

Uniclass L3811	
CI/SIB	(31) Xh4

September 2007

**sapa:**

**buildingsystem**

ARCHITECTURAL ALUMINIUM SOLUTIONS



# Dualframe 75mm Reversible Window

Technical Data Sheet

**Sapa Building System**

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- **Contemporary Design:** Dualframe signifies a new era in aluminium fenestration, with products that have been specifically designed to comply with the ever increasing complexity of Building Regulations, British Standards and other regulatory demands.
- **Superior thermal performance:** Dualframe comfortably exceeds the requirements of Part L 2006 of the Building Regulations (2006) for both thermal insulation and air permeability, and has been designed to be compliant with future anticipated changes. Where required, Dualframe 75 casement can achieve an 'A' Window Energy Rating.
- **Dual colour capability:** All Dualframe products can have differing finishes internally and externally.
- **Integrated design:** The Dualframe suite consists of casement, pivot, tilt/turn, sliding and reversible windows, single and double leaf doors and glazed roofing, all of which can be combined to form composite units.
- **Unique polyamide thermal barrier:** With integral bead retention leg to minimise projection of opening lights (patent applied for).
- **Accreditation:** Dualframe casement and tilt/turn windows have been awarded BSI Kitemarks to BS4873 'Specification for aluminium alloy windows' and BS7950 'Specification for enhanced security performance of casement and tilt/turn windows for domestic applications'.  
  
Dualframe doors have been awarded BSI PAS023-1 : 1999, 'General performance requirements for door assemblies; Part 1 - single leaf door assemblies to dwellings' and PAS024-1 : 1999 'enhanced security performance requirements for door assemblies; Part 1 - single leaf external door assemblies to dwellings'.  
  
Dualframe casement, tilt/turn windows and Dualframe doors meet the Secured by Design specification.  
  
Dualframe 75 casement can achieve an 'A' Window Energy Rating (WER) where required.
- **Choice of appearance:** Chamfered and Softline profiles are available to many products within the Dualframe suite, options of internal or external beading (including BS7950 compliant security) are also available.
- **Ease of maintenance:** The integration of a 'Eurogroove' features enables use of industry standard hardware, available from a variety of sources so that the product is competitive and easily maintained.

- **Product**  
Dualframe 55mm reversible window.
- **Design Variants**  
Can be constructed to form fixed and opening lights either as combination frames or as separate coupled lights.
- **Compatibility**  
Can also be integrated with other products from the Dualframe range and with Sapa Elegance 52 curtain walling.
- **Application**  
Suitable for installation in new build or replacement projects in residential, 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.



Official Police Security Initiative



FM01154



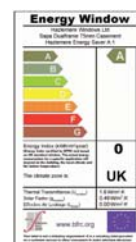
BS 4873  
Licence No. KM74159



BS 7950  
Licence No. KM74141



PAS 23-1 and  
PAS 24-1  
Licence No. KM90215



### Composition and Manufacture

Aluminium profiles are extruded from aluminium alloy 6063 or 6060 T6 complying with the recommendations of BS EN 755-9:2001.

Weatherstripping is polypropylene backed woven pile, polyurethane foam enclosed in a polythene sheath and a neoprene flipper seal set in undercut grooves in the sash and frame.

The thermal barrier is achieved using two separate aluminium extrusions and two polyamide extrusions mechanically joined together to form a single compound profile. On some coupling mullions a 'pour and cut' polyurethane resin thermal break is used.

Frame members are mitre cut at 45°. Corners are reinforced with stainless steel corner ties and extruded aluminium corner cleats. All joints are sealed against water entry during fabrication.

### Weather Performance

When tested in accordance with BS6375:Part 1:1989 all products listed in this data sheet, when manufactured, installed and glazed strictly Sapa Building Systems specifications, will achieve the following exposure categories "2000 Special\*":

#### Opening Lights

Water tightness	600 Pascals
Air Permeability	600 Pascals
Wind Resistance	2000 Pascals*
Fixed Lights	
Water tightness	600 Pascals
Air Permeability	600 Pascals
Wind Resistance	2000 Pascals*

\* Exposure category varies with width/height of window and mullion/transom used, as these are the only unsupported members. Maximum fixed light area = 5m<sup>2</sup>. An accurate calculated figure as well as intermediate integral mullion/transom coupling mullion strength requirements should be obtained using BS6399:Part 2 calculations and inertia values given on page 6.

### Authority

BS 4873: Aluminium Alloy Windows

BS6375-1: Performance of windows: Classification for weathertightness and guidance on selection and specification.

BS6375-2: Performance of windows. Specification for operation and strength characteristics.

BS6262: Code of practice for glazing for buildings

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

BS EN 10077-2: Thermal performance of windows, doors and shutters – calculation of thermal transmittance – Part 2: Numerical method for frames

### Size Limitations

Fixed light - maximum area 5 sq.m

#### Reversible Window

Maximum vent height	1592mm
Minimum vent height	493mm
Maximum vent width	1356mm
Minimum vent width *(cockspur)	314mm
Minimum vent width *(espag)	386mm
Maximum vent weight	60 kg

Note: All sizes given are in millimetres.

Windows fitted with cockspur handles that have a vent size of over 900mm in width, must be fitted with two handles.

Where windows are produced in non-modular sizes, the bottom rail of the opening light will in some cases reverse above the frame head and may hit the soffit or lintel.

To prevent the bottom rail hitting the outer frame head or soffit, in the reverse mode for cleaning, stop blocks are an optional item and can be fitted in the aluminium slide track.

### Hardware/Security

Vents are hung on zinc plated mild steel variable geometry top overswing hinges, with integral restrictors which engage at initial opening stops and fully reversed position for safe cleaning. Cockspur and Espagnolette handles are mazak pressure die castings and can be colour matched.

Bi-parting mushroom-headed espagnolette bolts provide a multipoint locking option where required.

### Glazing

Drainage in accordance with details listed in this manual meets the requirements of "Ventilated and Drained Glazing System", as specified in BS6262. Glass must conform to BS6262 for thickness and type. Insulating glass or panel units of 24mm and 28mm can be accommodated.

Fixed/opening lights: Glass is set against extruded synthetic rubber gaskets retained in undercut grooves with the aluminium profile. Final retention of the glass is achieved by the application of a co-extruded PVCu/synthetic rubber wedge gasket between the inner face of the glass and the frame.

### Thermal Performance

Dualframe 75mm complies to the 'whole window' requirements of Part L of the Building Regulations. Lower U-values can be achieved using double glazing units with low thermal transmission, such as 'soft coat' low emissivity glass, argon gas filling and thermally broken spacer bars.

### Site Work

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


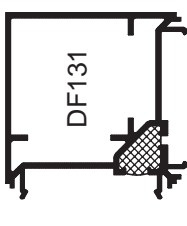
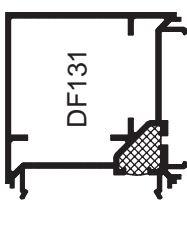
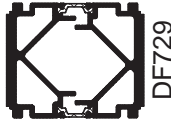
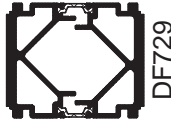


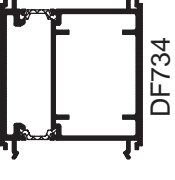
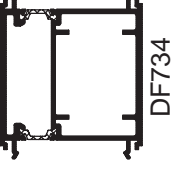
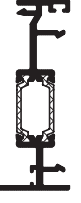
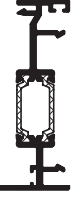
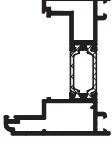
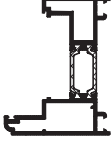
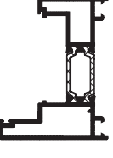
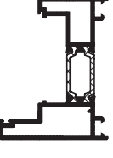
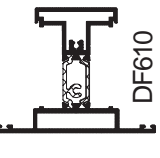
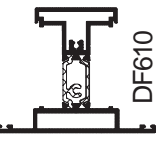
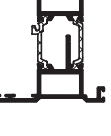
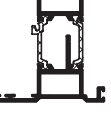






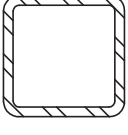
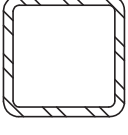






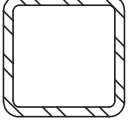
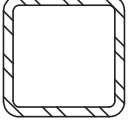
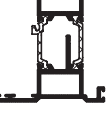
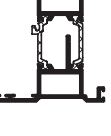






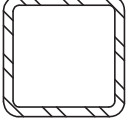
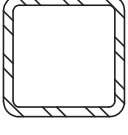




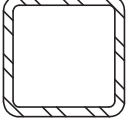
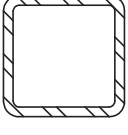
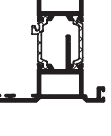
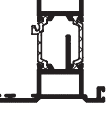






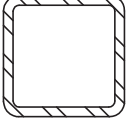
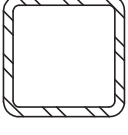




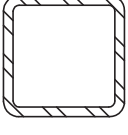
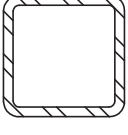
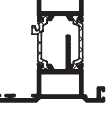
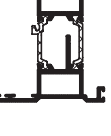






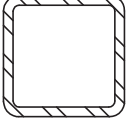
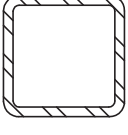




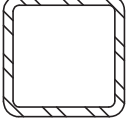
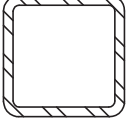
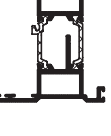
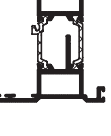






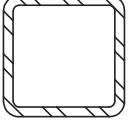
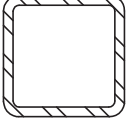




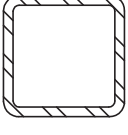
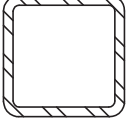
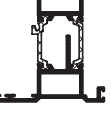
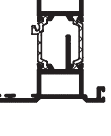






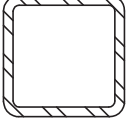
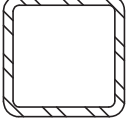




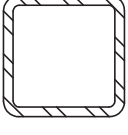
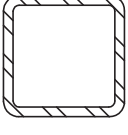
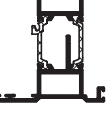
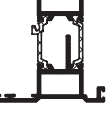






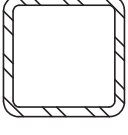
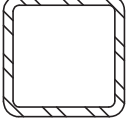




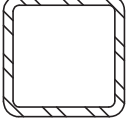
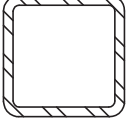
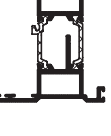
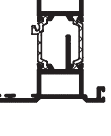






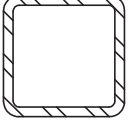
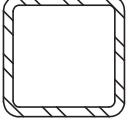




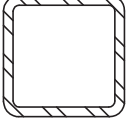
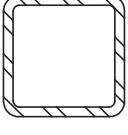
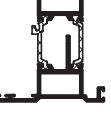
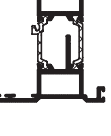






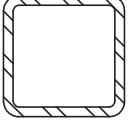
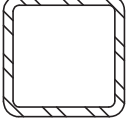




- Our field based Project Consultants, working with our in-house Contracts Design and Administration team, provide UK specifiers with specialist advice concerning the correct application of products, giving guidance on Building Regulations, British Standards and other issues such as product specifications, usage, maintenance and safety. Complementary to this, our Product Support Department has an invaluable reservoir of experience on every aspect of our product range.
- We also appreciate that the specification process is influenced by client demands to obtain best value, and to that end, we can participate in site visits, design meetings and budgetary planning. Design stages can be formalised through written specification documents (which can be supplied in either an NBS format, or your own specification layout) and supported by samples, literature and drawings for consultation or planning issues.
- Taking this partnership approach through the whole project allows on-site monitoring of manufacturing and installation ensuring the specifier always has professional support from a worldwide group. Drawing on one of the largest fabricator and installer networks in the UK, we can provide details of specialist contractors who will quote or tender competitively for any type of contract.
- For specification assistance or details of fabricators & installers, please call our Marketing Department on 01684 853500.

### ■ Sapa Group

Sapa Building Systems Limited is a member of the worldwide Sapa Group. We develop and market high value-added profiles in aluminium and are the leading independent producer of aluminium profiles in the world, with customers in Europe, North America and Asia. In the UK, the Sapa Group has extensive multi-site extruding, re-melt, anodising and polyester powder coating facilities, offering total control and a fast and co-operative response.

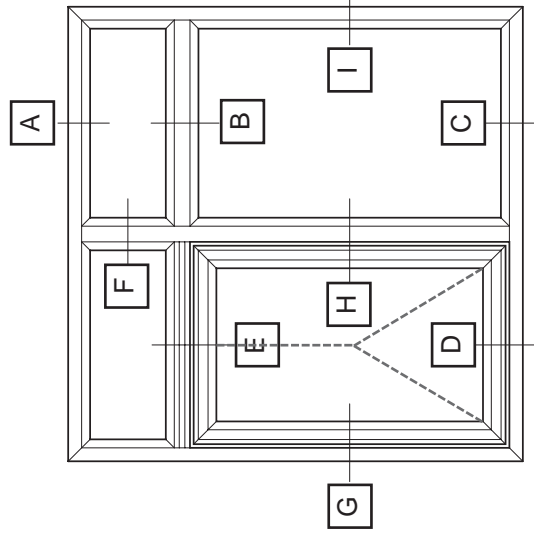
Backed by the resources of the Group, Sapa Building Systems Limited offers architects and specifiers a wide range of innovative aluminium systems for curtain walling, doors, windows and specialist applications. With a wealth of European knowledge and experience our company incorporates the highly respected Glostal, Monarch and RC System brands that have satisfied the demands of specifiers for over four decades. Our company systems have been approved under BS EN ISO 9001:2000 and we have been recognised as an Investor in People for over three years.

