

Uniclass L3811+L411+L413:P43	EPIC C421+D11+D13:X46
CI/SB (21.4)+(31.4)+(31.5)	Xh4

August 2009

**sapa:**

**buildingsystem**

ARCHITECTURAL ALUMINIUM SOLUTIONS



## Dualframe 75mm Casement Windows

Technical Data Sheet

**Sapa Building System**

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37	Reverse Rebate Adaptor
38	55mm to 75mm Coupler

- **Contemporary Design:** The new Sapa Dualframe range signifies a new era in aluminium fenestration, with products that have been specifically designed to comply with the ever increasing complexity 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 75mm outward opening side and top hung casement windows

### ■ 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.

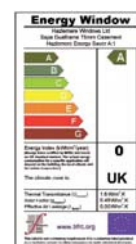
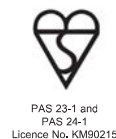
### ■ Application

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.



**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 and polyurethane foam enclosed in a polythene sheath, set in undercut grooves in the sash.

The thermal barrier section is achieved using two separate aluminium extrusions and two polyamide extrusions mechanically jointed to form a single compound profile. (Except on some coupling mullions where a 'pour and cut' polyurethane resin thermal break is used).

Frame members are mitre cut at 45 degrees. 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 BS 6375: Part 1, all products listed in this data sheet, when manufactured, installed and glazed strictly to the details outlined in the Product Manual, will exceed exposure category '2400 Special'.

Water Tightness	600 Pascals (static test)
Air Permeability	600 Pascals
Wind Resistance	2400 Pascals*

\* Exposure category varies with Width/Height of window and mullion/transom used, as these are the only unsupported members. An accurate figure can be obtained using BS 6399: Part 2 calculations and the inertia values given in the Product Manual.

**Authority**

BS 4873: Aluminium alloy windows

BS 6375-1: Performance of windows: Classification for weathertightness and guidance on selection and specification.

BS 6375-2: Performance of windows. Specification for operation and strength characteristics.

BS 7950: Specification for enhanced security performance of casement and tilt/turn windows for domestic applications.

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.

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

**Size Limitations****Standard Casement - Side Hung**

Stay Size	8"	12"	16"	Butt Hinge
Max Width	400	600	700	700
Max Height	1200	1300	1300	1300
Max Weight	18kg	22kg	24kg	*
Min Width	302	358	601	*
Min Height	424**	424**	424**	424**

**Standard Casement - Top Hung**

Stay Size	6"	8"	10"	12"	16"	20"	24"	Butt Hinge
Max Width	1200	1200	1200	1200	1200	1200	1200	1200
Max Height	300	350	400	550	750	1000	1200	1200
Max Weight	10kg	12kg	16kg	20kg	21kg	24kg	35kg	*
Min Width	424**	424**	424**	424**	424**	424**	424**	424**
Min Height	250	301	351	401	551	751	1001	*

**Heavy Duty Casement - Side Hung**

Stay Size	10"	16"	Butt Hinge
Max Width	660	838	838
Max Height	1524	1829	1829
Max Weight	37kg	45kg	*
Min Width	302	661	*
Min Height	424**	424**	424**

**Heavy Duty Casement - Top Hung**

Stay Size	10"	12"	16"	22"	Butt Hinge
Max Width	1600	1600	1600	1600	1600*
Max Height	635	787	1090	1500	1500
Max Weight	38kg	47kg	55kg	75kg	*
Min Width	424**	424**	424**	424**	424**
Min Height	302	636	788	1091	*

All sizes given are in millimetres, all maximum sizes relate to the overall size of the vent frame and not the outerframe.

\*See Page 5 Hardware and Security

\*\* Minimum sizes can be reduced to 302mm when using Cockspur handles.



### Hardware and Security

The Dualframe casement window is available as standard with a multi-point locking system, comprising rods moving in opposing directions, with opposing centre cam and end shootbolts operated by "autolock" handles with key deadlocking.

Hinges as standard are stainless steel, projecting friction stays with optional restricted and egress variants.

Extruded aluminium butt hinges with stainless steel pins are available as an option.

Optional Vector Excluder hinge protectors must be used when enhanced security to BS7950 is required.

The Dualframe casement window system (in both externally and internally beaded formats), has been tested to BS7950 and BS 4873 in certain configurations, details upon request.

\*Butt Hinges - Each hinge will carry a maximum of 20Kg in both side hung and top hung applications. Where a top hung vent is hung from a transom, this figure should be reduced to 15Kg per hinge and the maximum width of the vent restricted to 1500mm.

These butt hinges are primarily designed for use with folding openers, remote operating gear or electronic actuators. Where they are fitted in conjunction with espag gear or cockspur handles, suitable friction restrictors must also be used.

Note that a weatherbar must always be fitted over butt hinge opening lights, unless there is a soffit or similar to give protection. Therefore DF300 outerframe cannot be used where a soffit does not exist because the weatherbar cannot be fitted.

Other hardware specifications are available (eg for remote operation, trickle ventilators), consult Sapa Building Systems Ltd for details.

### Glazing

Drainage in accordance with details listed in the Product Manual meets the requirements of 'Ventilated and Drained Glazing System', as specified in BS6262 for thickness and type. Insulating glass units of 24mm up to 32mm can be accommodated as standard, other depths can be accommodated on request.

Fixed/Opening Lights: Glass set against extruded synthetic rubber gaskets retained in undercut grooves within an aluminium bead 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 can meet and surpass the area weighted average U values stipulated in Part L of the Building Regulations. Lower U-values can be achieved using double glazed units with enhanced thermal insulation, such as 'soft coat' low emissivity glass, argon gas filling and thermally broken spacer bars.

An 'A' Window Energy Rating (WER) can be achieved where required.

### Site Work

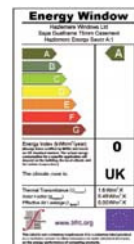
Fabrication, installation and glazing service is available through a nationwide network of fabricators & installers. For details of suitable fabricators & installers, please contact our Marketing Department on 01684 853500.



BS 4873  
Licence No. KM74159



BS 7950  
Licence No. KM74141

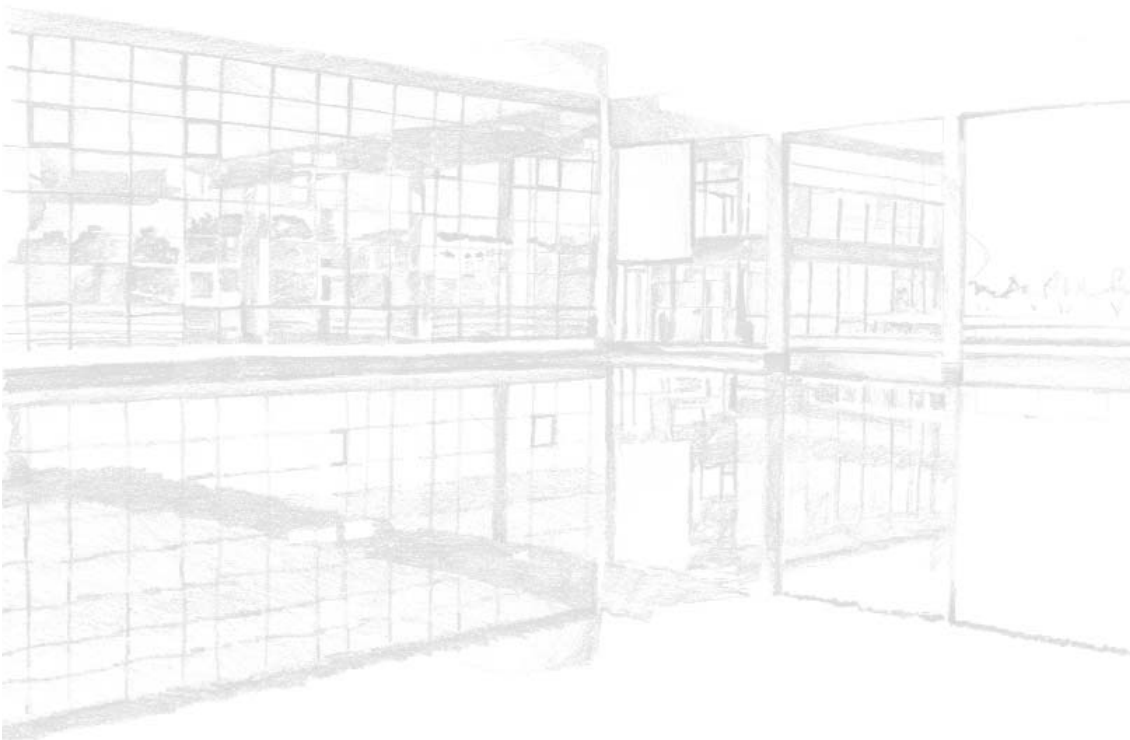


- Our field based Project Consultants, working with our in-house Contracts Design and Administration team, provide UK specifiers with specialist advice concerning the correct application of products, giving guidance on Building Regulations, British Standards and other issues such as product specifications, 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, your design meetings and budgetary planning. We can assist with 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 and installers, please call our Marketing Department on 01684 853500.

#### ■ Sapa Group




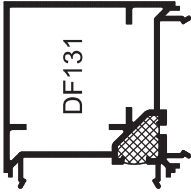








Sapa Building Systems Limited is a member of the worldwide Sapa Group. We develop and market high value-added profiles in aluminium and are the leading independent producer of aluminium profiles in the world, with customers in Europe, North America and Asia. In the UK, the Sapa Group has extensive multi-site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

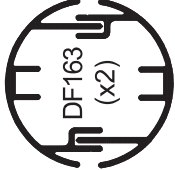





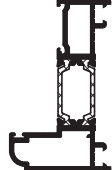


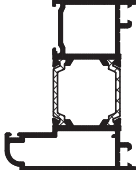


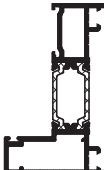


Backed by the resources of the Group, Sapa Building Systems Limited offers architects and specifiers a wide range of innovative aluminium systems for curtain walling, doors, windows and specialist applications. With a wealth of European knowledge and experience our company incorporates the highly respected 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.

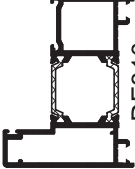





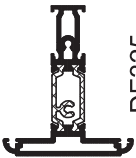


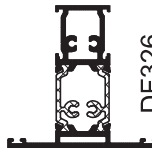


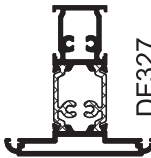




PROFILE INERTIA VALUES

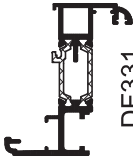
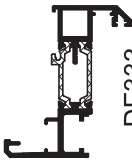
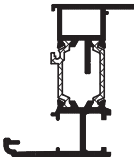
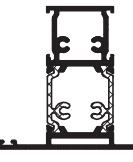
The following pages give information on the inertia values of the integral mullions, transoms, baypoles and coupling mullions. BS 6399 Part 2 must be used to calculate the inertia value required.

