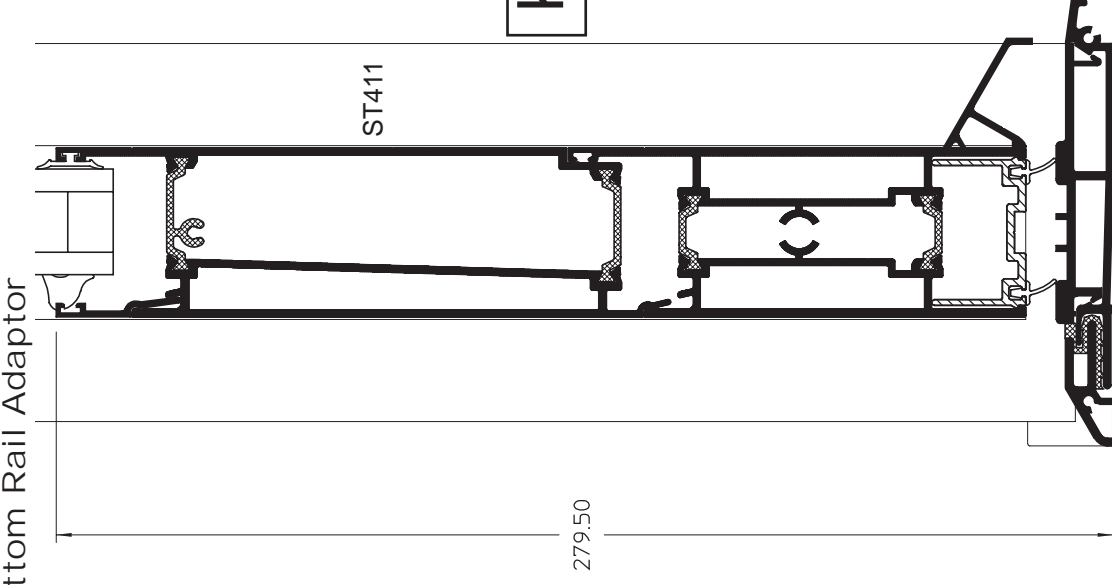
Rebated Door - Vertical Section





GENERAL ARRANGEMENTS

Deep Bottom Rail Adaptor



For compliance with  
BS 8300 regulations,  
fit two ST411 deep  
bottom rail adaptors  
to give the required  
400mm dimension