The following information on this page shows the inertia values of the integral mullions, transoms, coupling mullions & outerframes. BS6399 Part 2 must be used to calculate the inertia required.

Profile	 DF122	Inertia mm <sup>4</sup>	
		↙	161,075
 DF131	 DF131	Inertia mm <sup>4</sup>	
		↘	2,930
 DF729	 DF729	Inertia mm <sup>4</sup>	
		↙	639,861
 DF730	 DF730	Inertia mm <sup>4</sup>	
		↘	659,240
 DF734	 DF734	Inertia mm <sup>4</sup>	
		↙	412,253
 DF711	 DF711	Inertia mm <sup>4</sup>	
		↘	738,637
 DF600	 DF600	Inertia mm <sup>4</sup>	
		↙	69,661
 DF601	 DF601	Inertia mm <sup>4</sup>	
		↘	411,283
 DF610	 DF610	Inertia mm <sup>4</sup>	
		↙	237,158
 DF620	 DF620	Inertia mm <sup>4</sup>	
		↘	160,628
 16021	 16021	Inertia mm <sup>4</sup>	
		↙	608,189
 16022	 16022	Inertia mm <sup>4</sup>	
		↘	651,786
 16023	 16023	Inertia mm <sup>4</sup>	
		↙	217,068
Steel Box  Not by Sapa	 Not by Sapa	Inertia mm <sup>4</sup>	
		↘	9,200
 16021	 16021	Inertia mm <sup>4</sup>	
		↙	223,742
 16022	 16022	Inertia mm <sup>4</sup>	
		↘	90,269
 16023	 16023	Inertia mm <sup>4</sup>	
		↙	224,225
Steel Box  Not by Sapa	 Not by Sapa	Inertia mm <sup>4</sup>	
		↘	92,690
 DF620	 DF620	Inertia mm <sup>4</sup>	
		↙	608,189
 16021	 16021	Inertia mm <sup>4</sup>	
		↘	651,786
 16022	 16022	Inertia mm <sup>4</sup>	
		↙	217,068
 16023	 16023	Inertia mm <sup>4</sup>	
		↘	9,200
Steel Box  Not by Sapa	 Not by Sapa	Inertia mm <sup>4</sup>	
		↙	223,742
 16021	 16021	Inertia mm <sup>4</sup>	
		↘	90,269
 16022	 16022	Inertia mm <sup>4</sup>	
		↙	224,225
Steel Box  Not by Sapa	 Not by Sapa	Inertia mm <sup>4</sup>	
		↘	92,690
 DF620	 DF620	Inertia mm <sup>4</sup>	
		↙	608,189
 16021	 16021	Inertia mm <sup>4</sup>	
		↘	651,786
 16022	 16022	Inertia mm <sup>4</sup>	
		↙	217,068
 16023	 16023	Inertia mm <sup>4</sup>	
		↘	9,200
Steel Box  Not by Sapa	 Not by Sapa	Inertia mm <sup>4</sup>	
		↙	223,742
 16021	 16021	Inertia mm <sup>4</sup>	
		↘	90,269
 16022	 16022	Inertia mm <sup>4</sup>	
		↙	224,225
Steel Box  Not by Sapa	 Not by Sapa	Inertia mm <sup>4</sup>	
		↘	92,690
 DF620	 DF620	Inertia mm <sup>4</sup>	
		↙	608,189
 16021	 16021	Inertia mm <sup>4</sup>	
		↘	651,786
 16022	 16022	Inertia mm <sup>4</sup>	
		↙	217,068
 16023	 16023	Inertia mm <sup>4</sup>	
		↘	9,200
Steel Box  Not by Sapa	 Not by Sapa	Inertia mm <sup>4</sup>	
		↙	223,742
 16021	 16021	Inertia mm <sup>4</sup>	
		↘	90,269
 16022	 16022	Inertia mm <sup>4</sup>	
		↙	224,225
Steel Box  Not by Sapa	 Not by Sapa	Inertia mm <sup>4</sup>	
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 DF620	 DF620	Inertia mm <sup>4</sup>	
		↙	608,189
 16021	 16021	Inertia mm <sup>4</sup>	
		↘	651,786
 16022	 16022	Inertia mm <sup>4</sup>	
		↙	217,068
 16023	 16023	Inertia mm <sup>4</sup>	
		↘	9,200
Steel Box  Not by Sapa	 Not by Sapa	Inertia mm <sup>4</sup>	
		↙	223,742
 16021	 16021	Inertia mm <sup>4</sup>	
		↘	90,269
 16022	 16022	Inertia mm <sup>4</sup>	
		↙	224,225
Steel Box  Not by Sapa	 Not by Sapa	Inertia mm <sup>4</sup>	
		↘	92,690
 DF620	 DF620	Inertia mm <sup>4</sup>	
		↙	608,189
 16021	 16021	Inertia mm <sup>4</sup>	
		↘	651,786
 16022	 16022	Inertia mm <sup>4</sup>	
		↙	217,068
 16023	 16023	Inertia mm <sup>4</sup>	
		↘	9,200
Steel Box  Not by Sapa	 Not by Sapa	Inertia mm <sup>4</sup>	
		↙	223,742
 16021	 16021	Inertia mm <sup>4</sup>	
		↘	90,269
 16022	 16022	Inertia mm <sup>4</sup>	
		↙	224,225
Steel Box  Not by Sapa	 Not by Sapa	Inertia mm <sup>4</sup>	
		↘	92,690
 DF620	 DF620	Inertia mm <sup>4</sup>	
		↙	608,189
 16021	 16021	Inertia mm <sup>4</sup>	
		↘	651,786
 16022	 16022	Inertia mm <sup>4</sup>	
		↙	217,068
 16023	 16023	Inertia mm <sup>4</sup>	
		↘	9,200
Steel Box  Not by Sapa	 Not by Sapa	Inertia mm <sup>4</sup>	
		↙	223,742
 16021	 16021	Inertia mm <sup>4</sup>	
		↘	90,269
 16022	 16022	Inertia mm <sup>4</sup>	
		↙	224,225
Steel Box  Not by Sapa	 Not by Sapa	Inertia mm <sup>4</sup>	
		↘	92,690
 DF620	 DF620	Inertia mm <sup>4</sup>	
		↙	608,189
 16021	 16021	Inertia mm <sup>4</sup>	
		↘	651,786
 16022	 16022	Inertia mm <sup>4</sup>	
		↙	217,068
 16023	 16023	Inertia mm <sup>4</sup>	
		↘	9,200
Steel Box  Not by Sapa	 Not by Sapa	Inertia mm <sup>4</sup>	
		↙	223,742
 16021	 16021	Inertia mm <sup>4</sup>	
		↘	90,269
 16022	 16022	Inertia mm <sup>4</sup>	
		↙	224,225
Steel Box  Not by Sapa	 Not by Sapa	Inertia mm <sup>4</sup>	
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 DF620	 DF620	Inertia mm <sup>4</sup>	
		↙	608,189
 16021	 16021	Inertia mm <sup>4</sup>	
		↘	651,786
 16022	 16022	Inertia mm <sup>4</sup>	
		↙	217,068
 16023	 16023	Inertia mm <sup>4</sup>	
		↘	9,200
Steel Box  Not by Sapa	 Not by Sapa	Inertia mm <sup>4</sup>	
		↙	223,742
 16021	 16021	Inertia mm <sup>4</sup>	
		↘	90,269
 16022	 16022		

## GENERAL ARRANGEMENTS

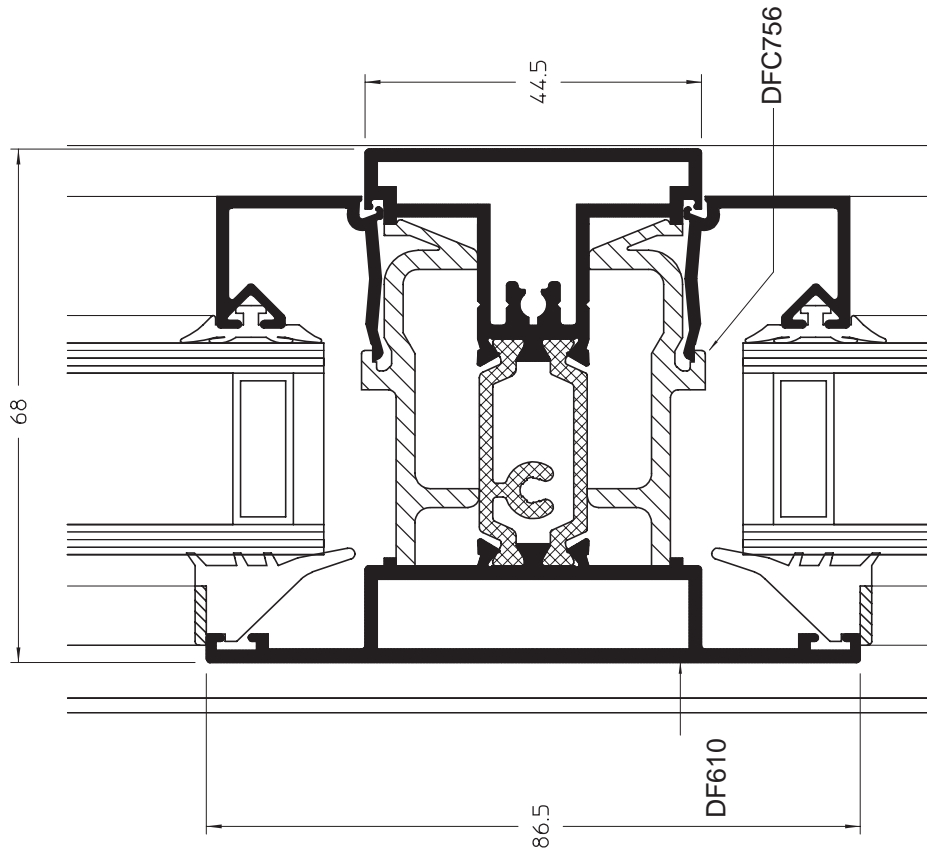
Detail	Description	Page	Description	Page
A	Fixed Transom	8	Outerframe Fixing Lug	24
B	Fixed Head	8	Drainage Tray	25
C	Fixed Light Cill	9	Subcill with Applied Nose	25
C	Fixed Light Cill with Subcill	9	Subcill with Glaze In Fixed Light	26
D	Opening Light Cill	10	Curtain Wall Outerframe Coupler	27
D	Opening Light Cill with Optional Subcill	10		
E	Opening Light Transom	11		
F	Fixed Mullion	12		
G	Opening Light Jamb	12		
H	Opening Light Mullion	13		
I	Fixed Jamb	13		
	Back to Back Mullion	14		
	90° Corner Post	15		
	Concealed Coupler	16		
	Expansion Coupler	17		
	Light Weight Concealed Coupler	18		
	Inline 25mm Coupler	19		
	Inline 50mm Coupler	20		
	Inline 75mm Coupler	21		
	Frame Extender/Head Ventilator	22		
	Heavy Duty Frame to Frame Adaptor	23		
	Alternative featured Outerframe	24		



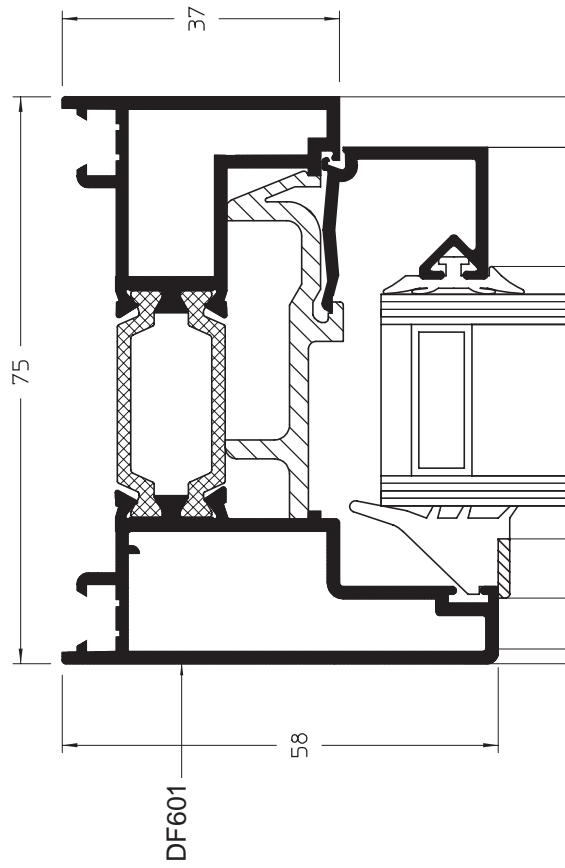
The following drawings illustrate a number of the available profile combinations. Other combinations are available please consult Sapa Building Systems for further details.