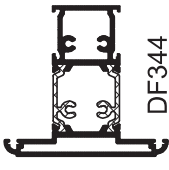
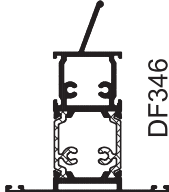
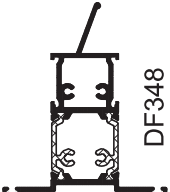
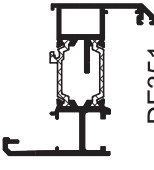
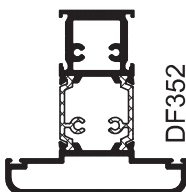
Profile	Inertia (mm <sup>4</sup> )
 DF122	 161,075
	 2,930
 DF131	 639,861
	 659,240
 DF138	 338,423
	 115,967
 DF139	 283,774
	 55,080

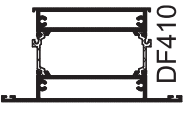
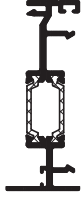
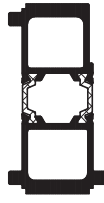
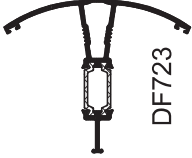
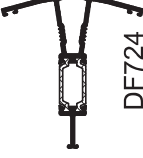
Profile	Inertia (mm <sup>4</sup> )
 DF163 (x2)	 228,932
	 129,348
 DF269	 55,843
	 6,248
 DF304	 178,544
	 27,226
 DF305	 222,833
	 67,130
 DF309	 183,507
	 47,603

Profile	Inertia (mm <sup>4</sup> )
 DF310	 227,945
	 70,307
 DF324	 111,371
	 17,407
 DF325	 144,952
	 25,948
 DF326	 138,640
	 36,062
 DF327	 175,923
	 49,618

PROFILE INERTIA VALUES

Profile	Inertia (mm <sup>4</sup> )
 DF331	144,814
	36,292
 DF333	145,670
	36,715
 DF335	176,027
	61,567
 DF342	155,242
	54,757

Profile	Inertia (mm <sup>4</sup> )
 DF344	193,769
	72,009
 DF346	209,575
	55,090
 DF348	256,423
	72,340
 DF351	176,722
	61,975
 DF352	342,537
	105,544

Profile	Inertia (mm <sup>4</sup> )
 DF410	308,535
	456,318
 DF711	220,050
	9,298
 DF714	384,692
	63,578
 DF723	167,251
	245,123
 DF724	162,597
	101,164



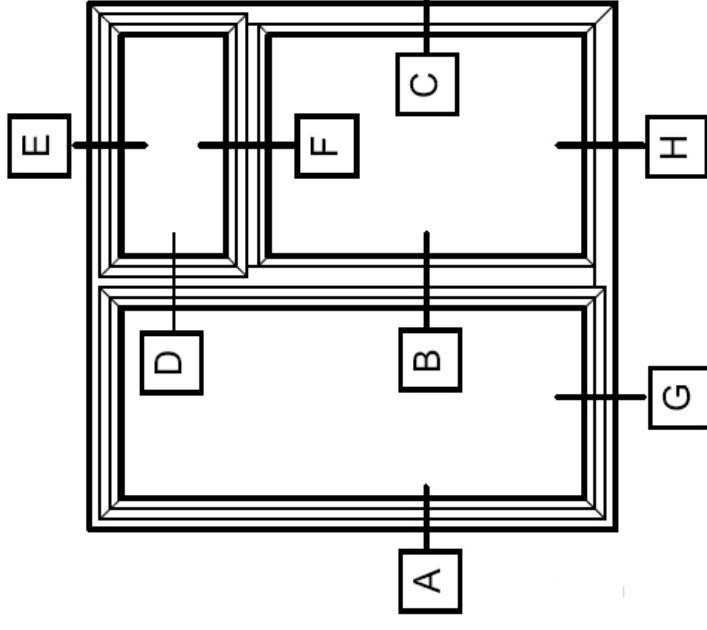


## DUALFRAME 75mm Casement Window

# sapa:

### GENERAL ARRANGEMENTS

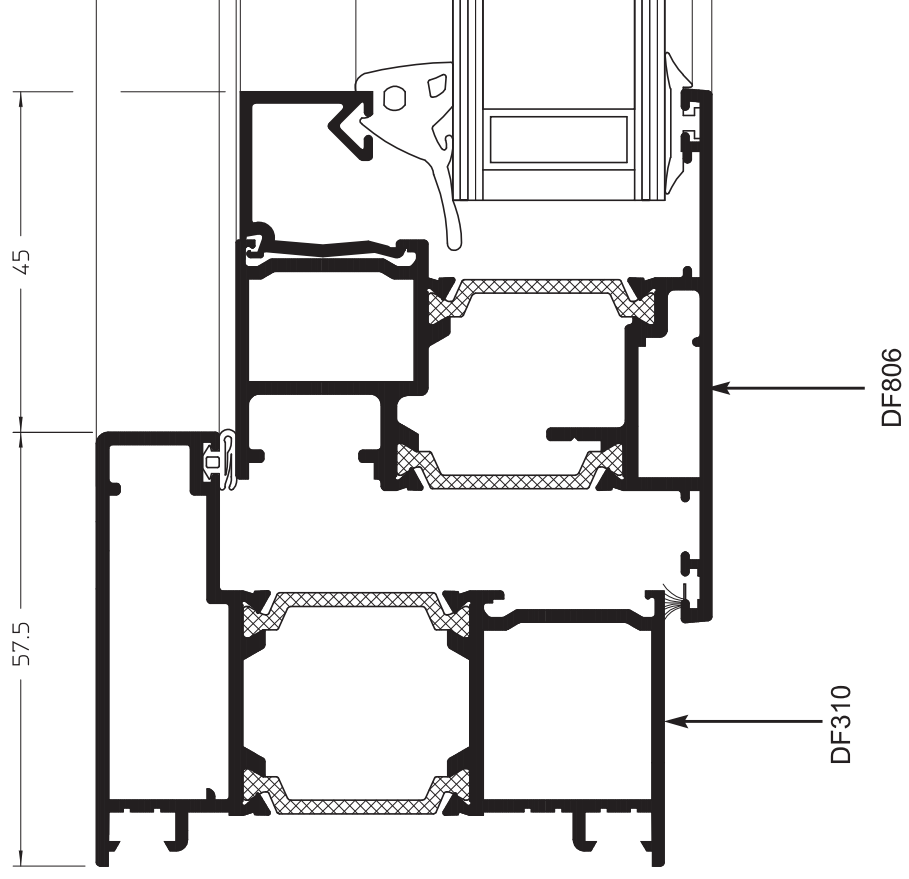
Detail	Elevation	Page
A	Jamb/Flat Vent	11
A	Curtain Wall Jamb/Flat Vent	12
A,B	Jamb/Vent - Mullion/Vent	13
C,D	Fixed Light Jamb - Mullion Vent/Vent	14
E	Head Vent	15
F,G	Transom Vent - Subcill/Vent	16
H	Subcill/Fixed Light/Square Bead	17
H	Drainage Tray/Fixed Light/Square Bead	18
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	Heavy Duty Coupling Box Mullion	21
	150° Baypole - 135° Baypole	22
	90° External Corner Post	23
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	Variable Baypole 115°-134°	26
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	Extended Softline Outerframe and Softline Vent	29
	Chamfered Mullion/Transom	30
	Softline Vent Frame - Heavy Duty Softline Vent Frame	31
	Wide Square Mullion/Transom with Vent - Wide Softline Mullion/Transom with Softline Vent	32
	Wide Square Transom with Drip - Wide Softline Transom with Drip	33
	Wide Square Transom with Drip Vent/Vent - Wide Softline Transom with Drip Vent/Vent	34
	120mm Midrail	35
	Frame Extender/Trickle Vent	36
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	24mm, 28mm and 32mm Glazing Bead Options	38
	Internal Glaze Vent - Internal Glaze Dummy Vent	
	Reverse Rebate Adaptor	
	55mm to 75mm Coupler	