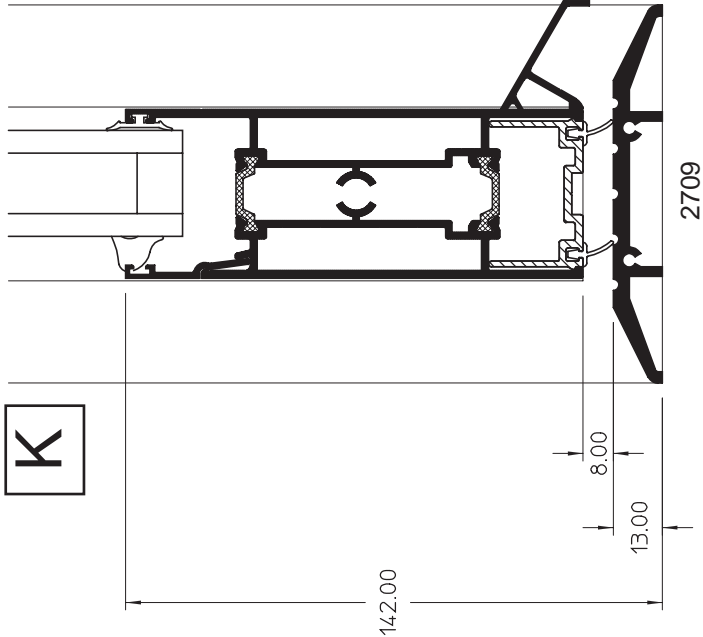




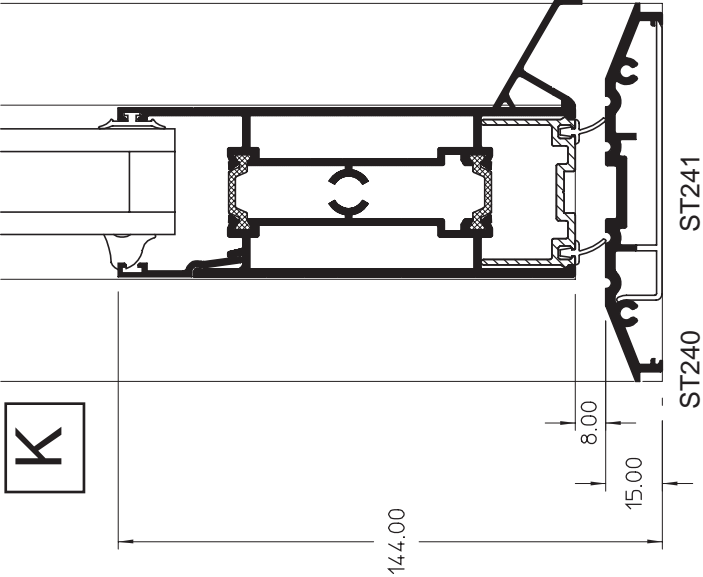
Stormframe ST Thermally Broken Commercial Entrance Door & Framing

GENERAL ARRANGEMENTS

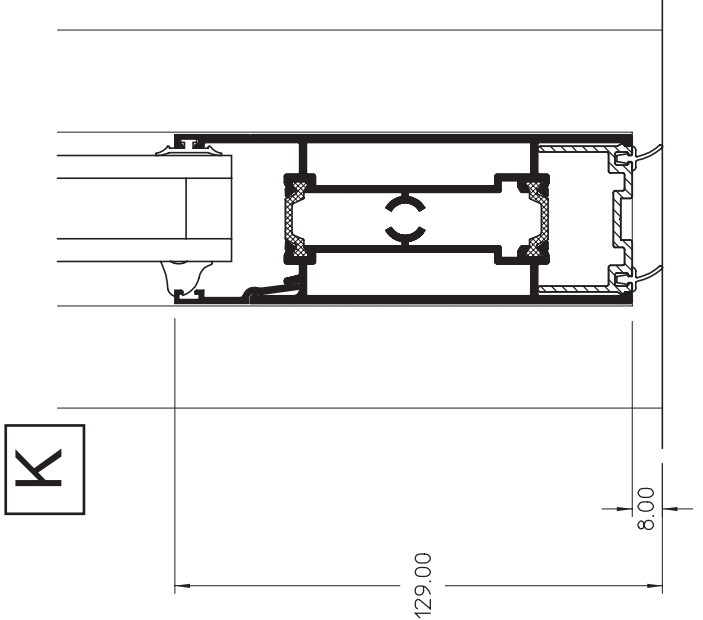
Alternative Ramped  
Threshold Arrangement