GENERAL ARRANGEMENTS

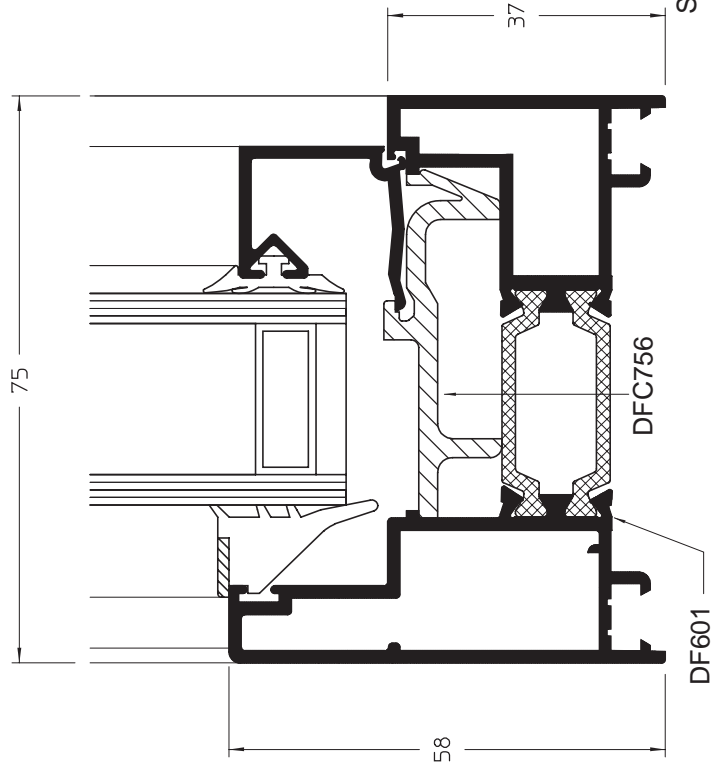
**B** Fixed Transom



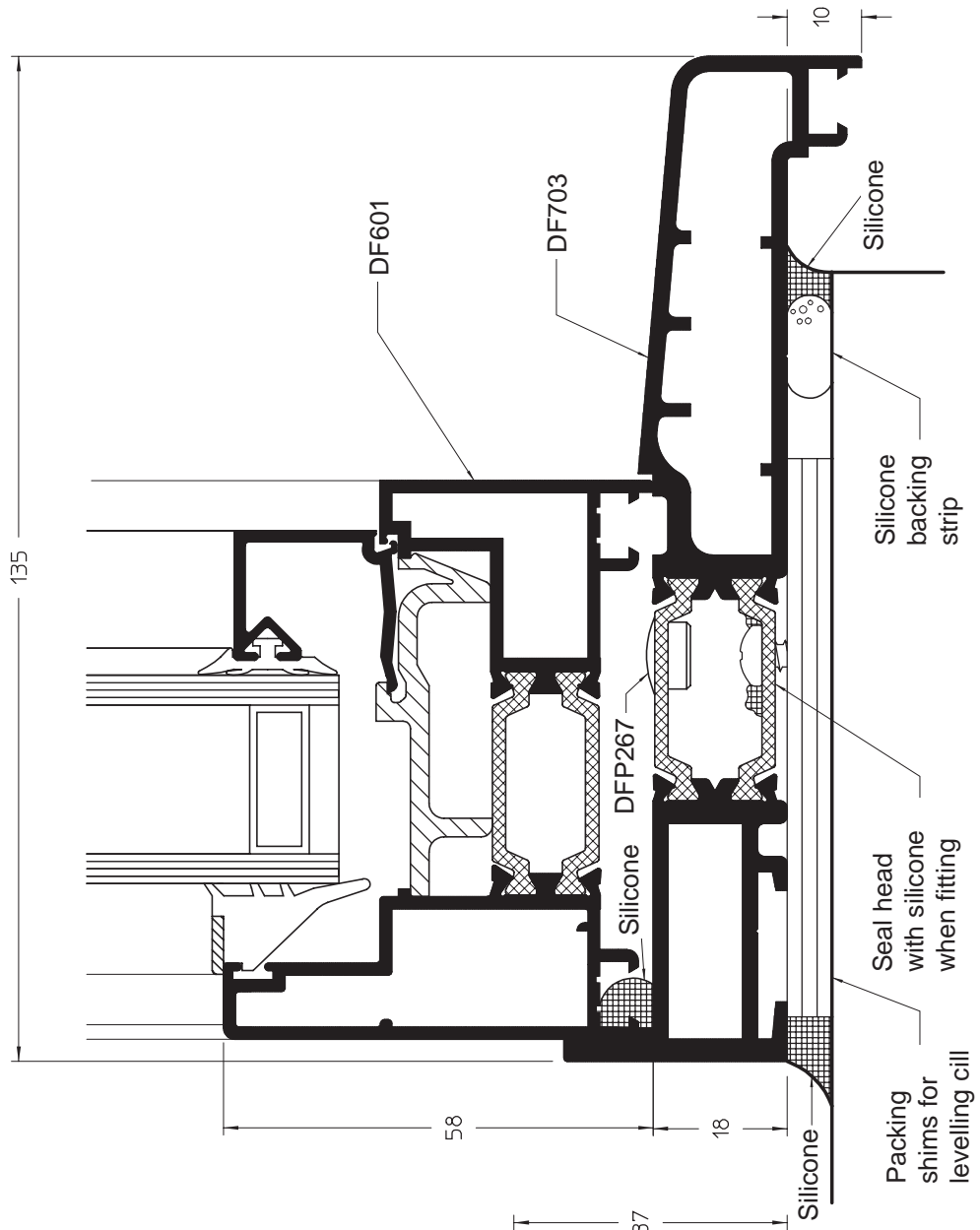
**A** Fixed Head



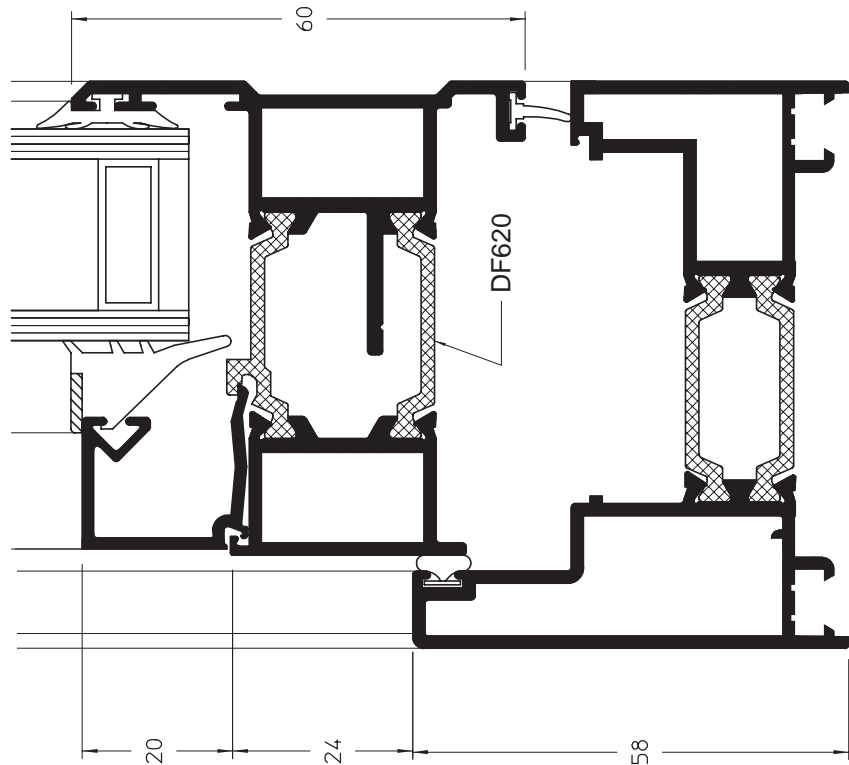
**C** Fixed Light Cill



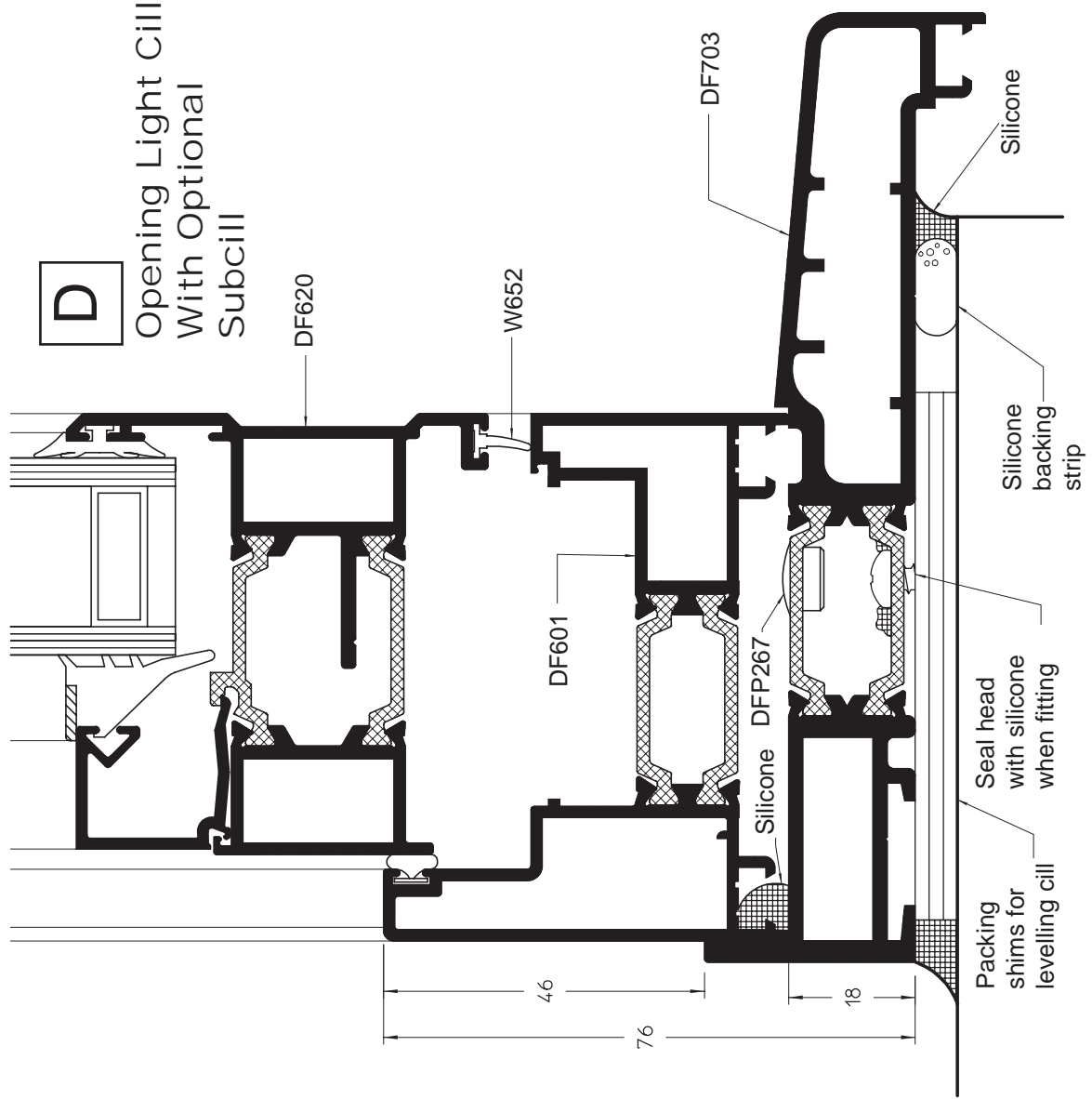
**C** Fixed Light Cill with Subcill



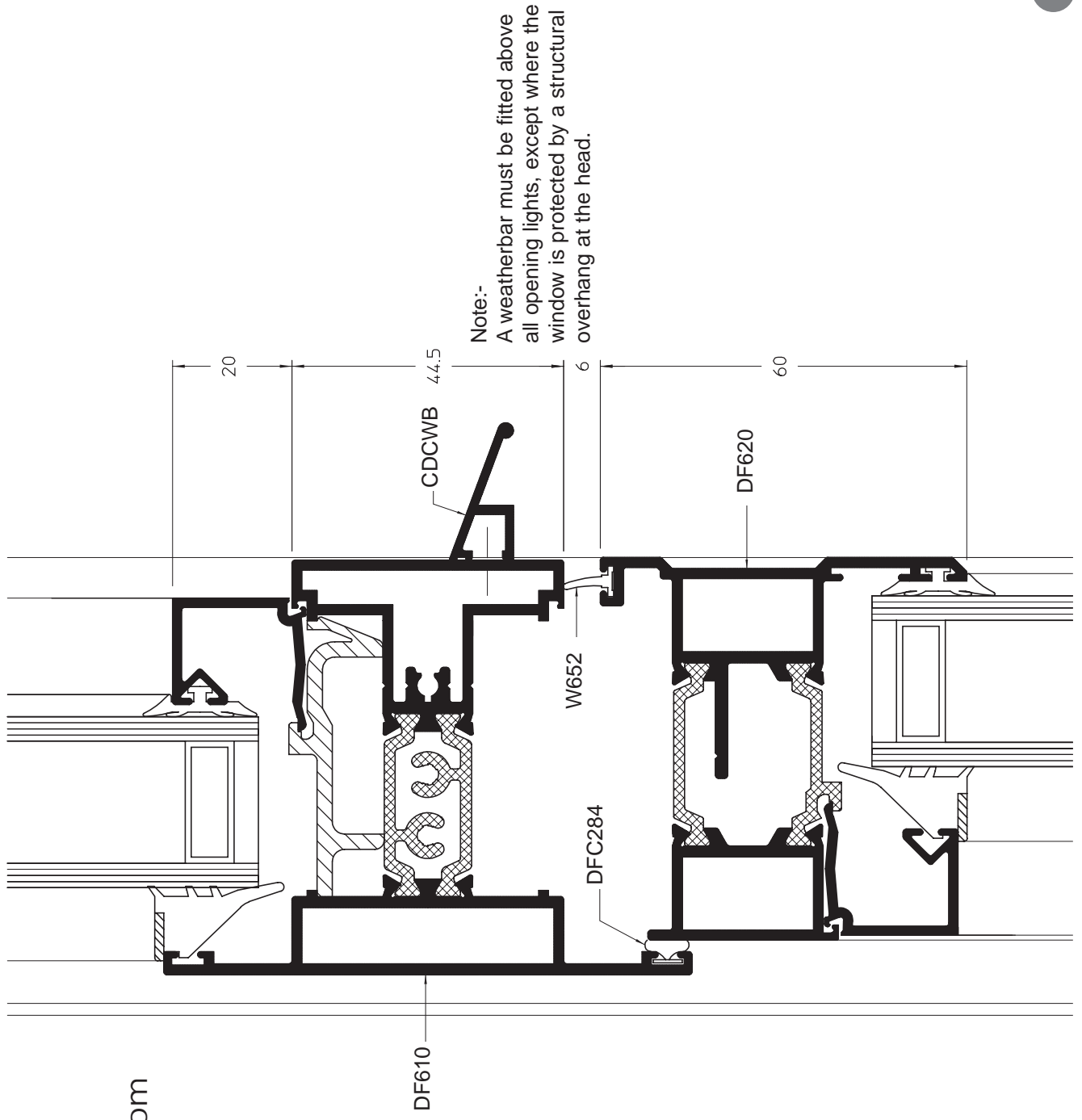