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

*Jamb / Flat Vent*

A

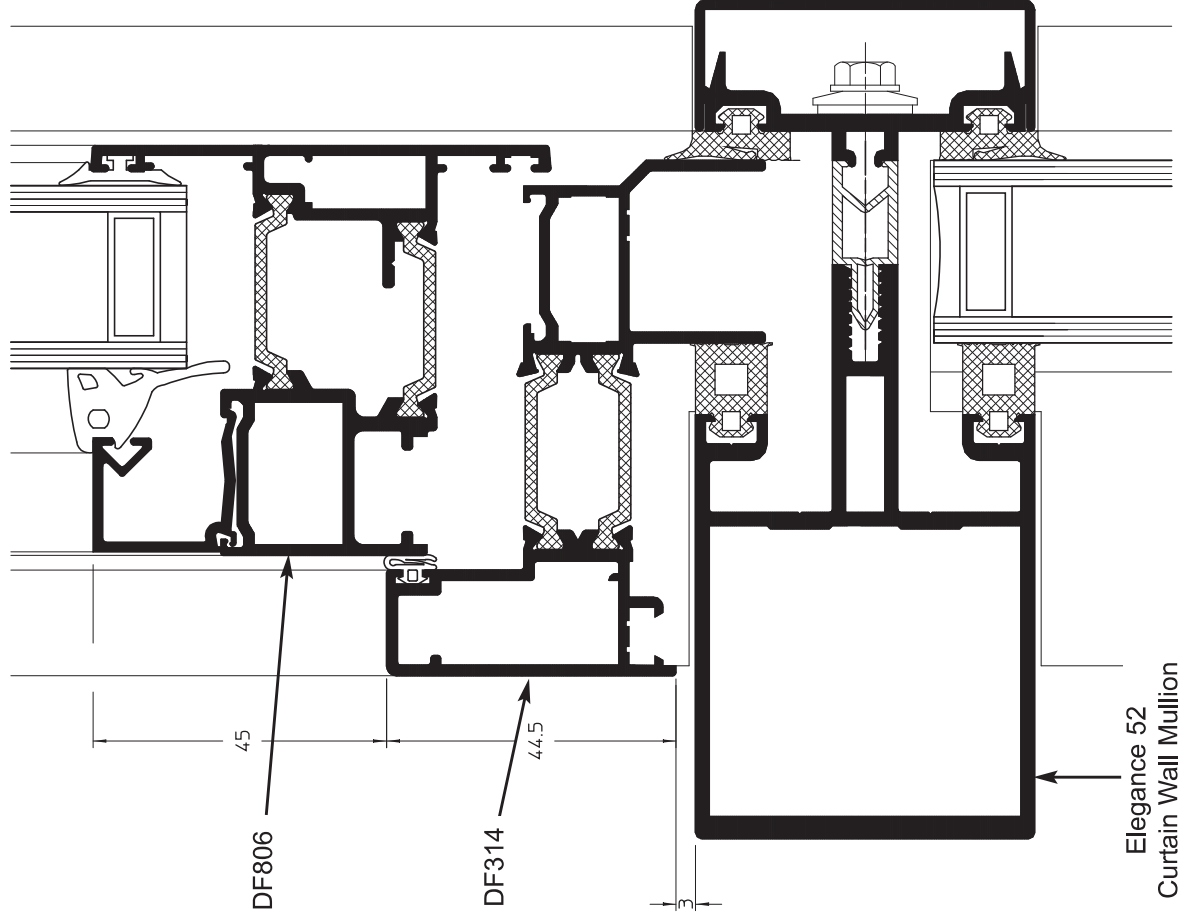


**DUALFRAME** 75mm Casement Window

GENERAL ARRANGEMENTS

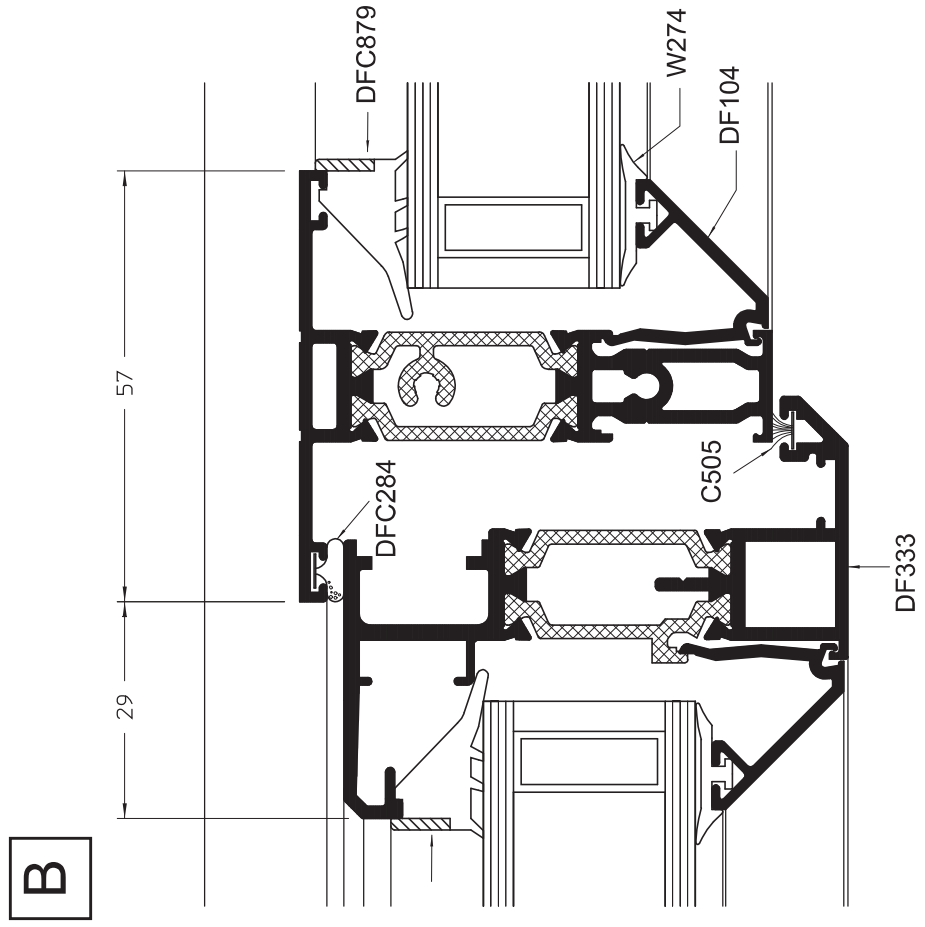
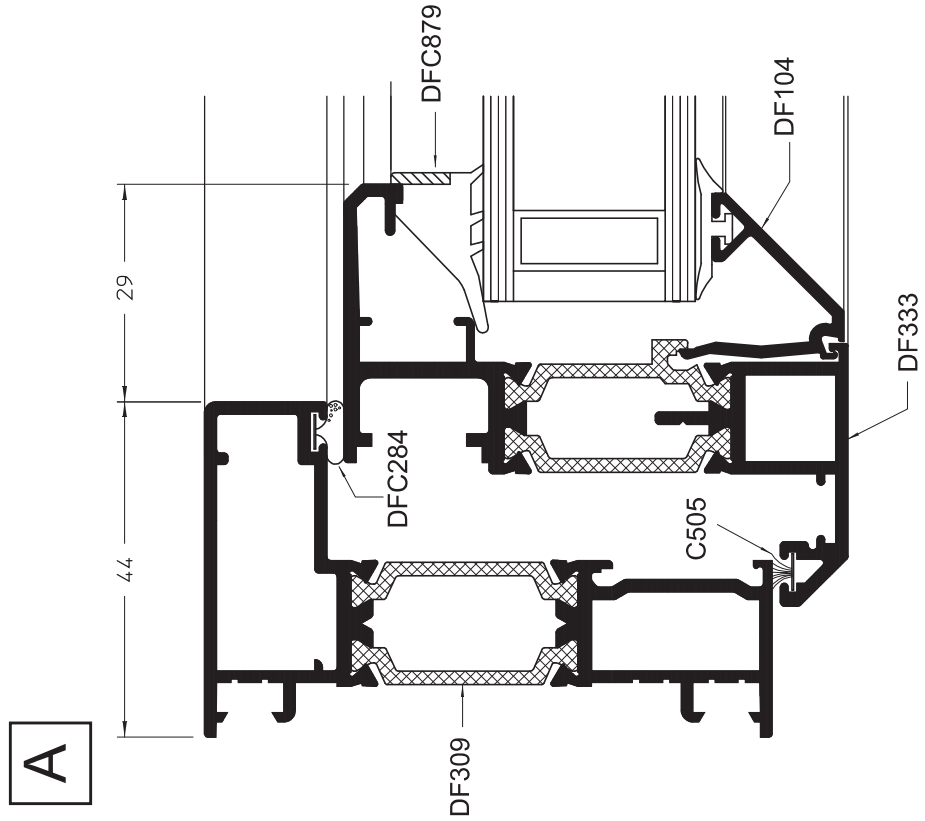
***Curtain Wall Jamb / Flat Vent***