Alternative Drainage  
Threshold Arrangement



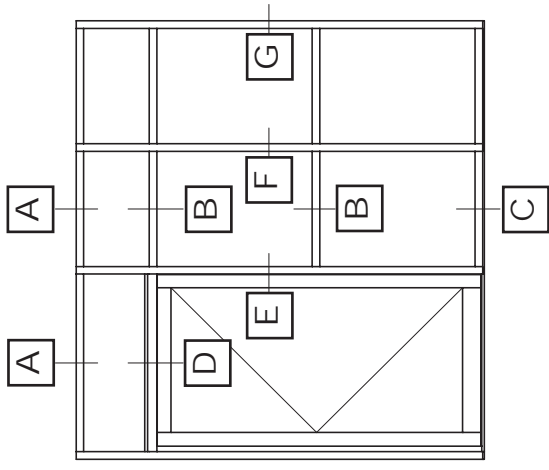
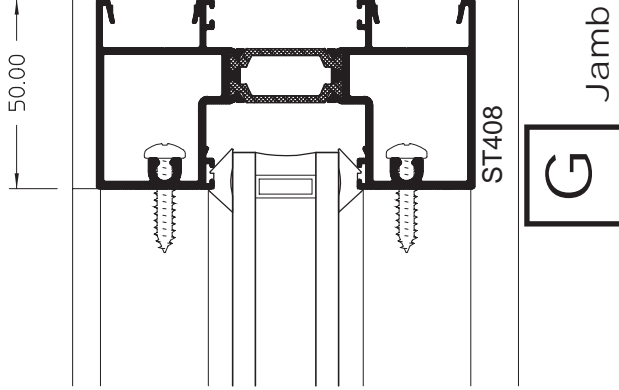
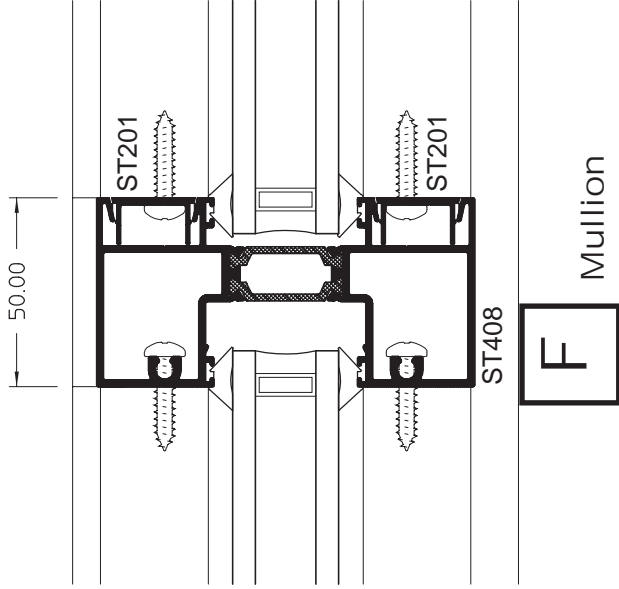
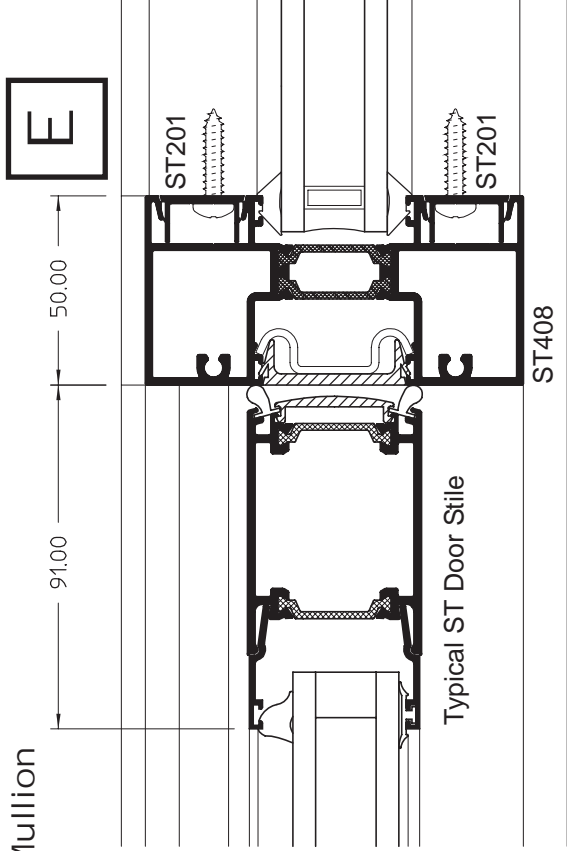
Alternative Zero  
Threshold Arrangement