**D** Opening Light cill



**D** Opening Light Cill With Optional Subcill

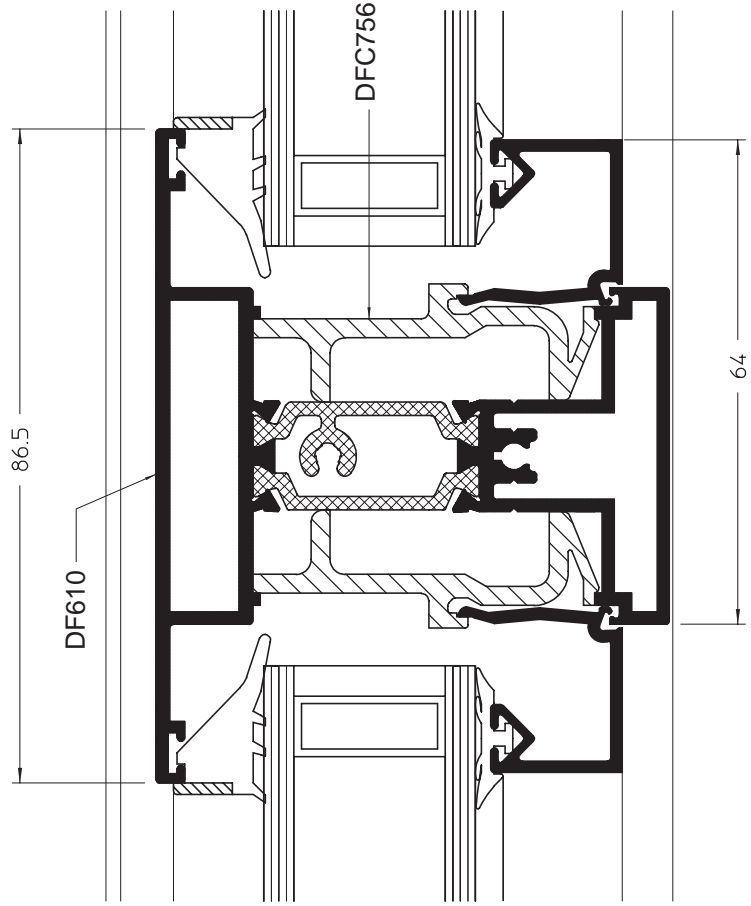


GENERAL ARRANGEMENTS

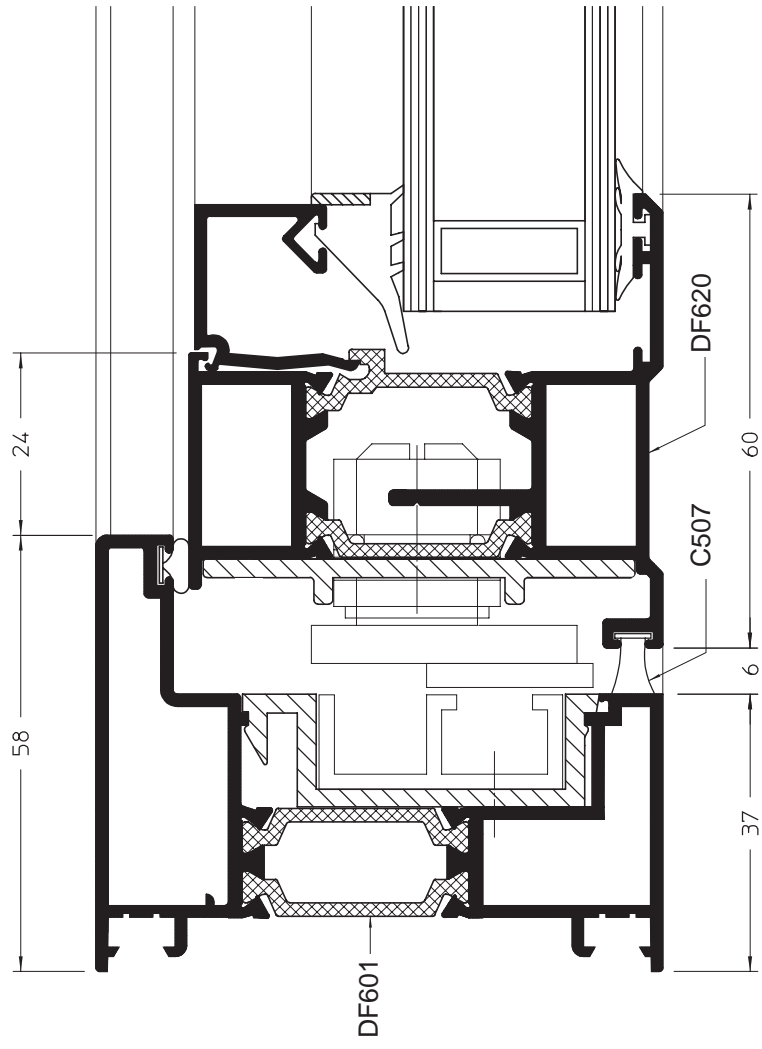
**E** Opening Light Transom

GENERAL ARRANGEMENTS

**F** Fixed Mullion

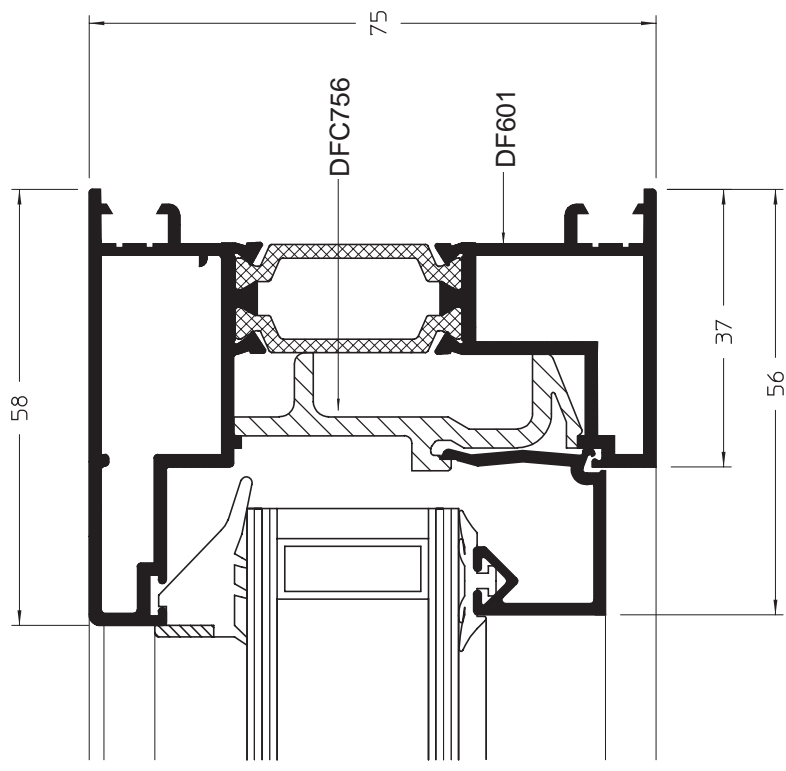
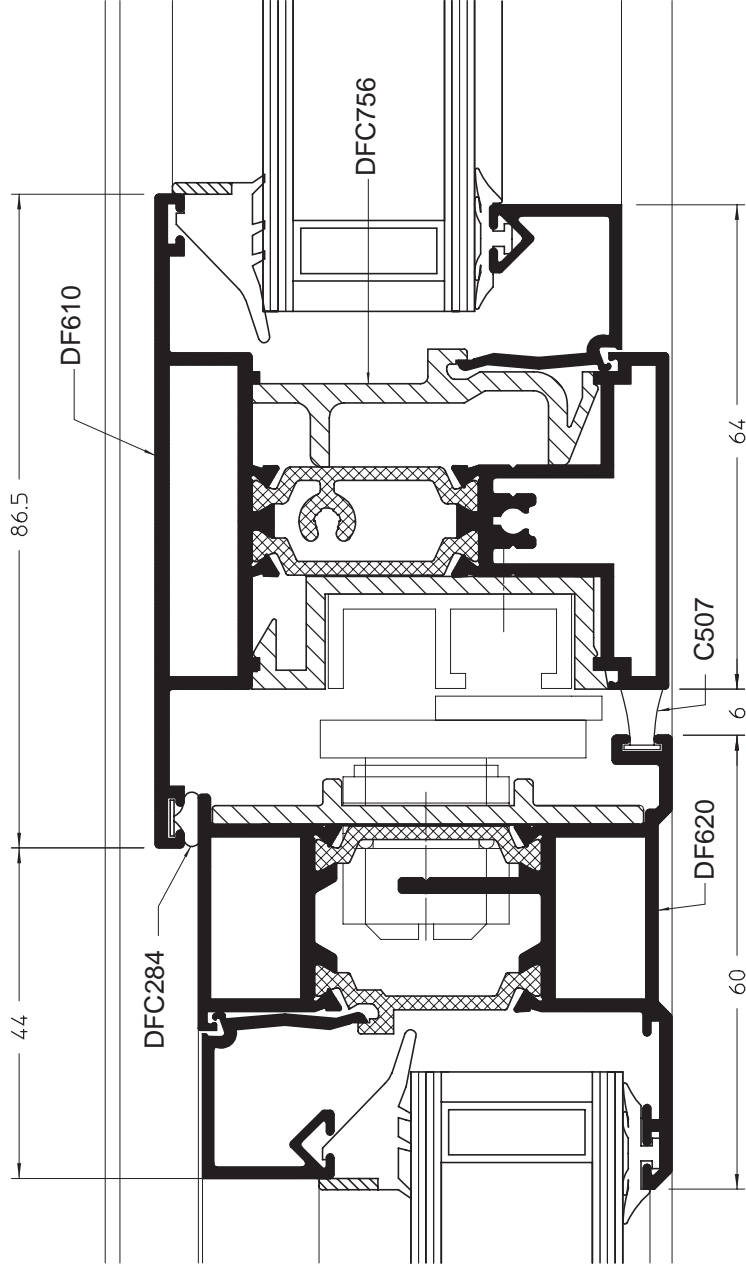