A



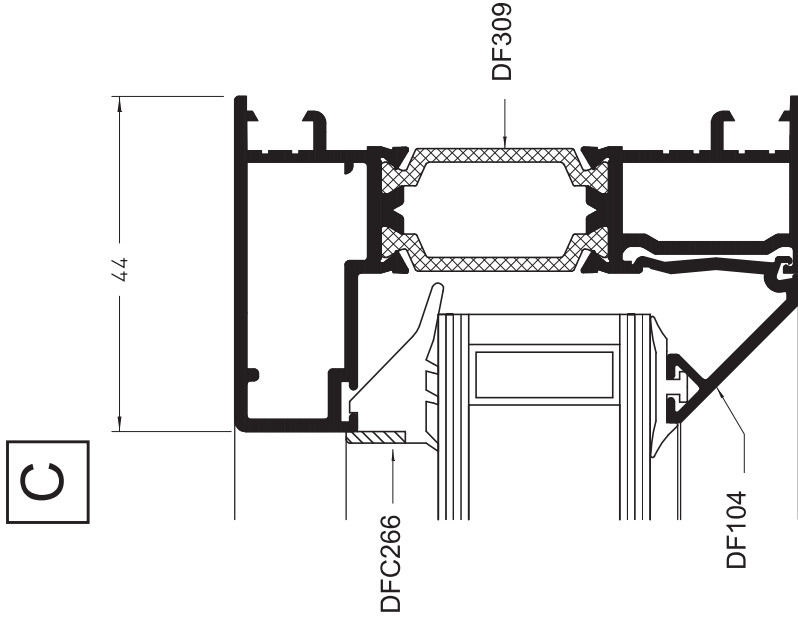
*Jamb / Vent*

*Mullion / Vent*

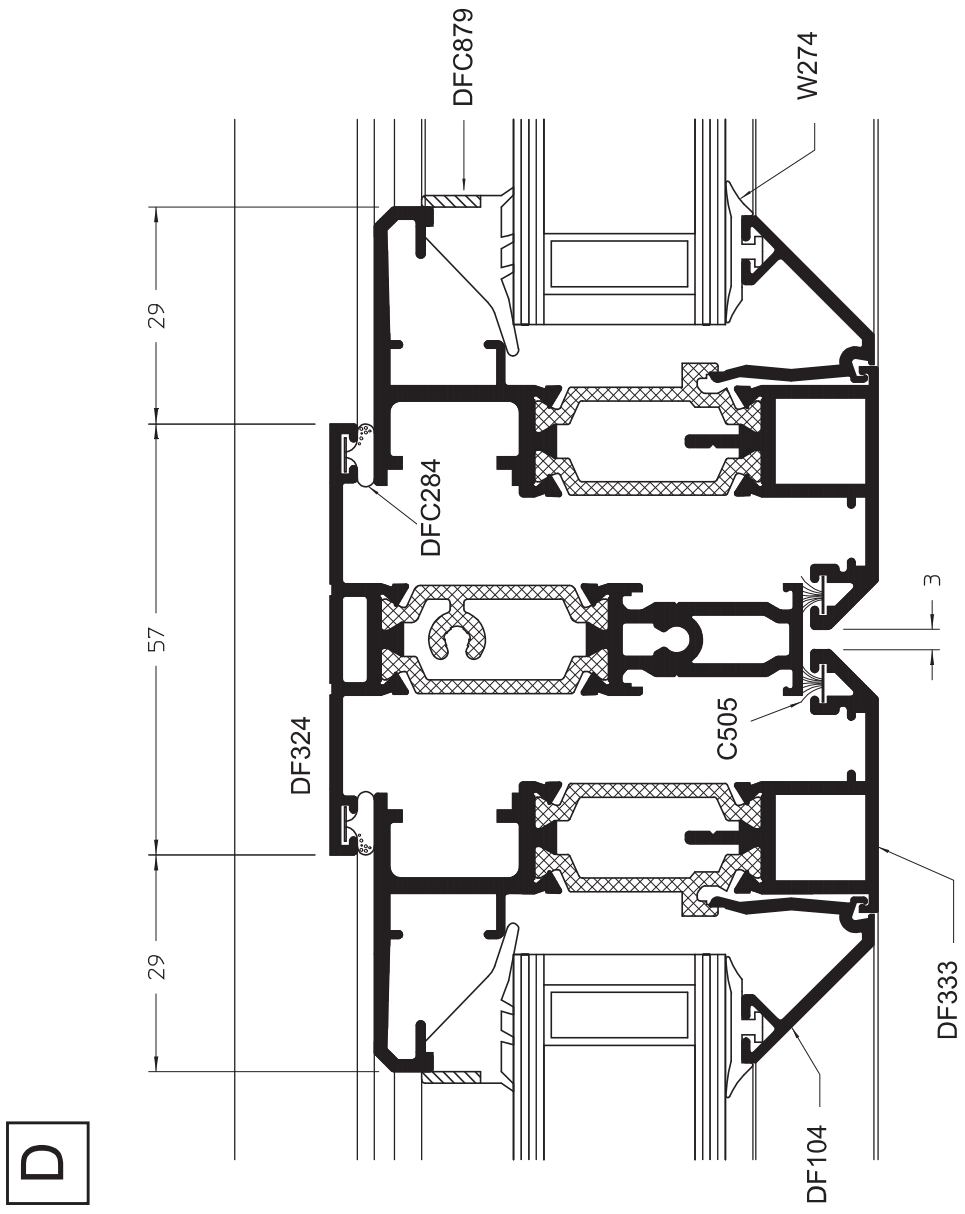




**Fixed Light Jamb**

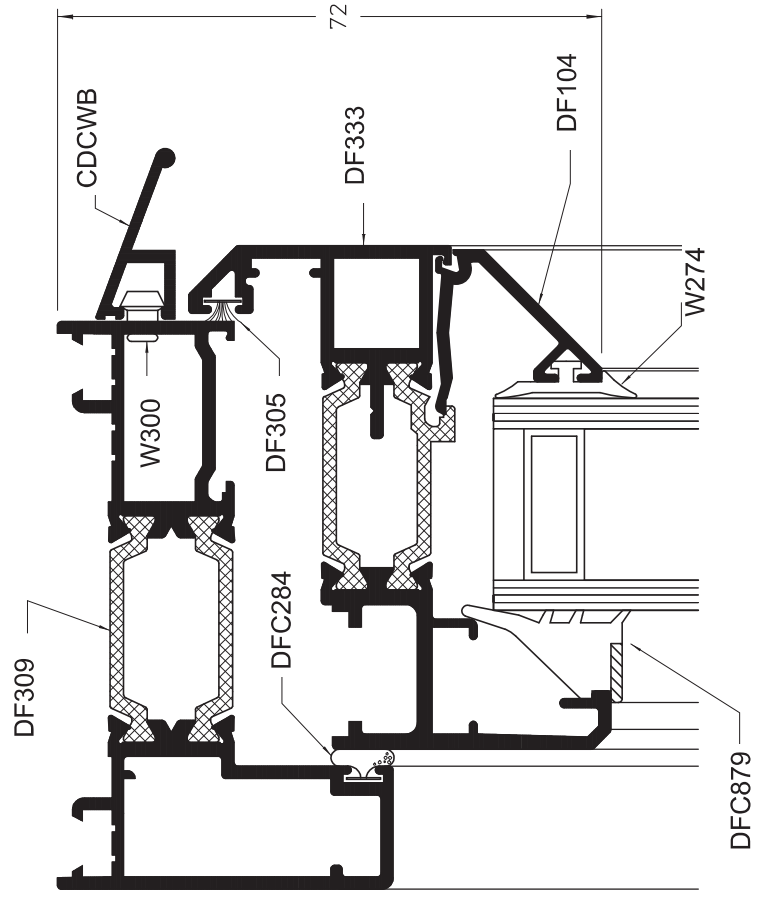


**Mullion Vent / Vent**



Head / Vent

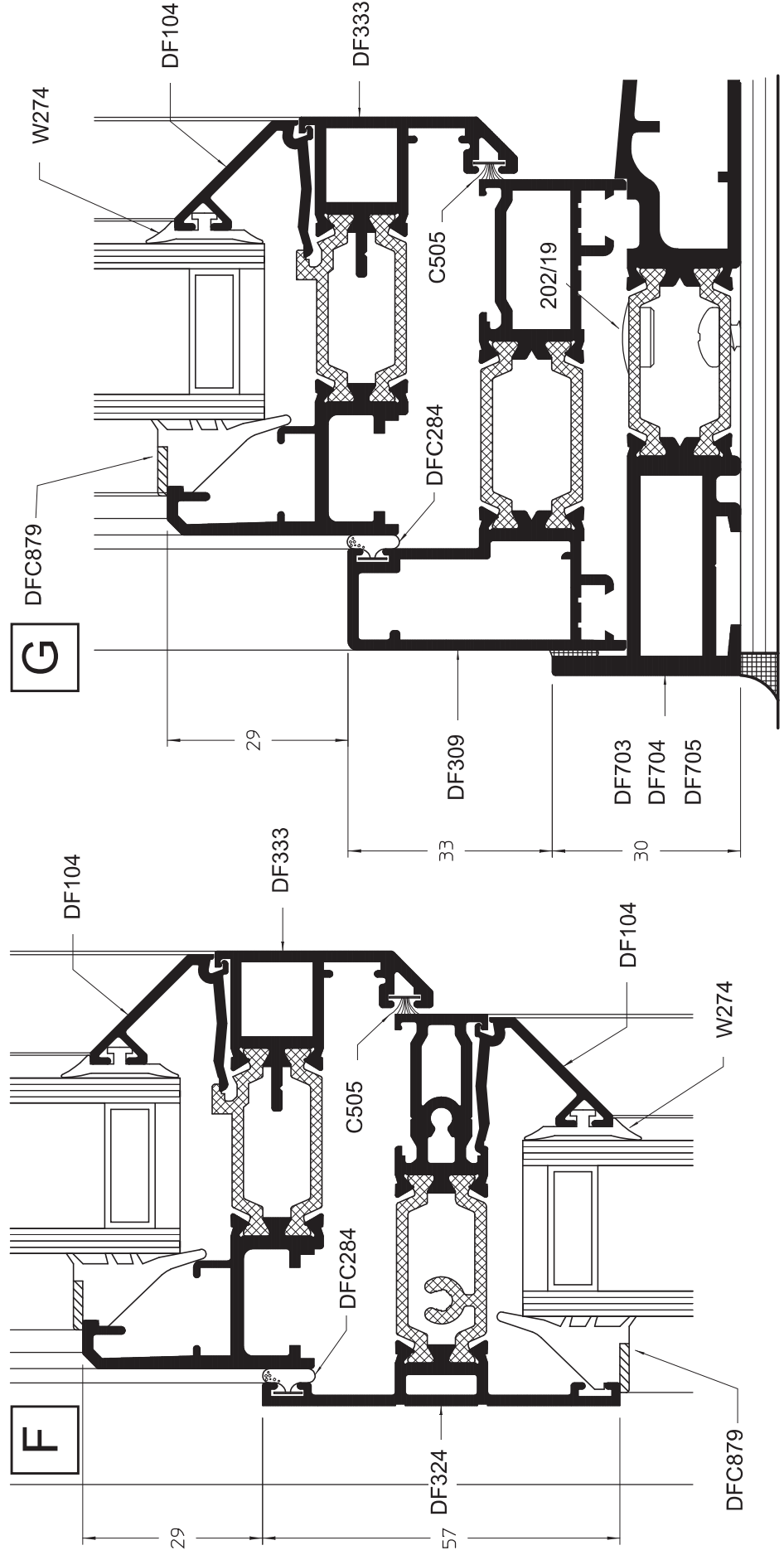
E



GENERAL ARRANGEMENTS

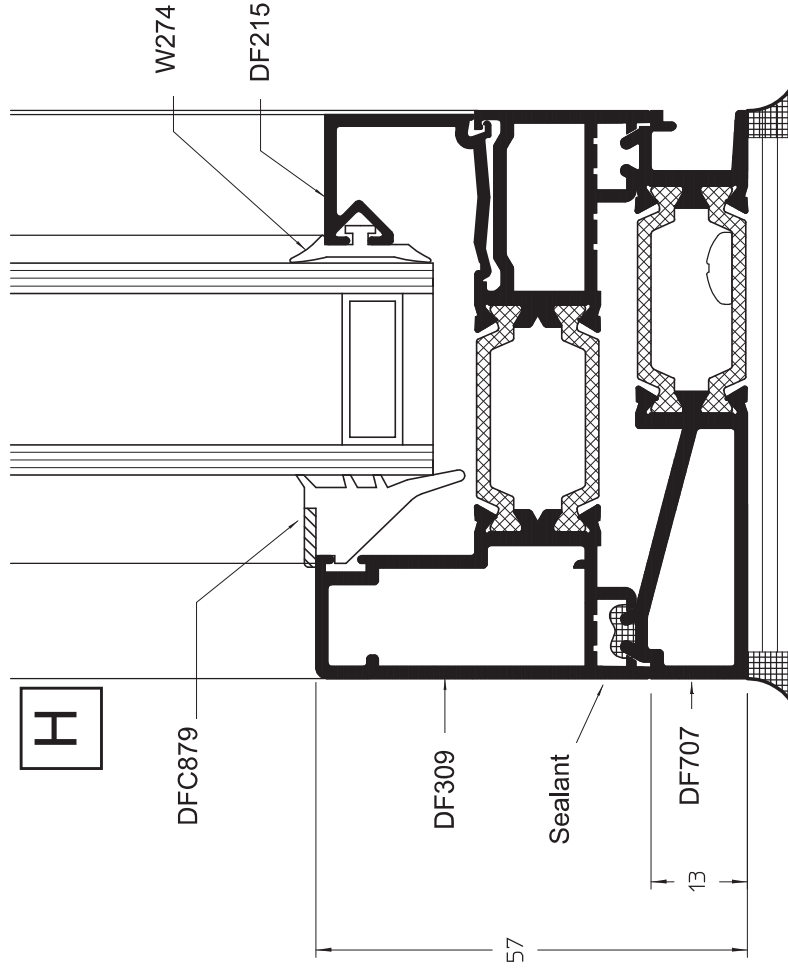
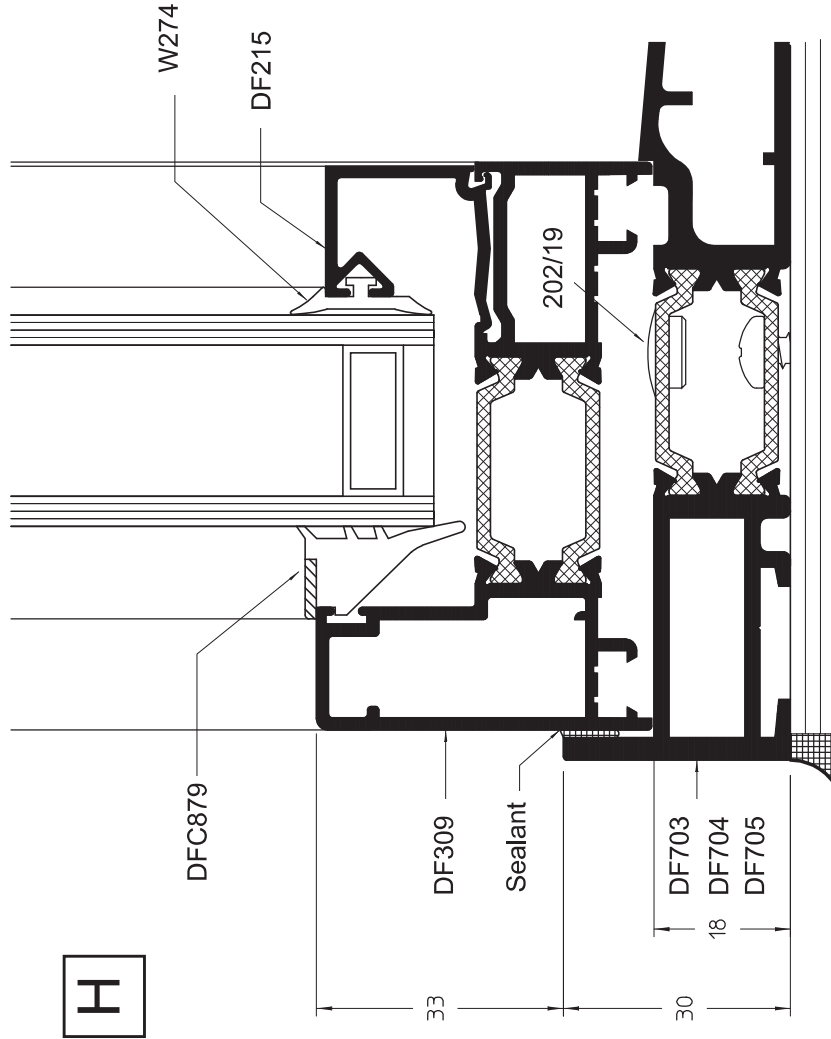
*Transom / Vent*