Stormframe ST Thermally Broken Commercial Entrance Door & Framing

GENERAL ARRANGEMENTS

Door Stile to Mullion

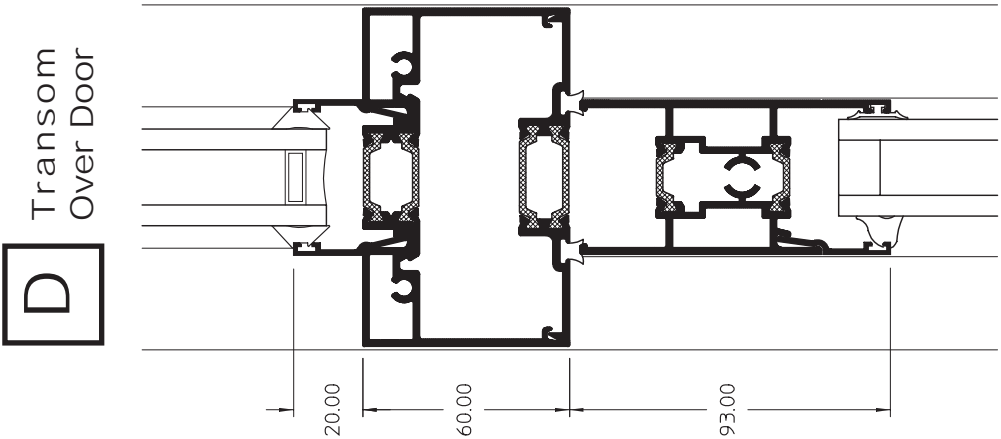
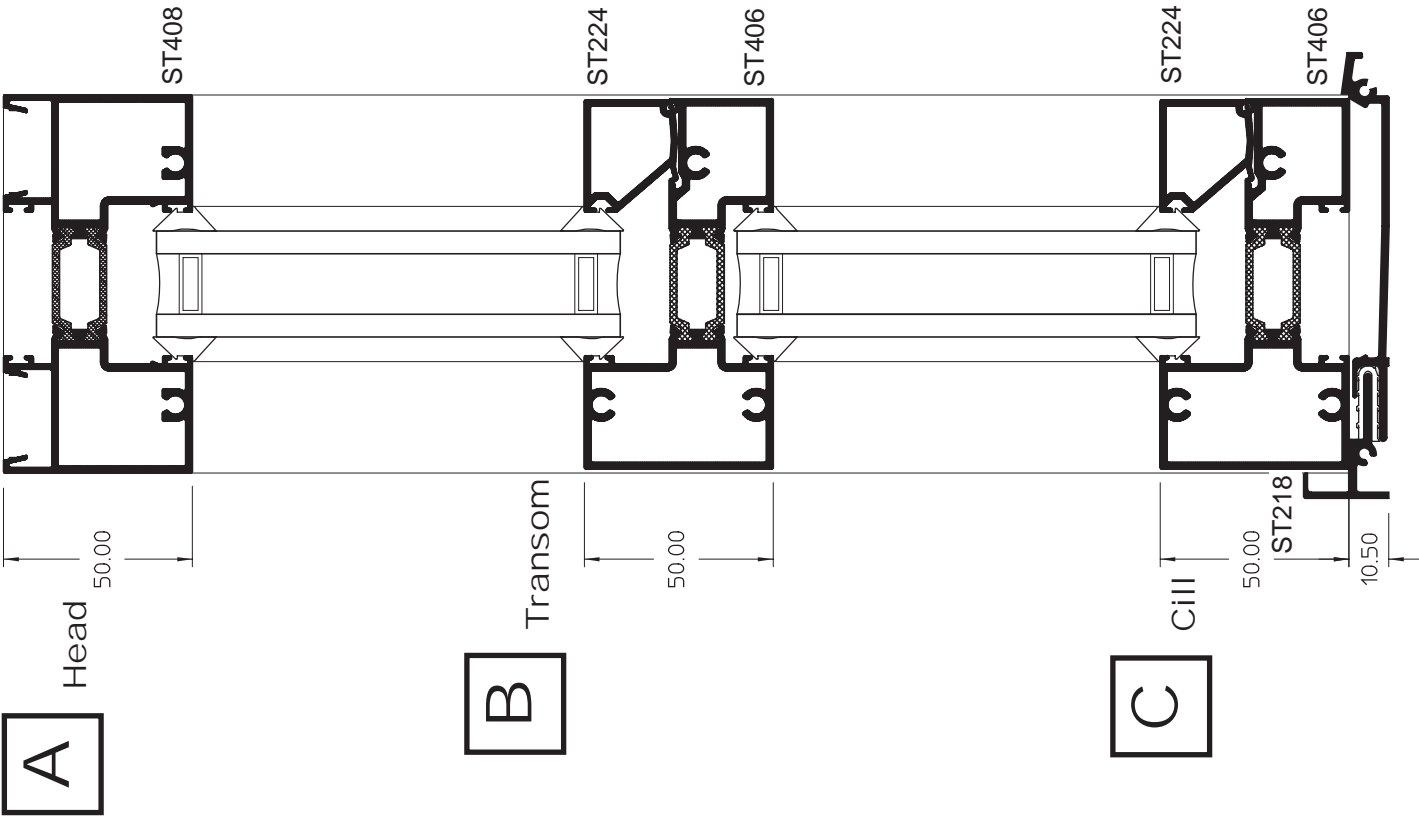


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Stormframe ST Thermally Broken Commercial  
Entrance Door & Framing

GENERAL ARRANGEMENTS