**G** Opening Light Jamb



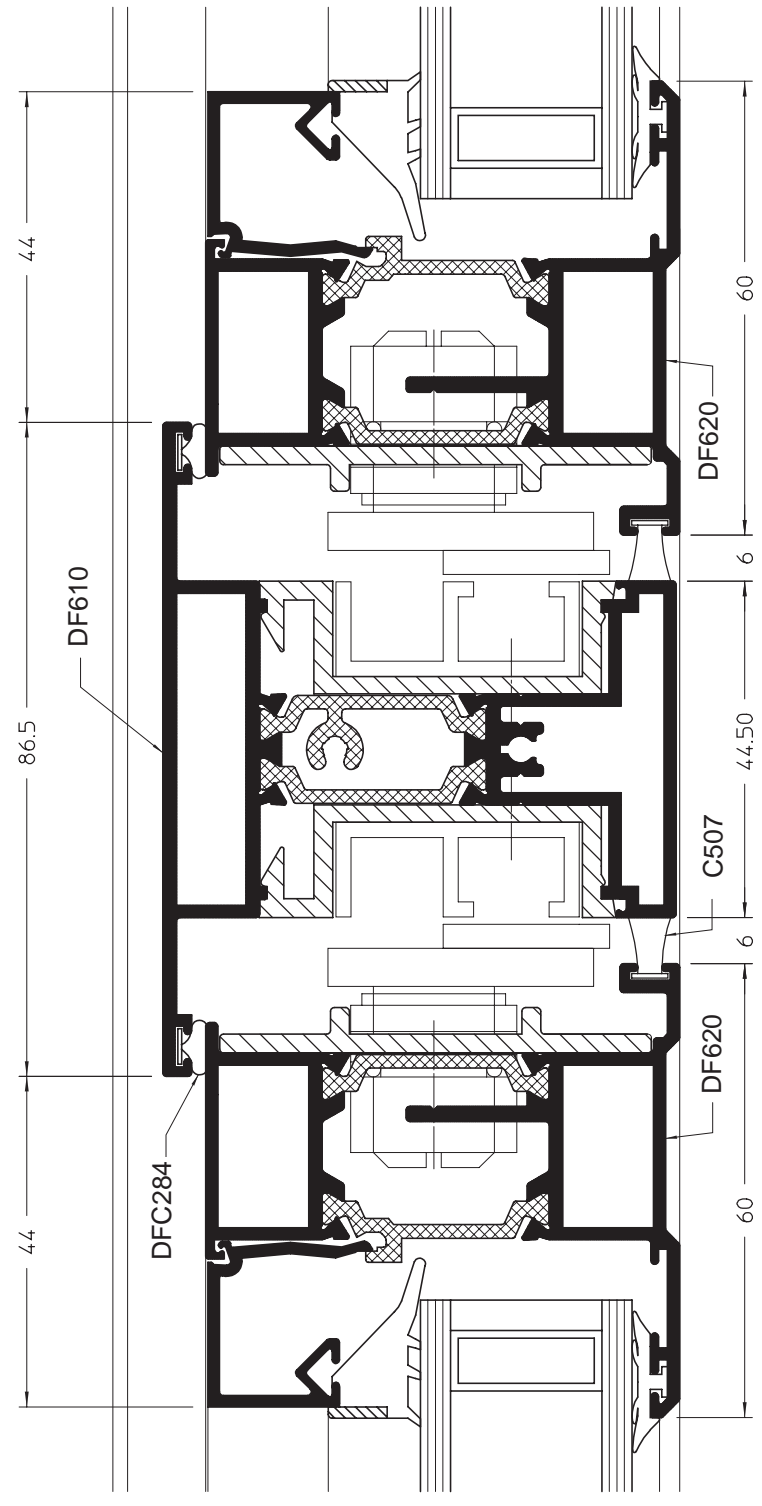
**H** Opening Light Mullion

**I** Fixed Jamb

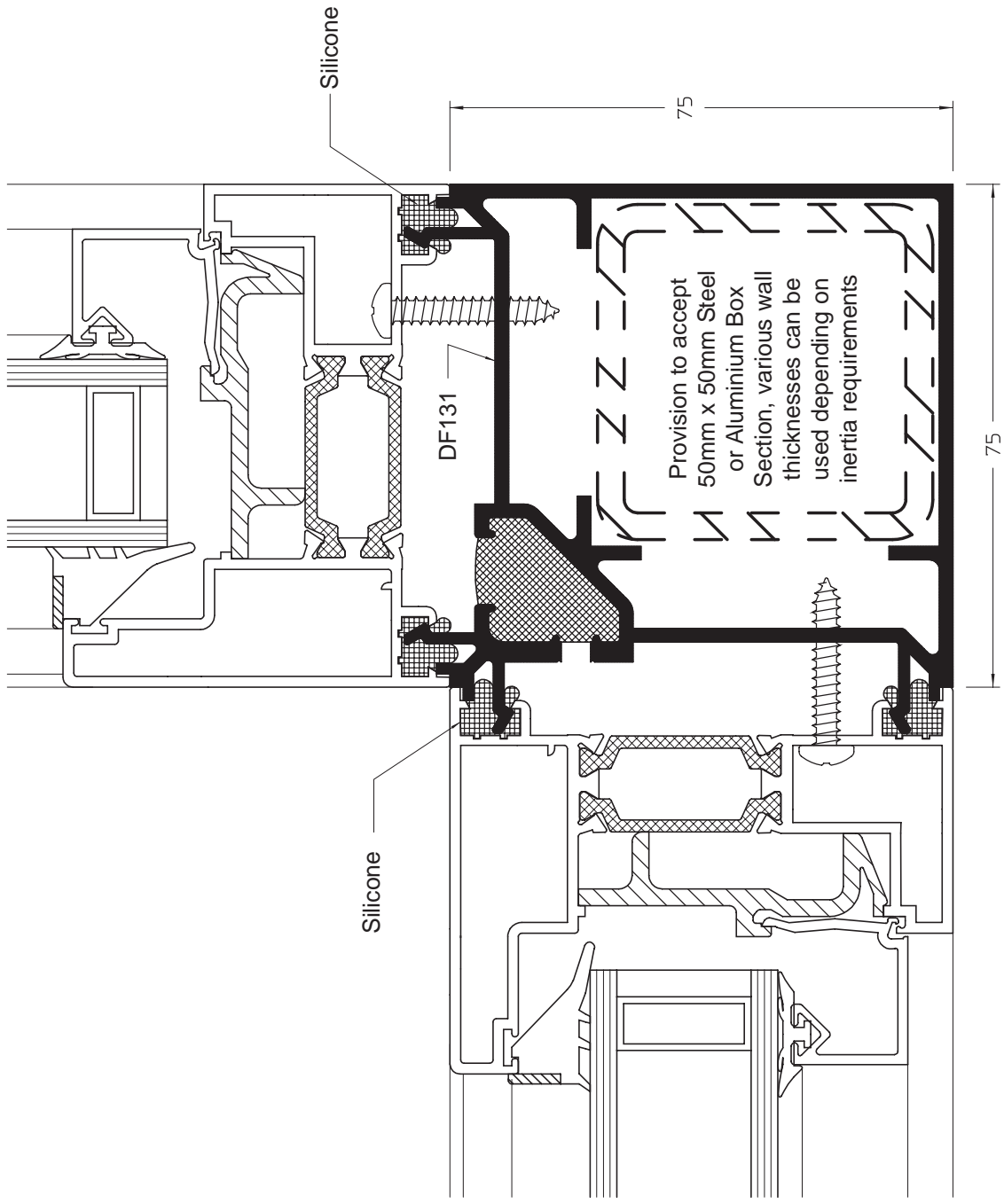


GENERAL ARRANGEMENTS

Back to Back Mullion



90° Corner Post

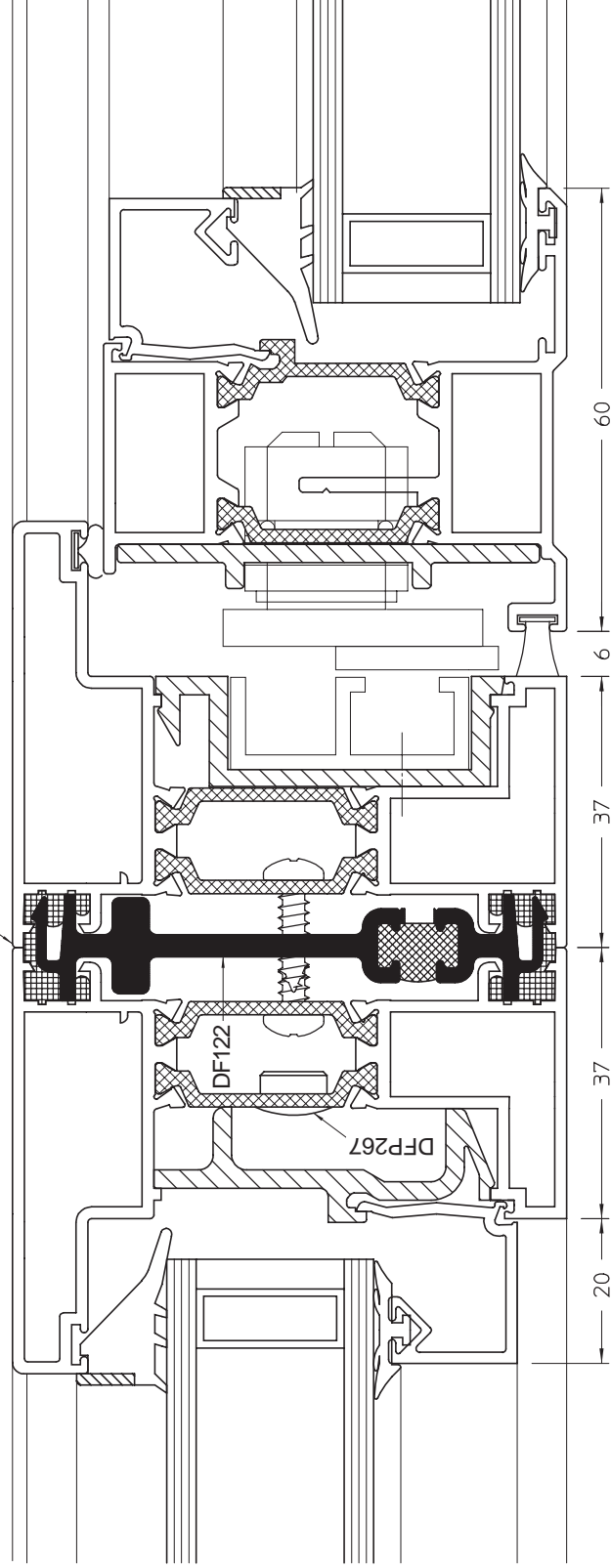


DUALFRAME 75mm Reversible Window

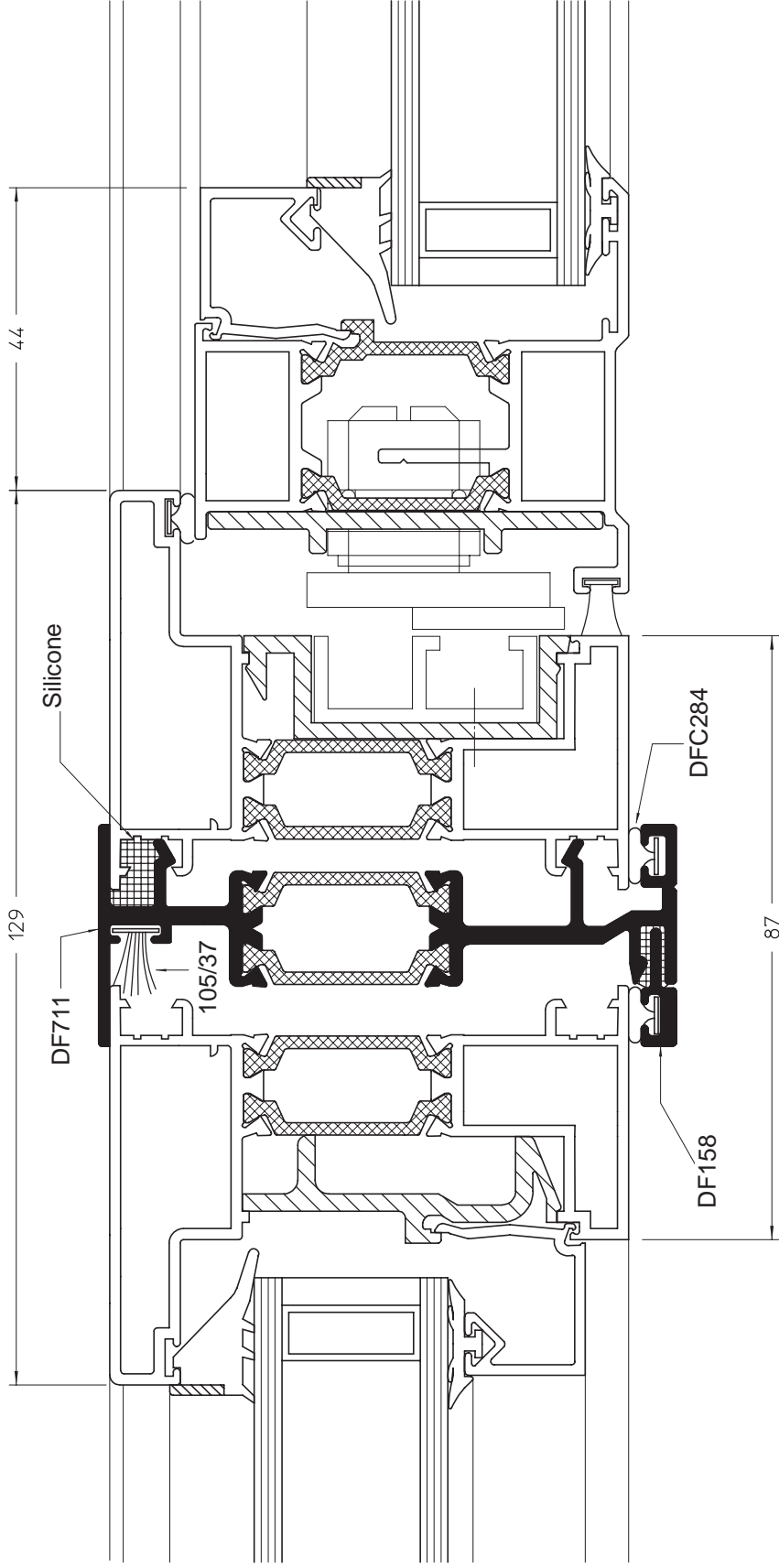
GENERAL ARRANGEMENTS

Concealed Coupler

Ensure inside and outside joints are effectively sealed with silicone to prevent moisture penetration