*Subcill / Vent*



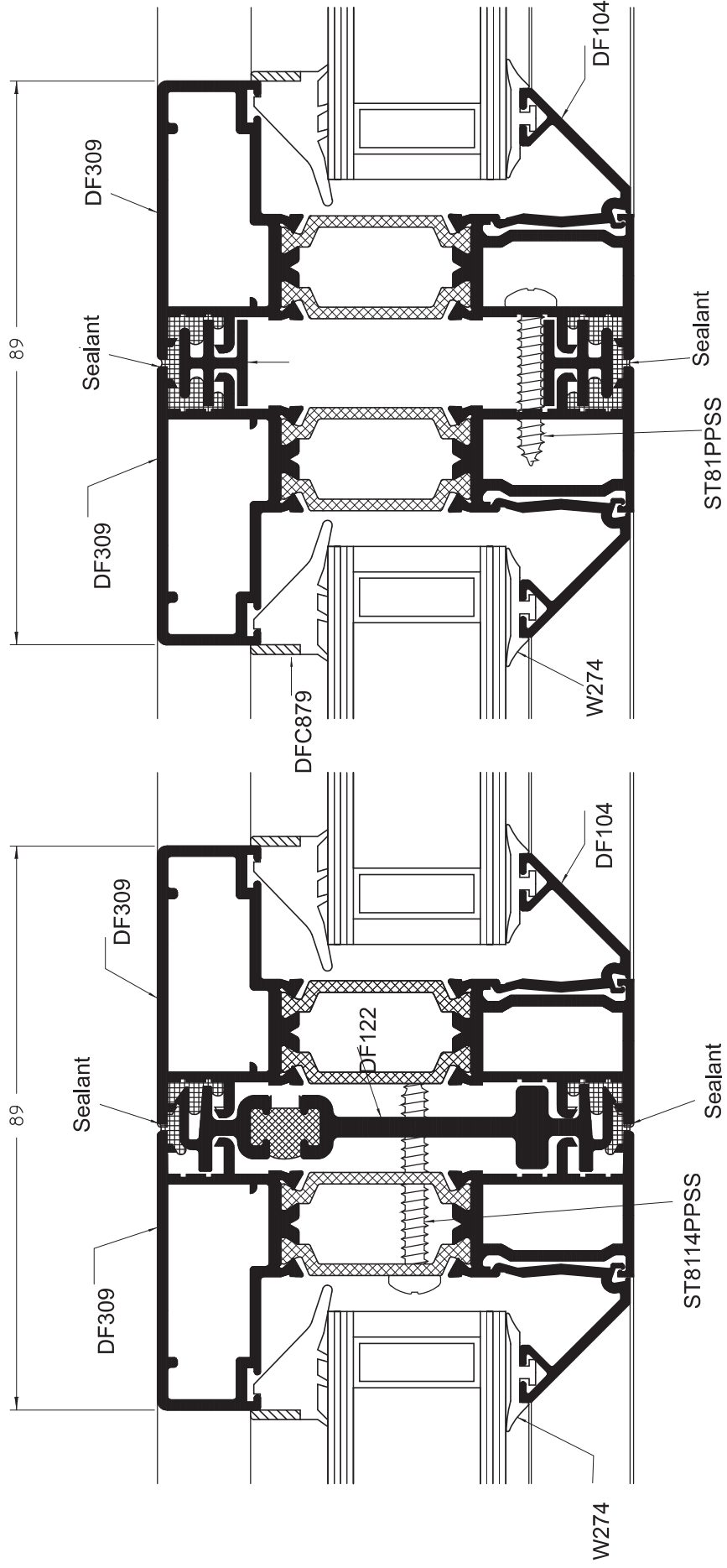
**Subcill / Fixed Light / Square Bead**

**Drainage Tray / Fixed Light / Square Bead**



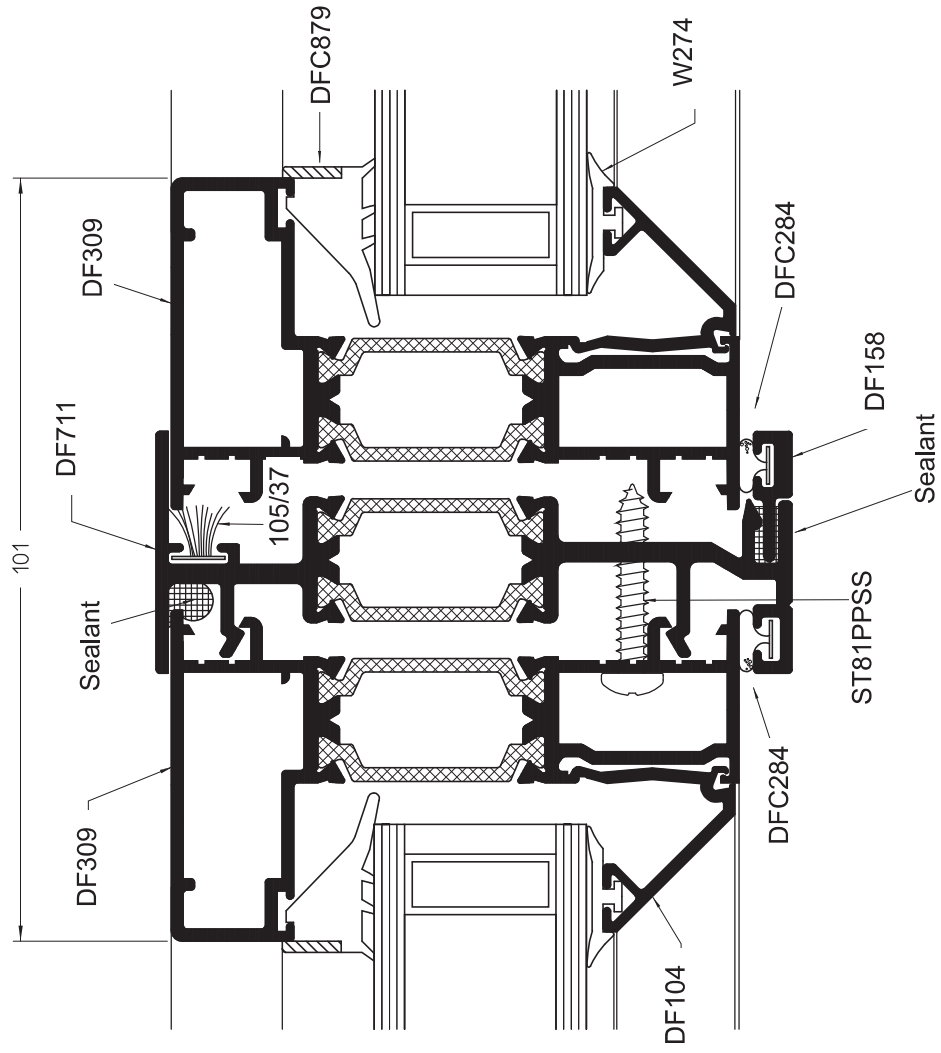
*Concealed Frame to Frame Coupler*

*Lightweight Concealed Frame to Frame Coupler*





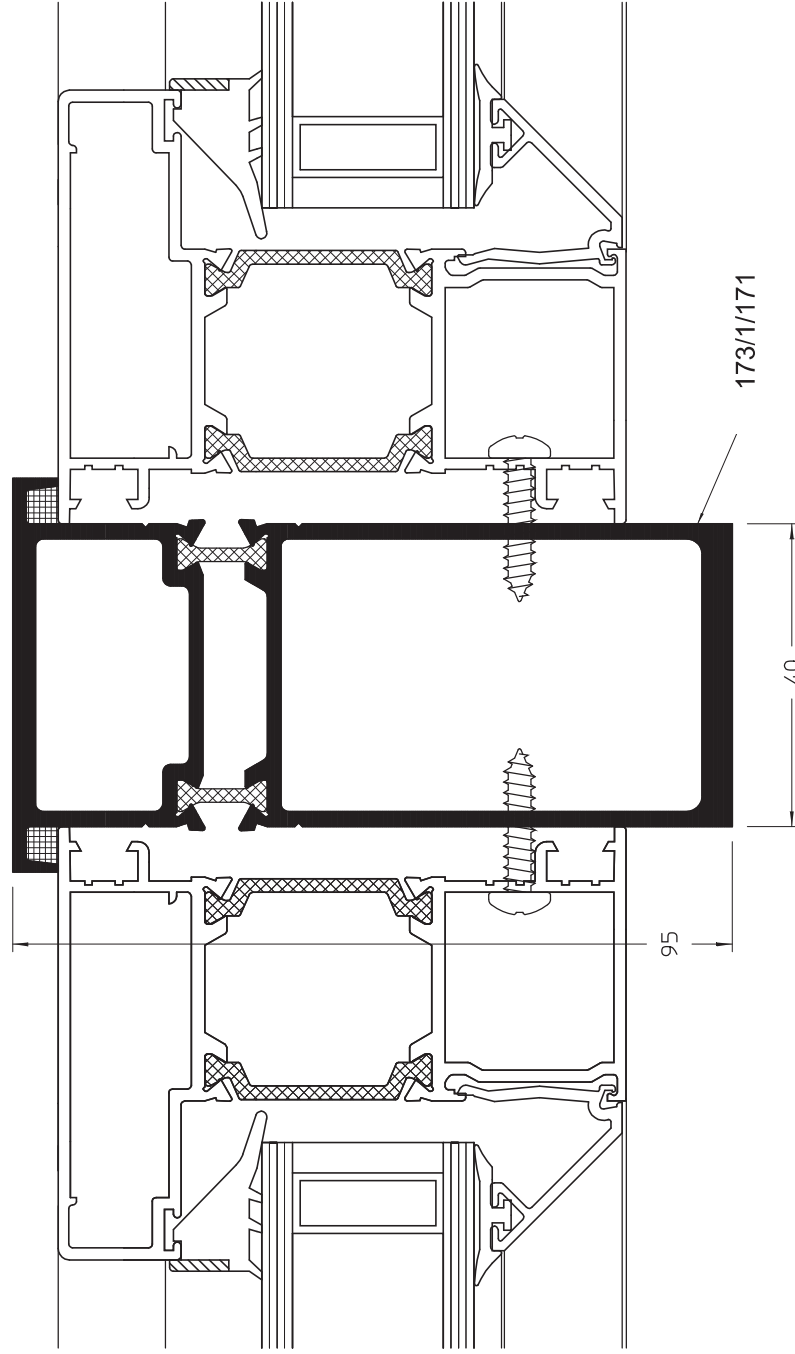
*Frame to Frame Expansion Coupler*



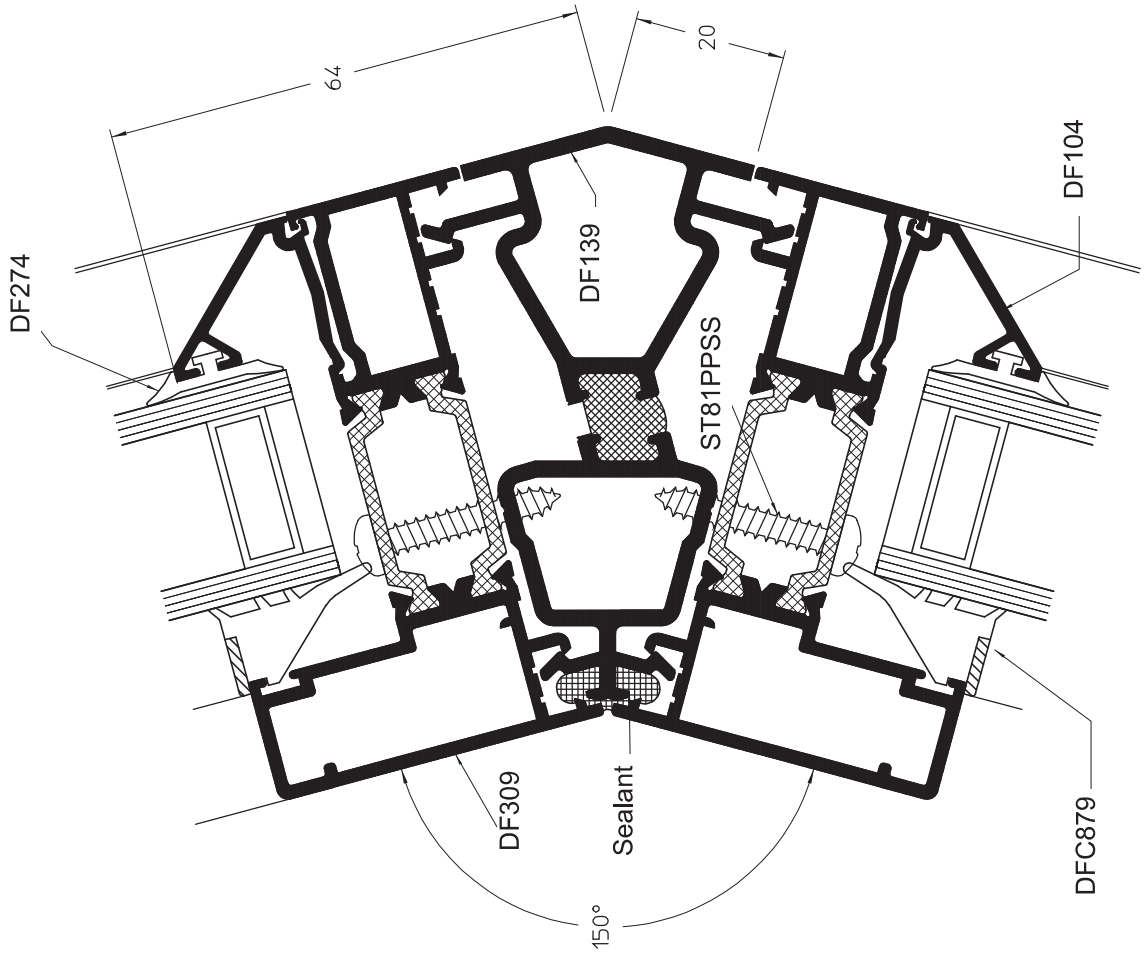
**DUALFRAME** 75mm Casement Window

GENERAL ARRANGEMENTS

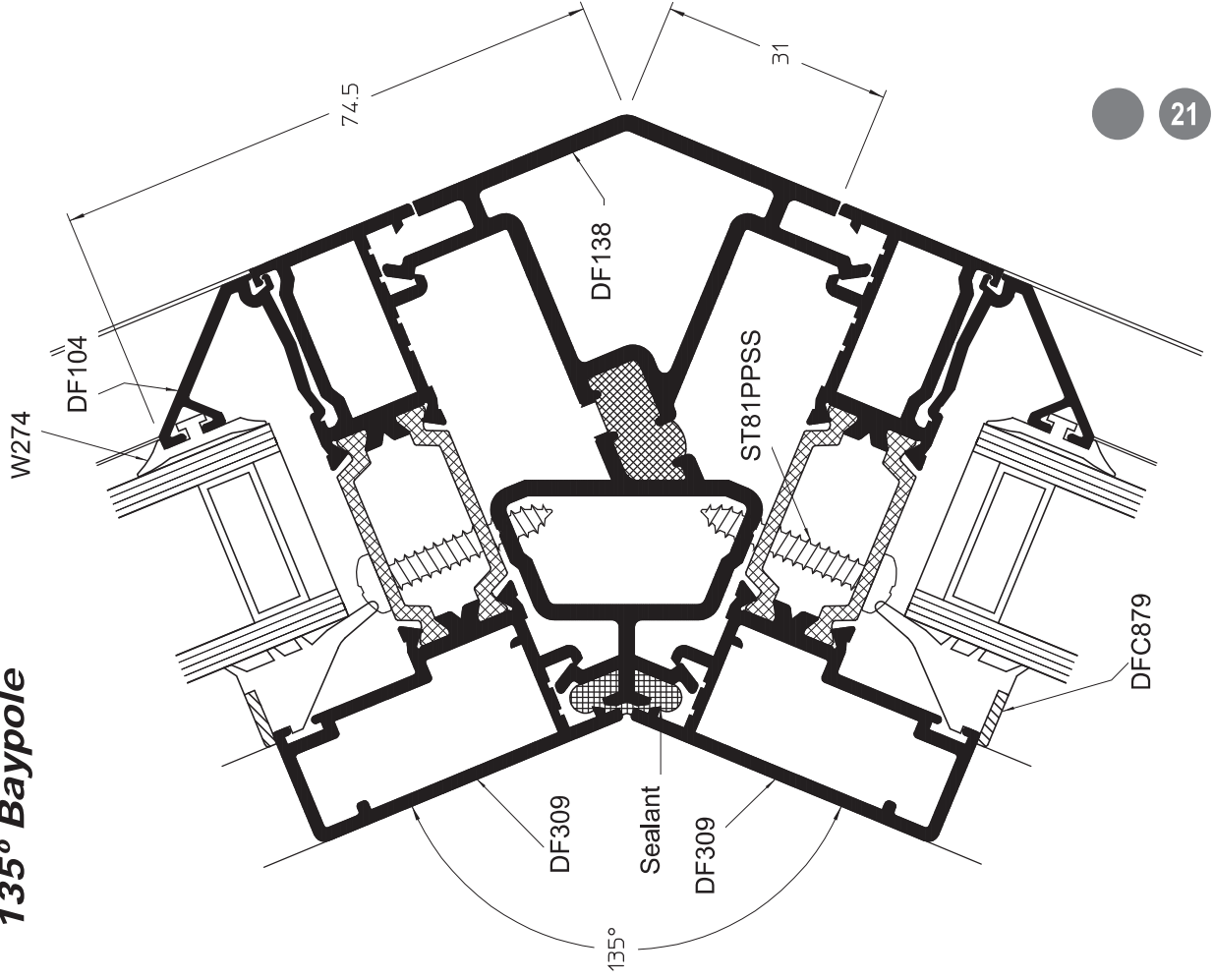
*Heavy Duty Coupling Box Mullion*



**150° Baypole**



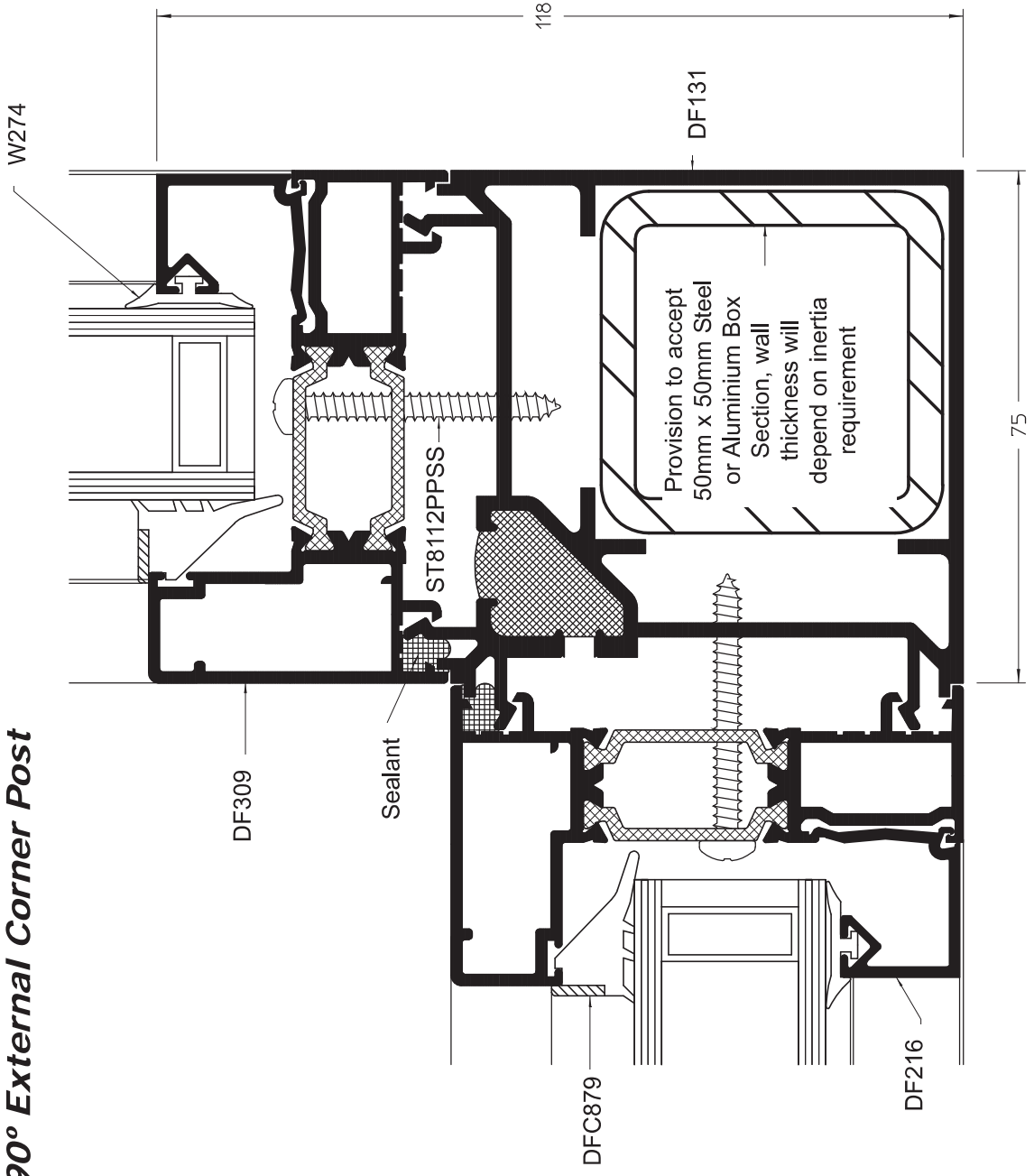