### Expansion Coupler

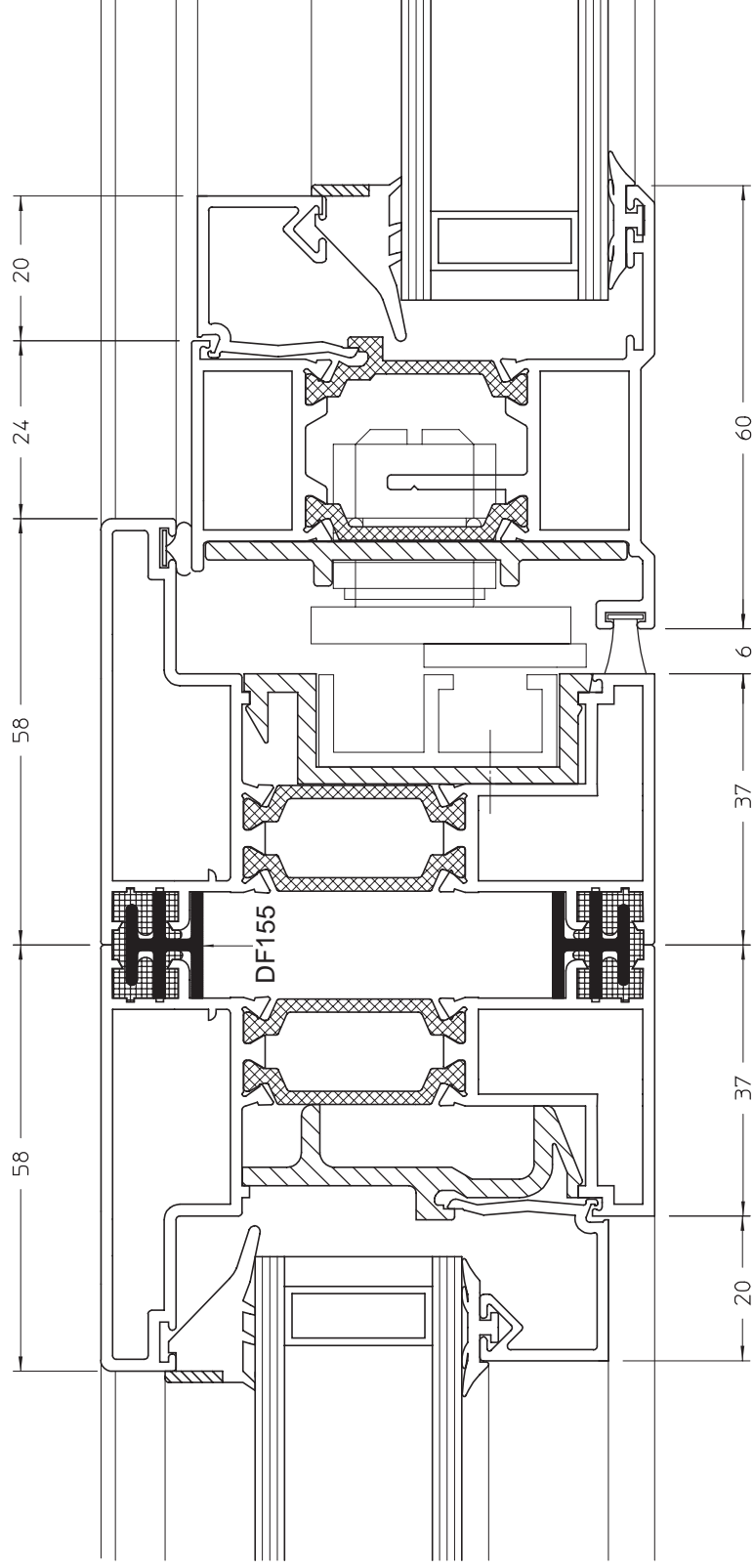


**DUALFRAME** 75mm Reversible Window

GENERAL ARRANGEMENTS

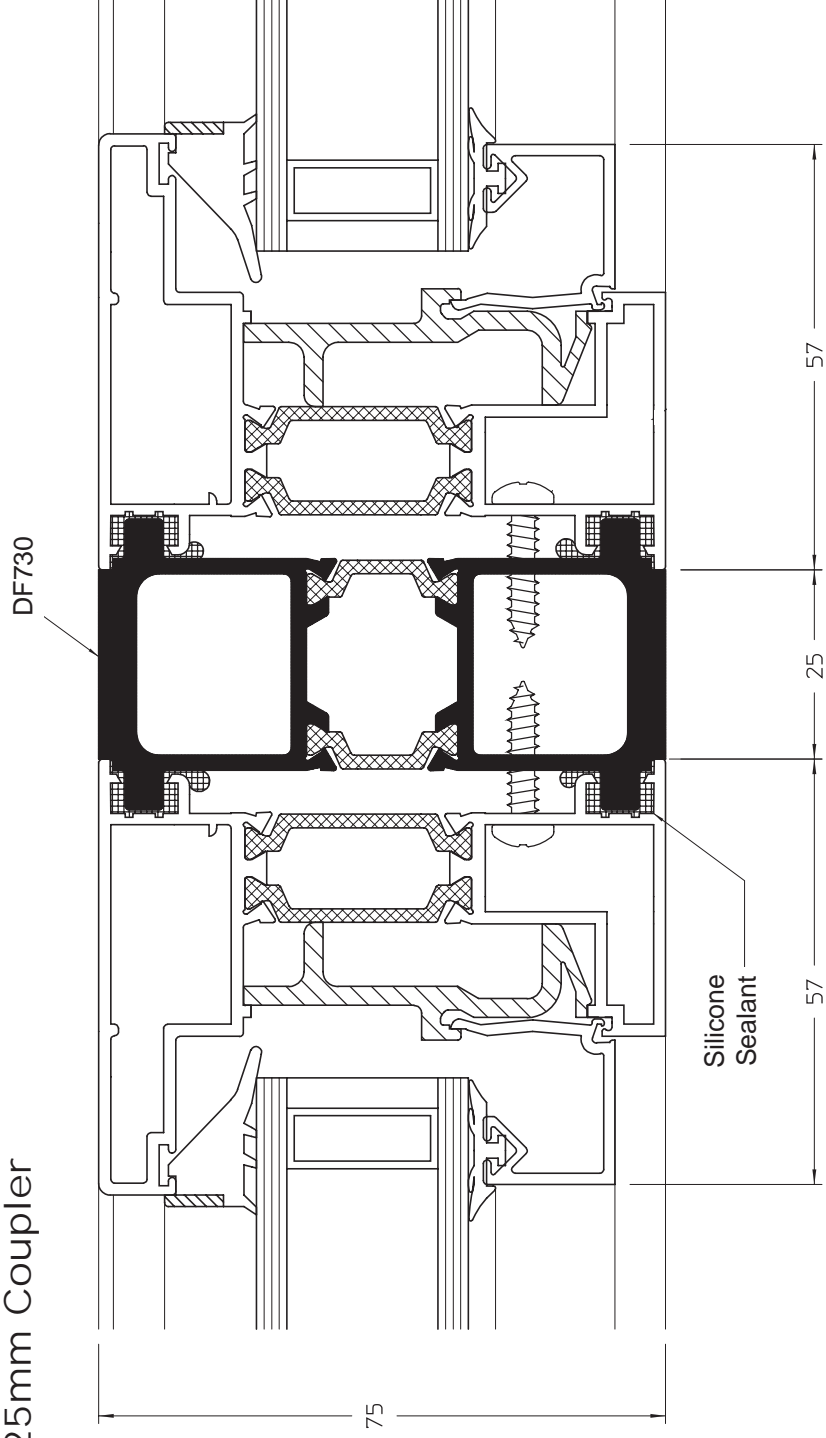
Light Weight Concealed Coupler

**sapa:**



GENERAL ARRANGEMENTS

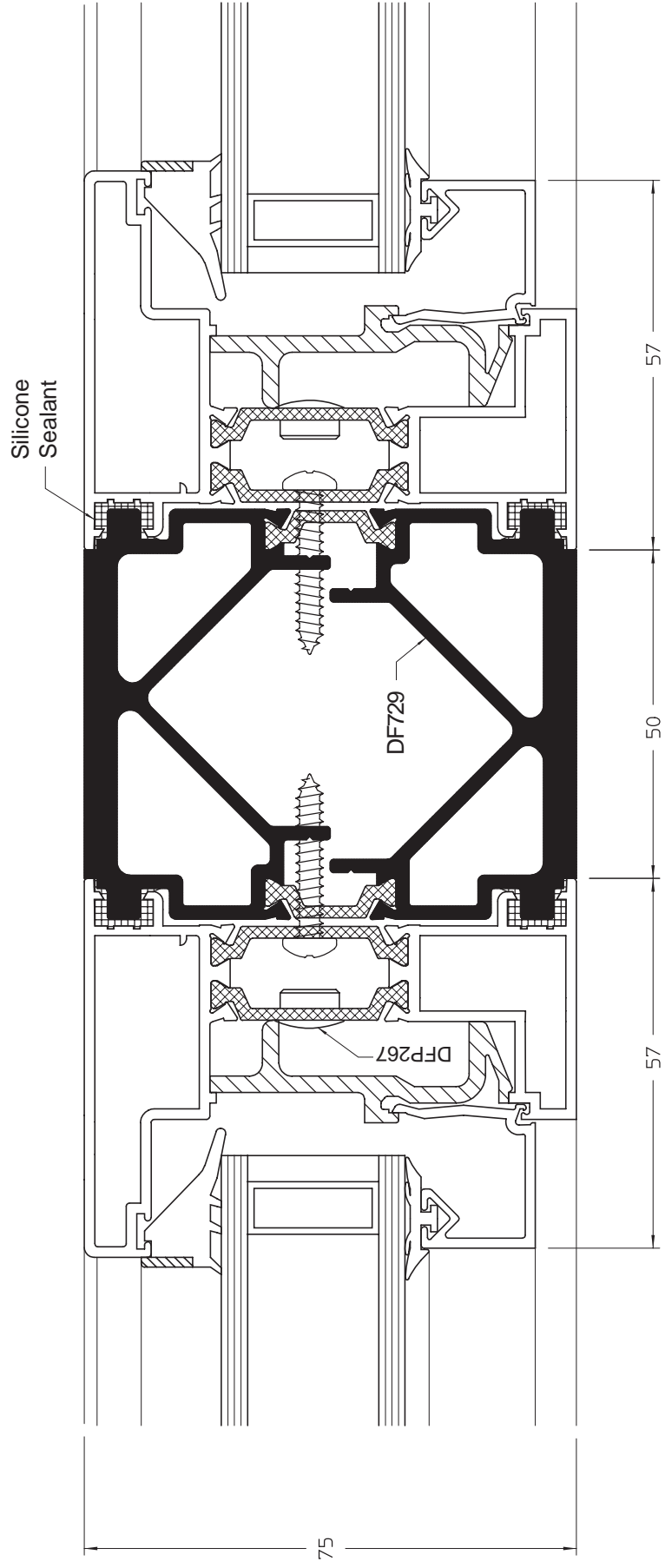
### Inline 25mm Coupler



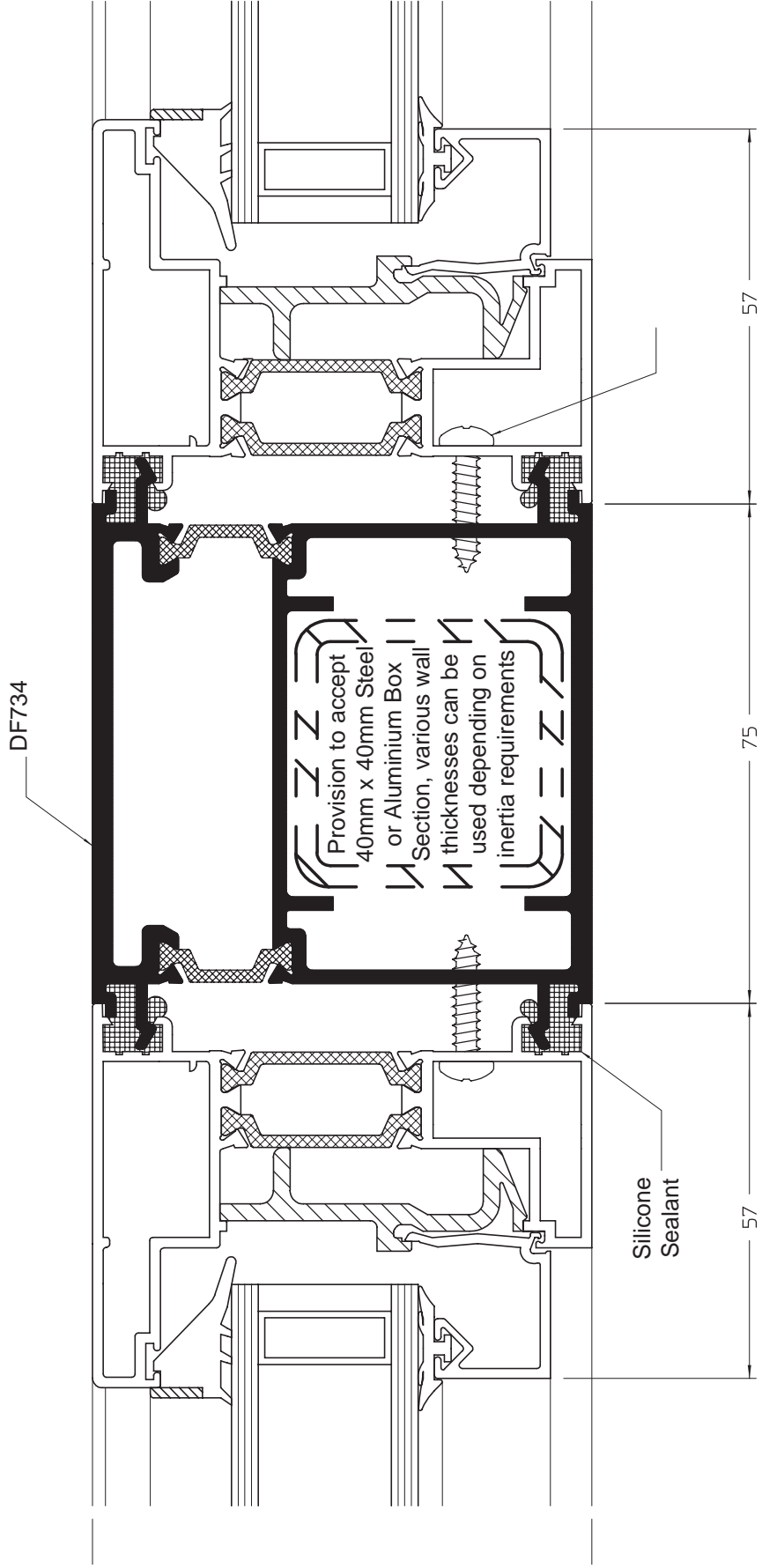
**DUALFRAME** 75mm Reversible Window

GENERAL ARRANGEMENTS

### Inline 50mm Coupler



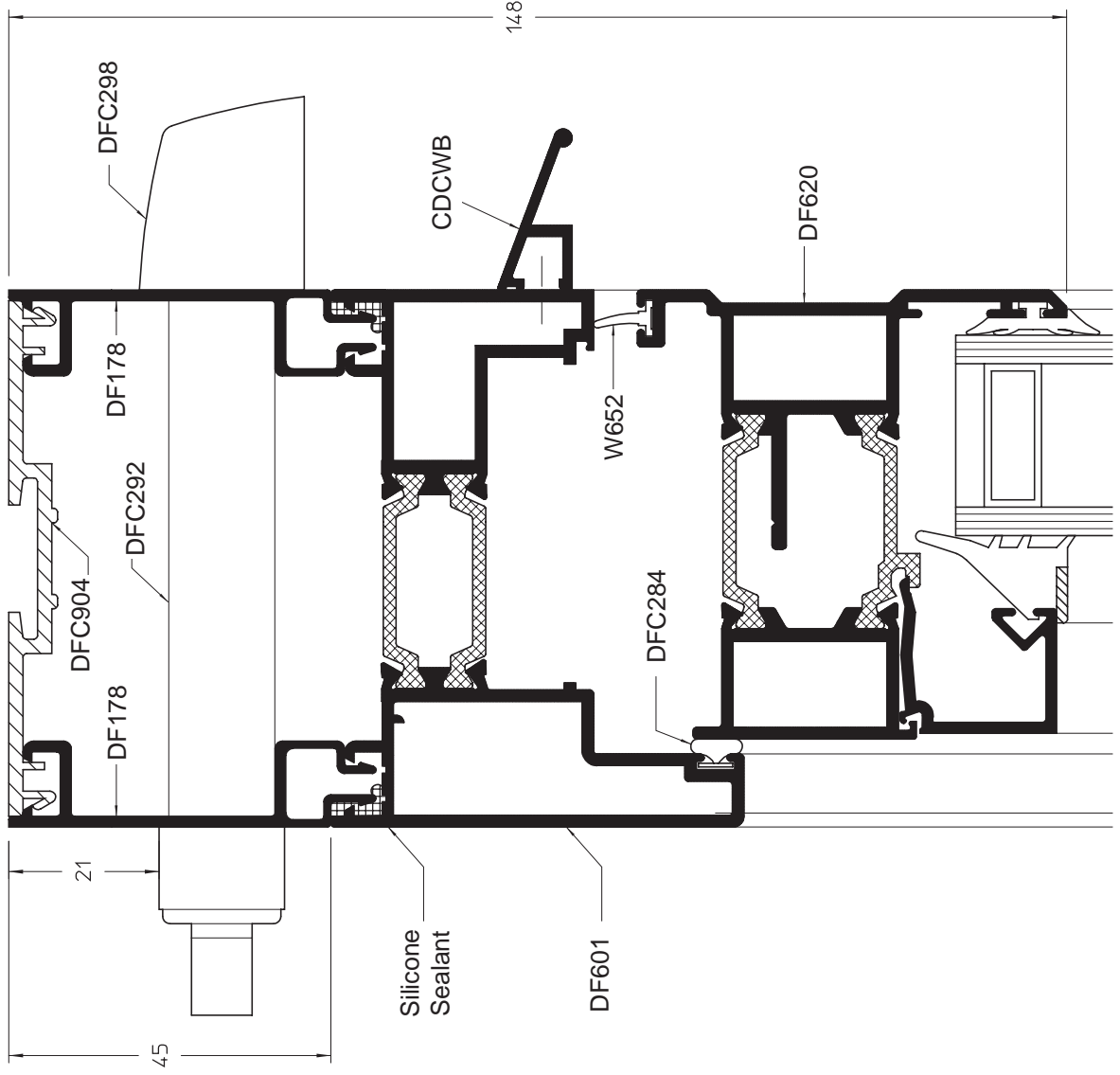
Inline 75mm Coupler



**DUALFRAME** 75mm Reversible Window

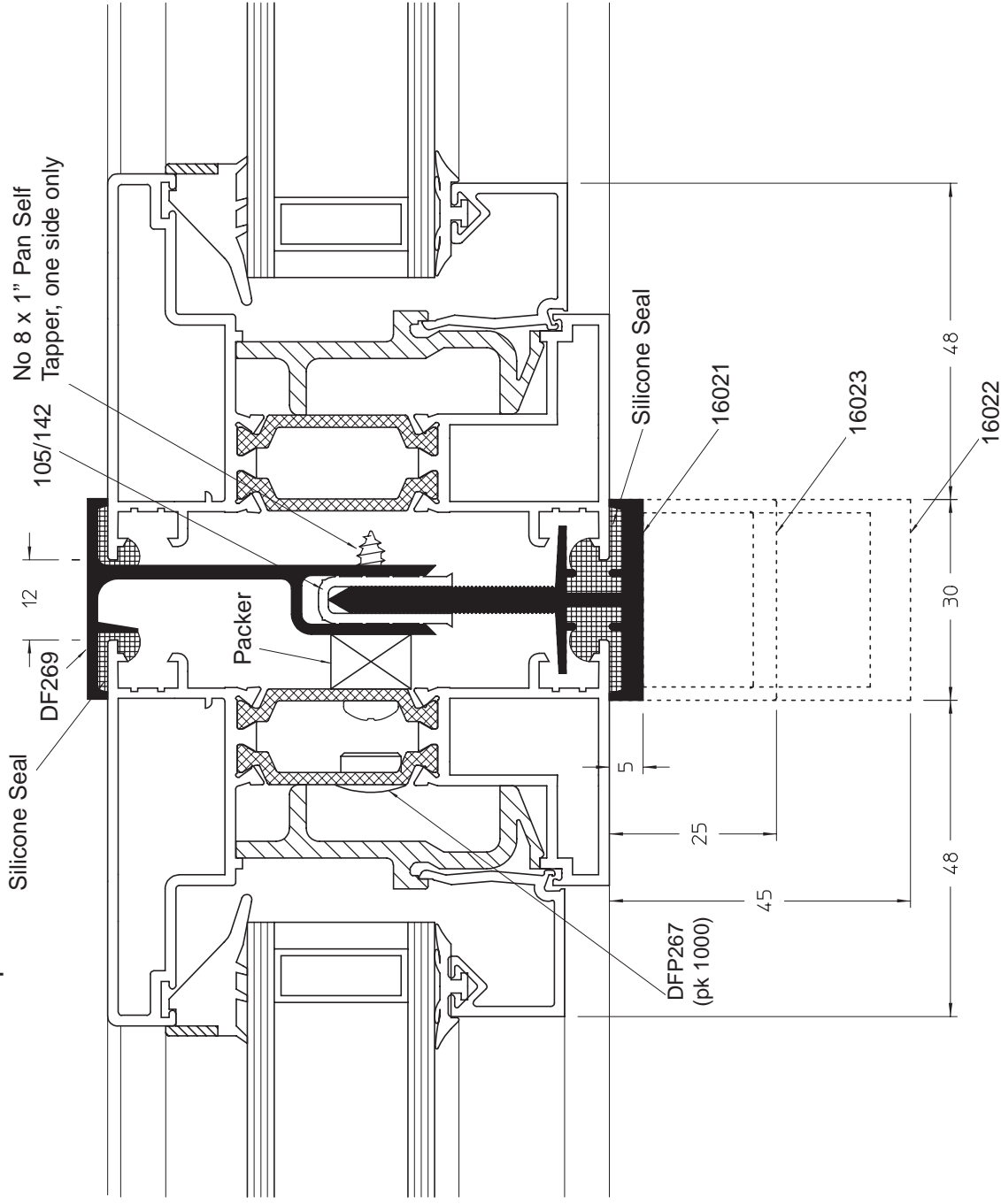
GENERAL ARRANGEMENTS

Frame Extender /  
Head Ventilator



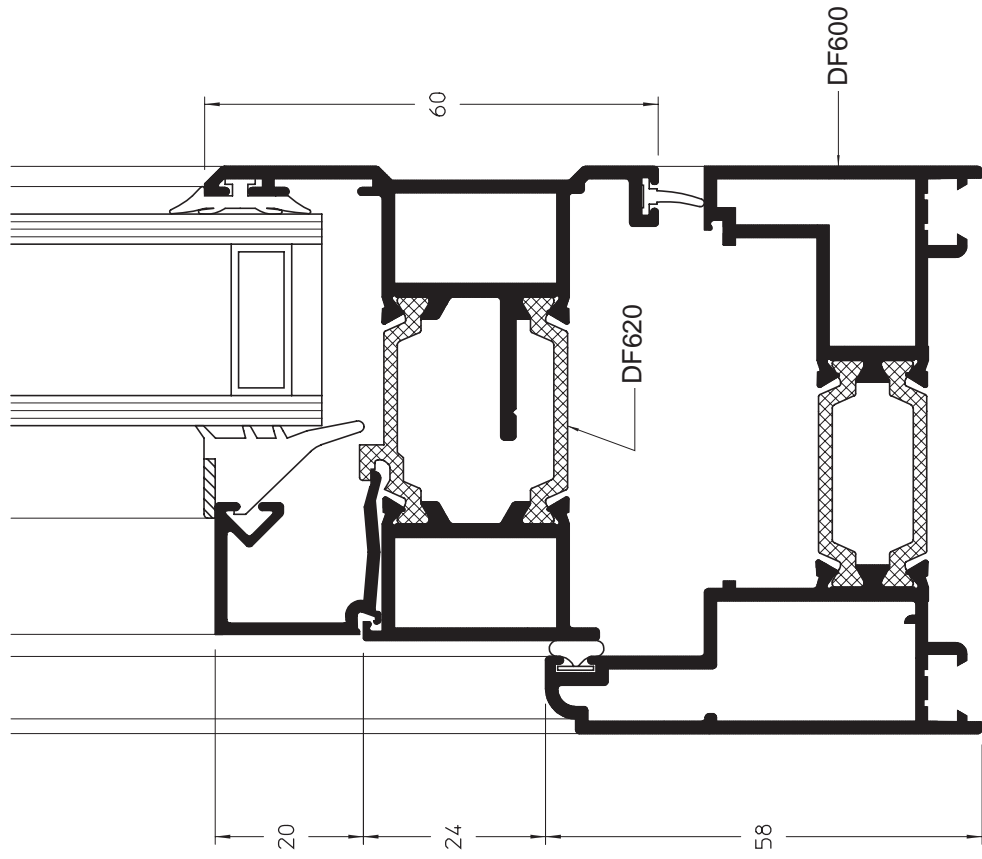
GENERAL ARRANGEMENTS