**135° Baypole**



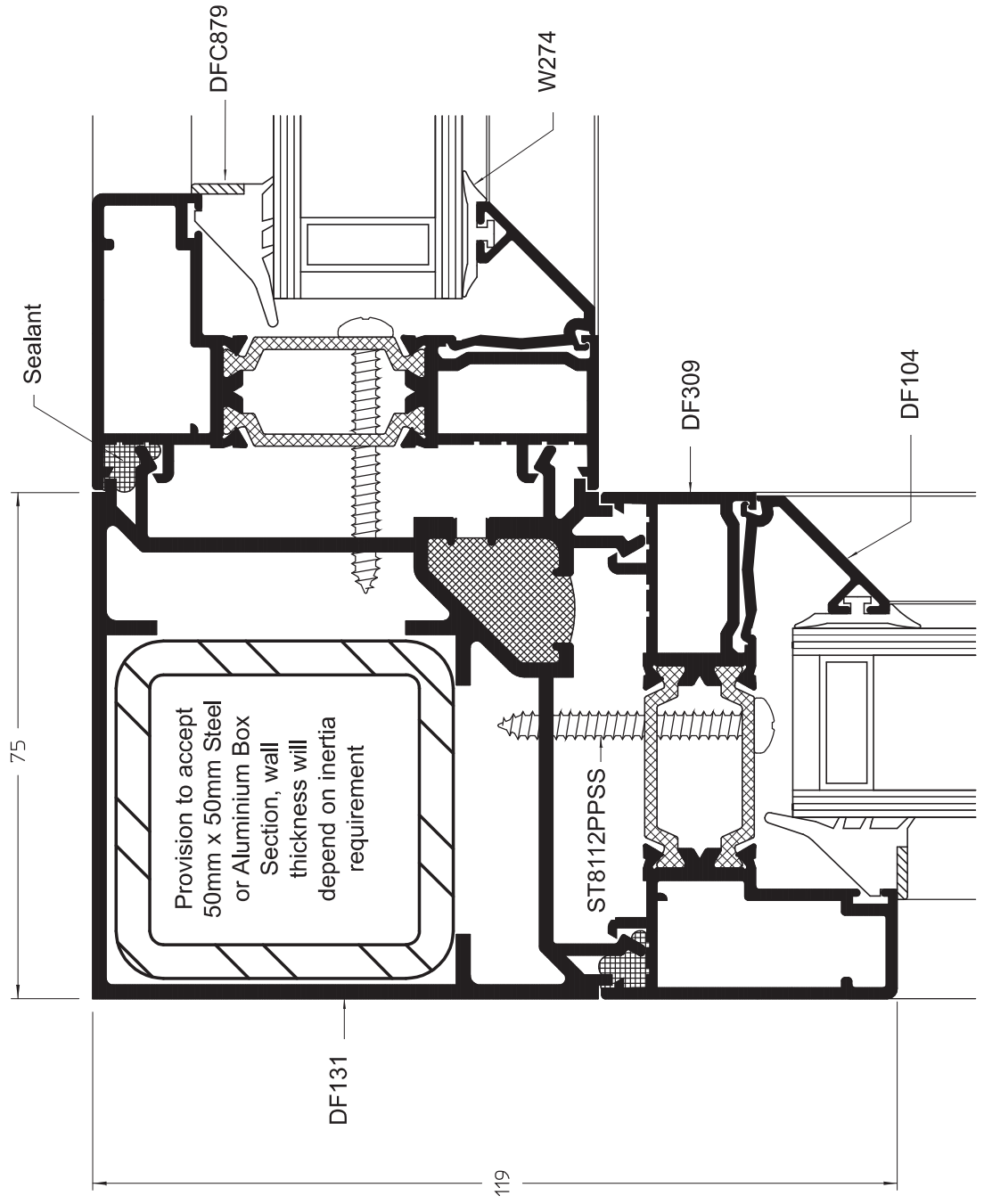
**DUALFRAME** 75mm Casement Window

GENERAL ARRANGEMENTS

**90° External Corner Post**

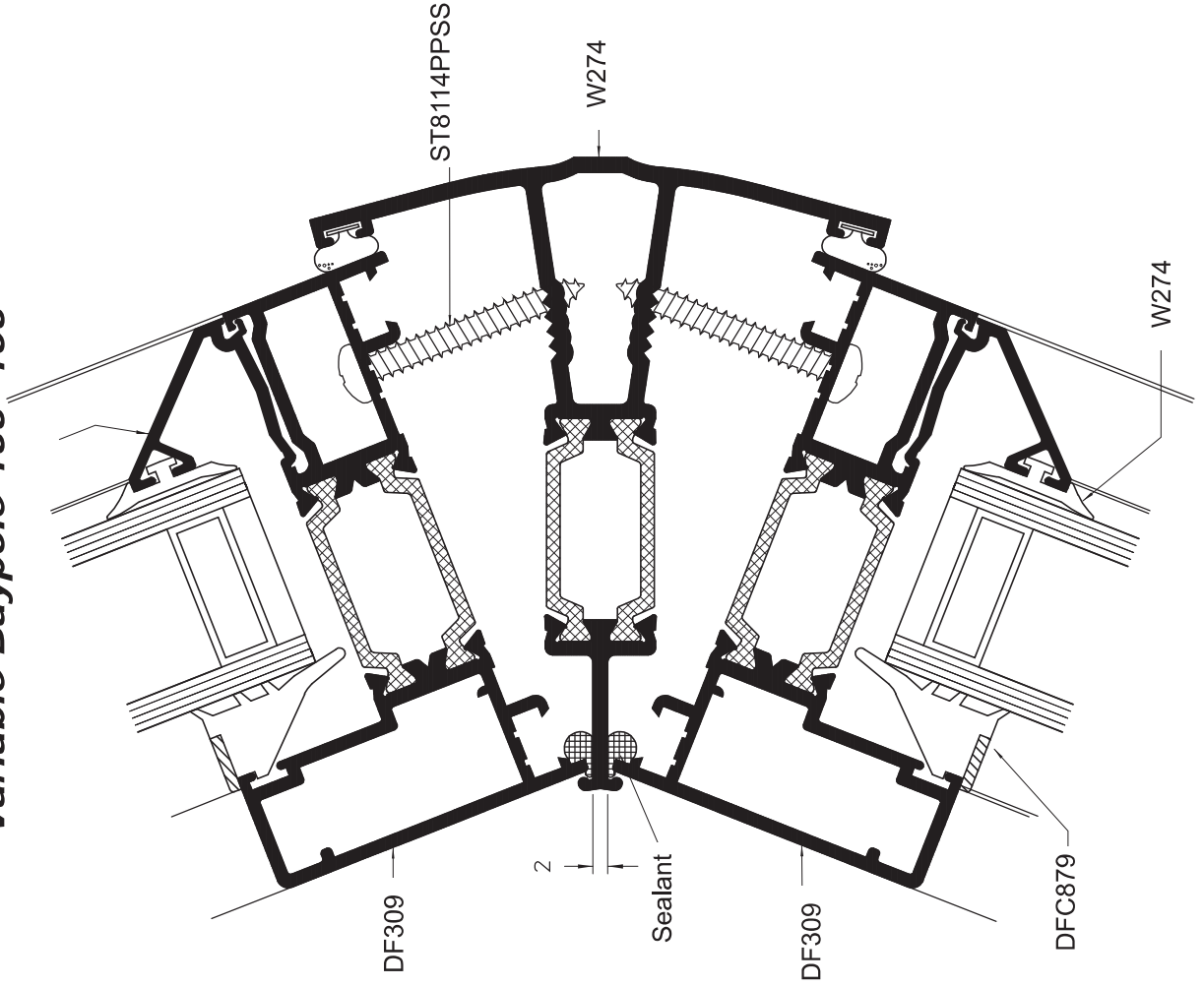


**90° Internal Corner Post**

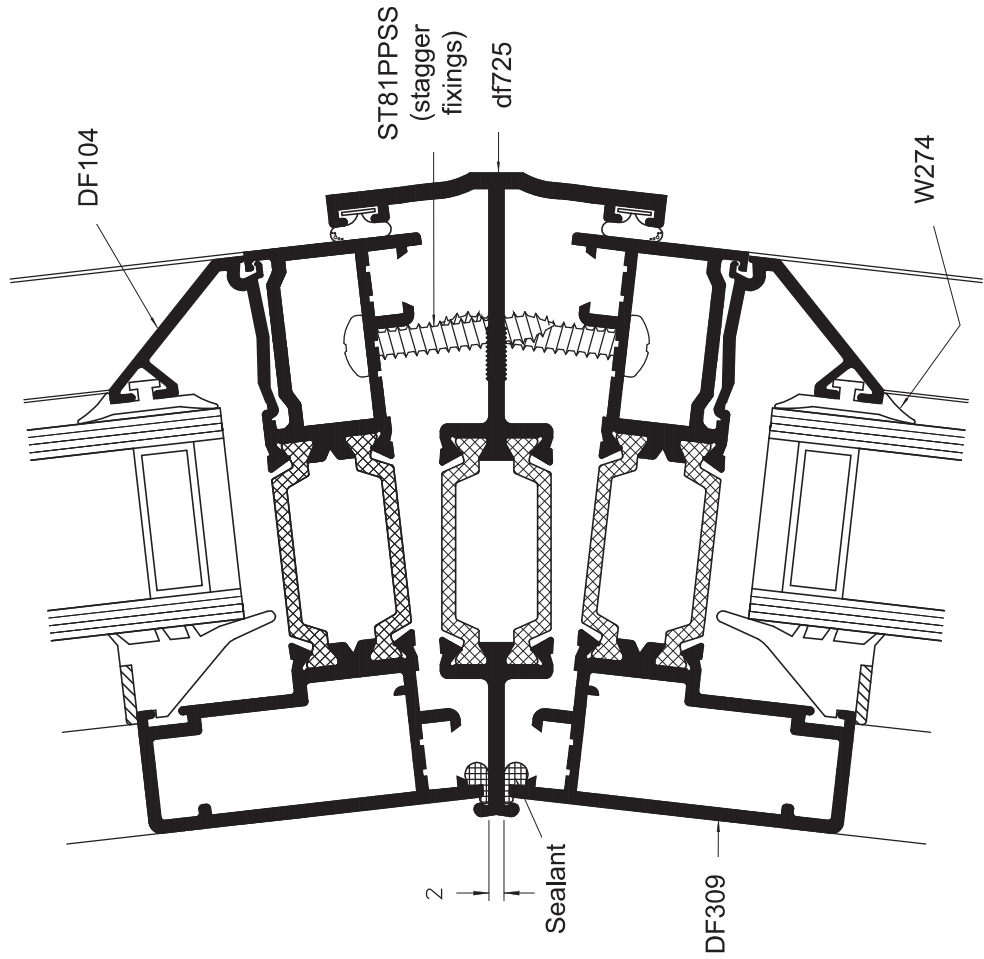