### Heavy Duty Frame To Frame Couplers

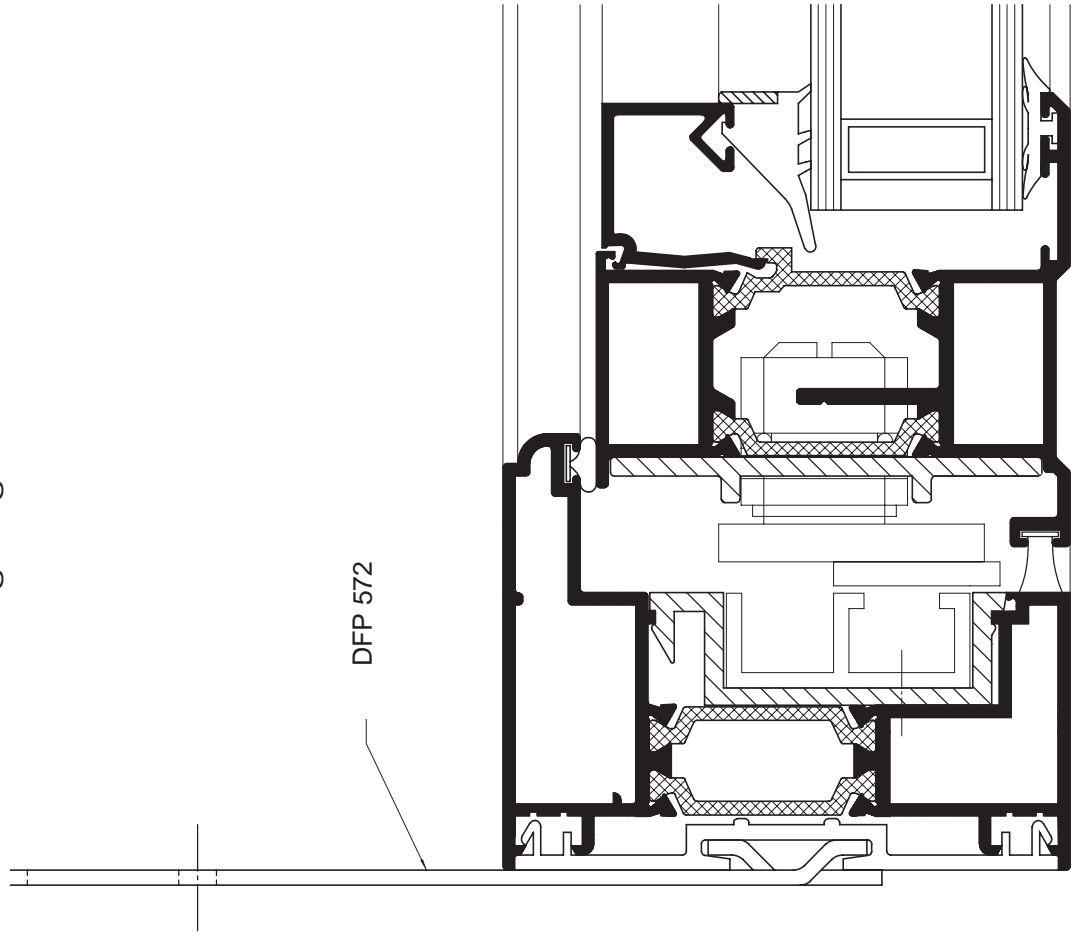


GENERAL ARRANGEMENTS

Alternative Featured Outerframe

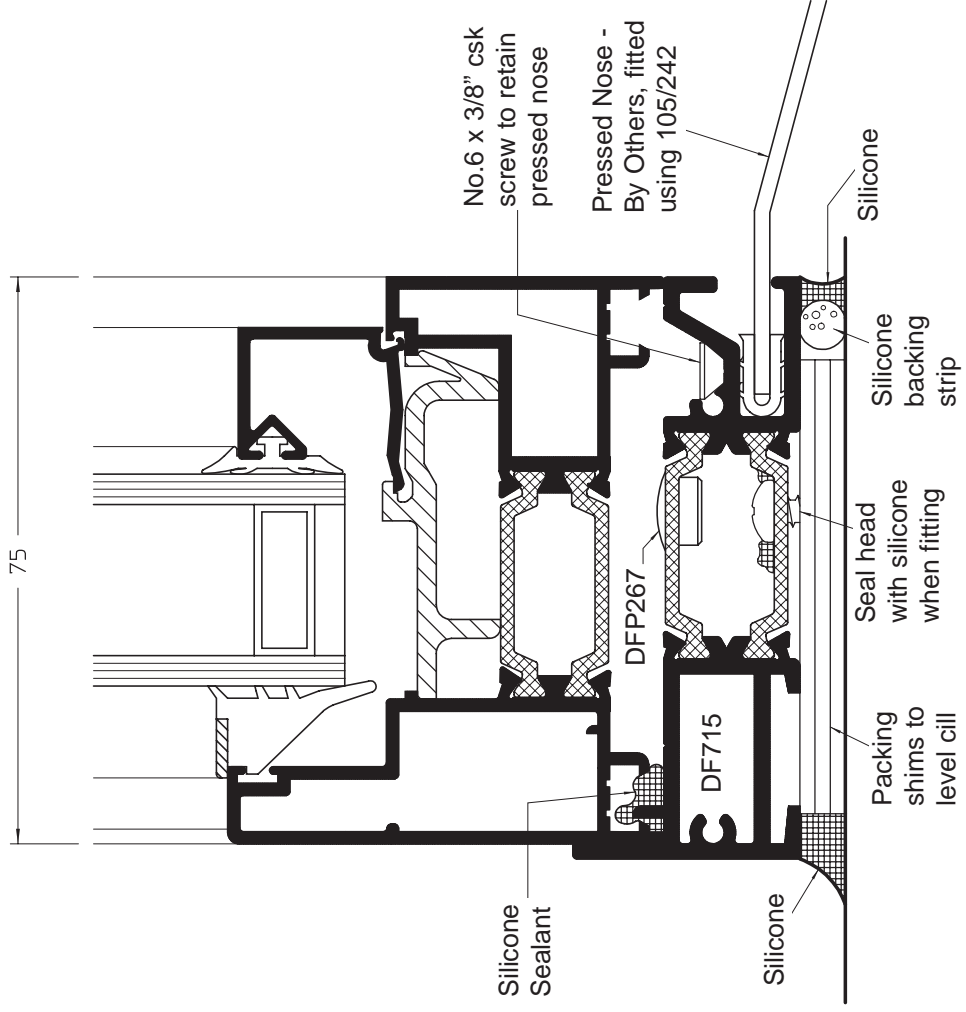
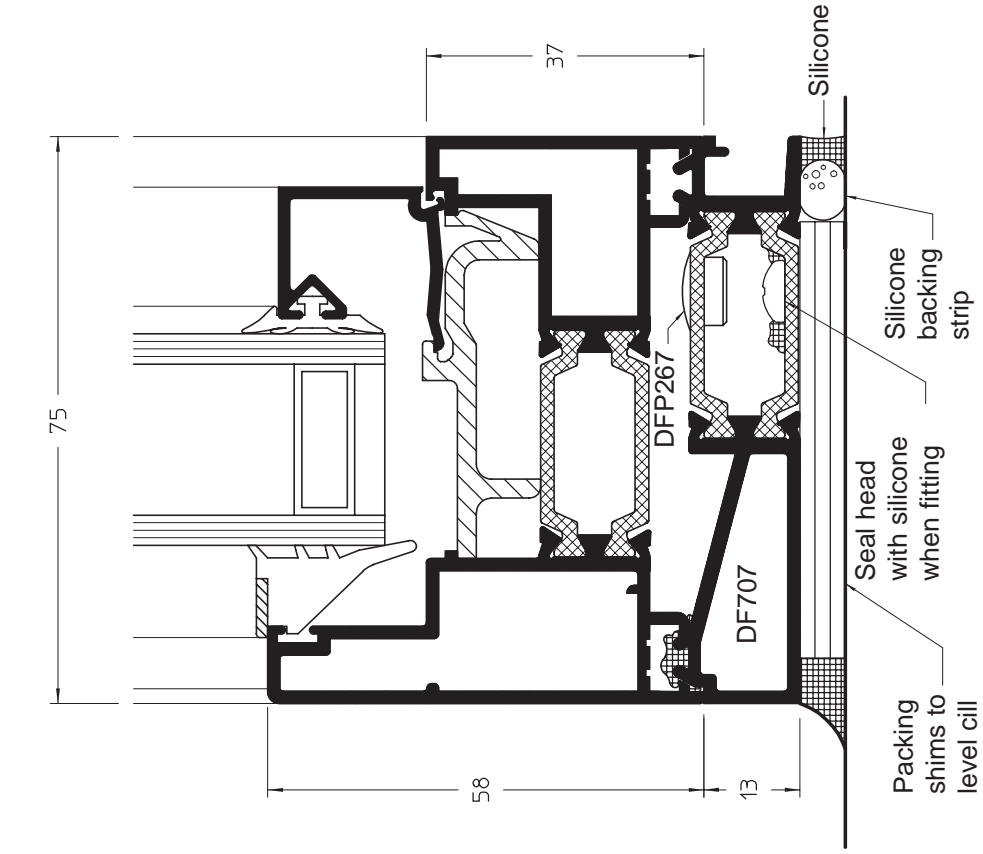


Outerframe Fixing Lug



Drainage Tray

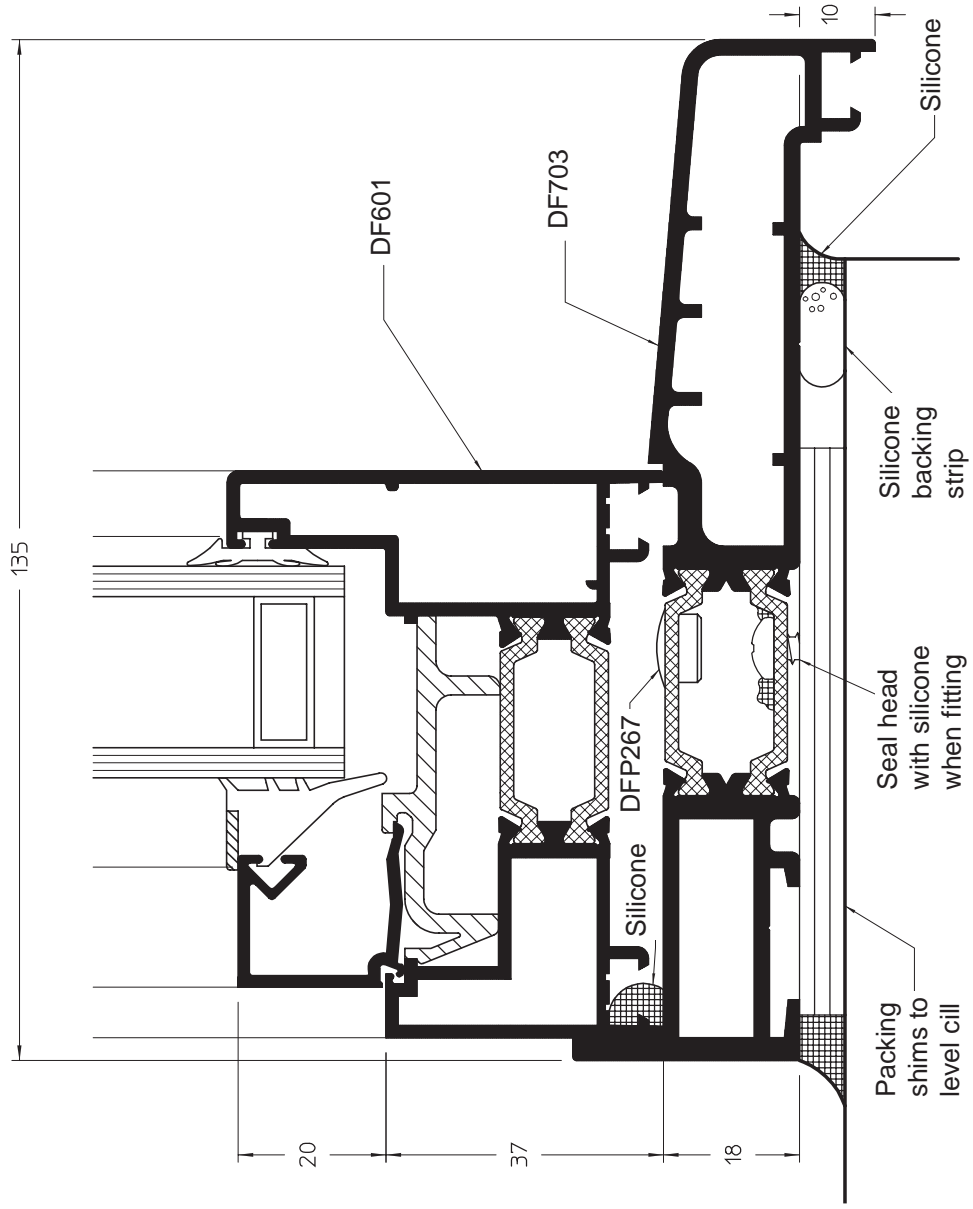
Subcill With Applied Nose



**DUALFRAME** 75mm Reversible Window

GENERAL ARRANGEMENTS

Subcill With Glaze In Fixed Light



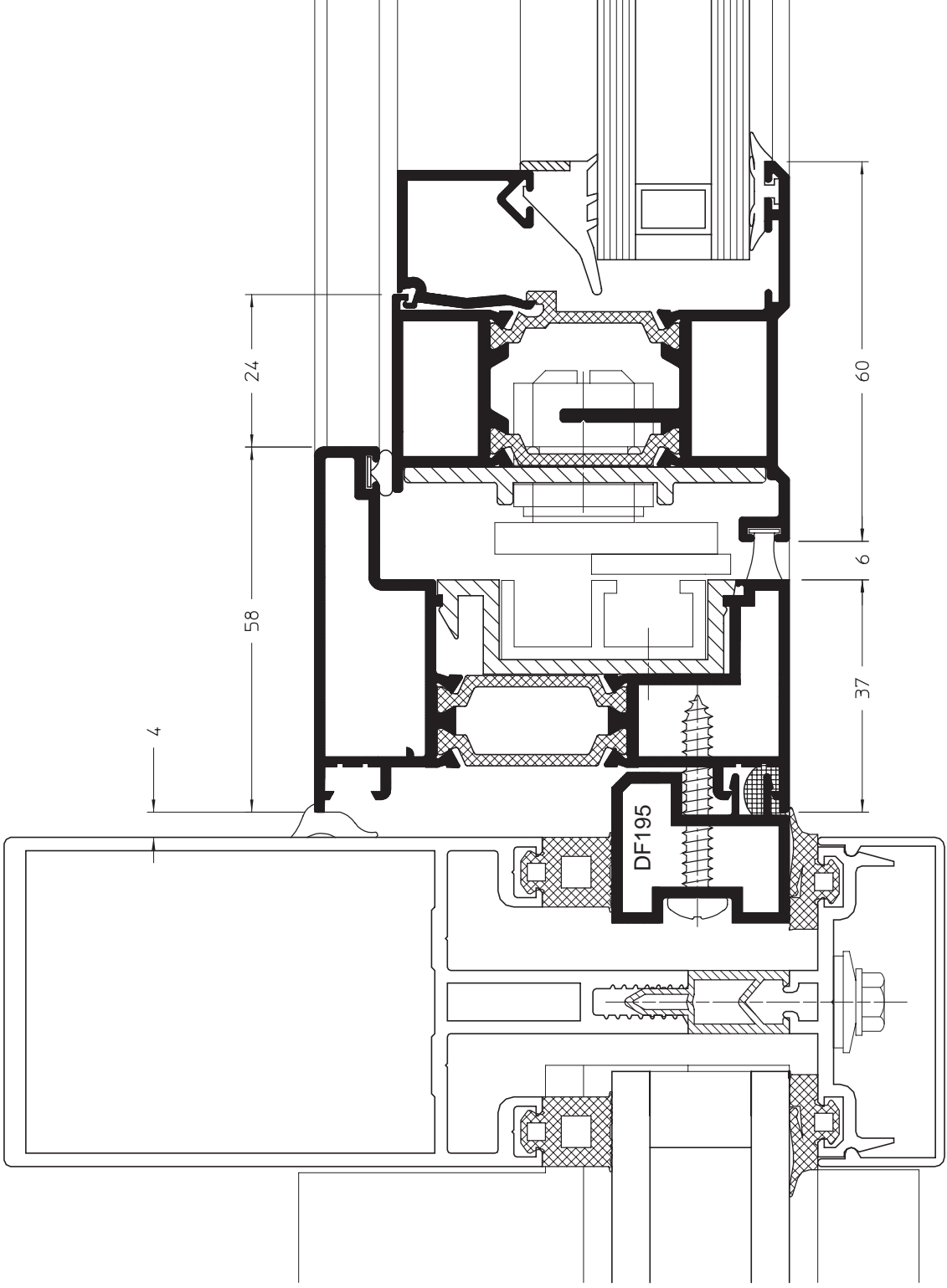
**DUALFRAME**

75mm Reversible Window

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GENERAL ARRANGEMENTS

Curtain Wall  
Outerframe Adaptor



Our policy is one of continuous development and consequently we reserve the right to vary the products and their performance specification shown in this literature without notice.

All products and systems which Sapa supply are supplied subject to Sapa's standard Terms and Conditions of Sale which may vary from time to time.

This Technical Data Sheet is for specification guidance only. It should not be relied on for manufacturing or installation details which must instead be obtained from Sapa Building Systems' Fabrication Manuals. For further assistance please contact one of our Project Consultants by calling the Marketing Department on the number below.

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Brochure reference DFC64 0907

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