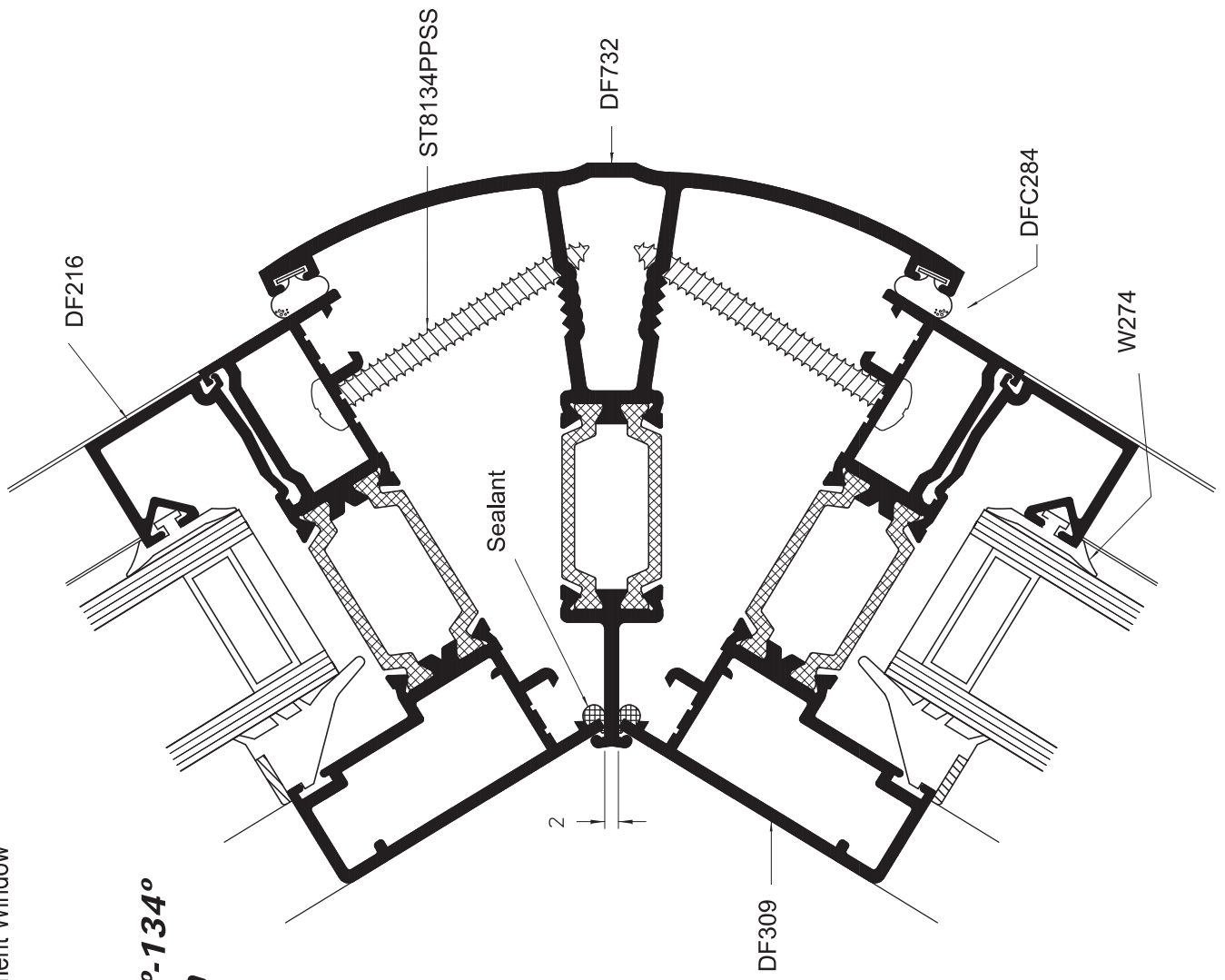
*Variable Baypole 133°-163°*



*Variable Baypole 162°-175°*



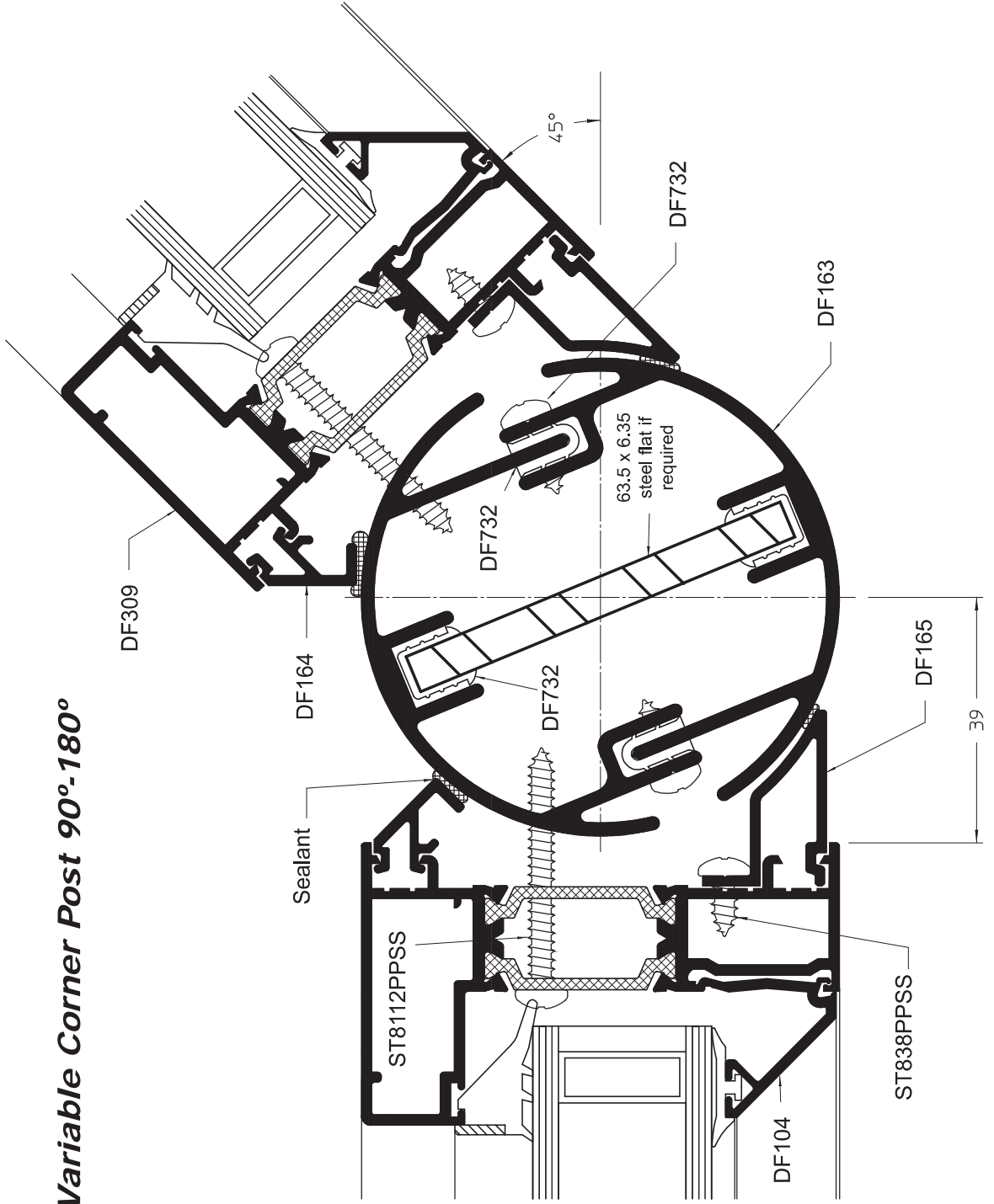
**Variable Baypole 115°-134°  
Softline Frame Option**



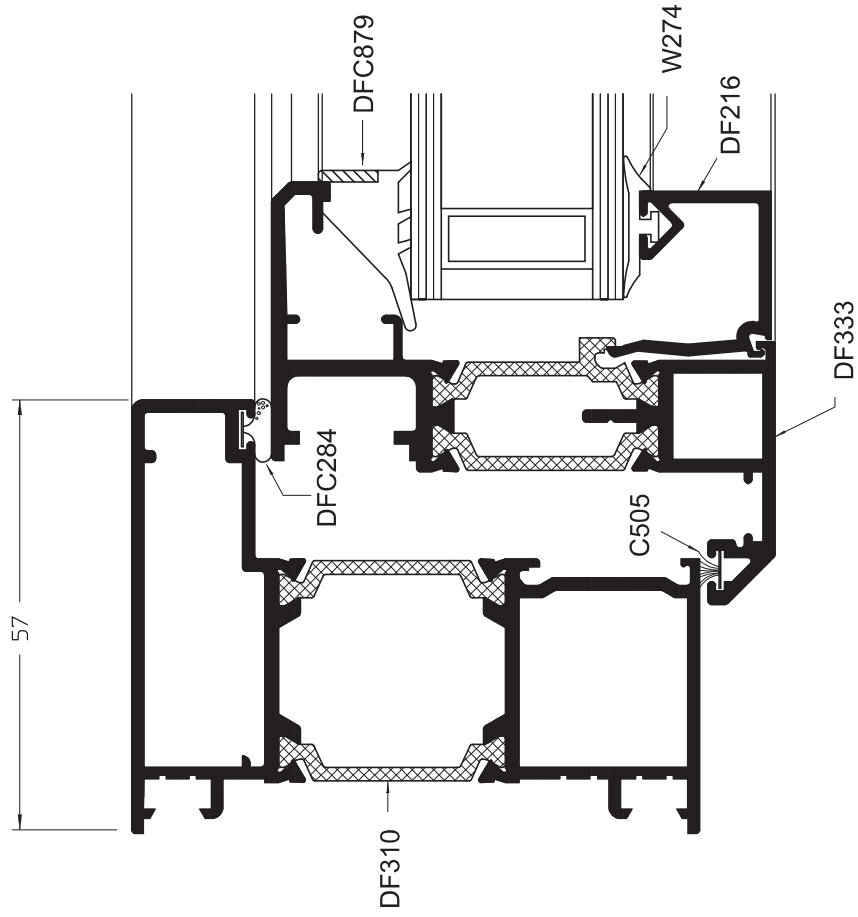
DUALFRAME 75mm Casement Window

GENERAL ARRANGEMENTS

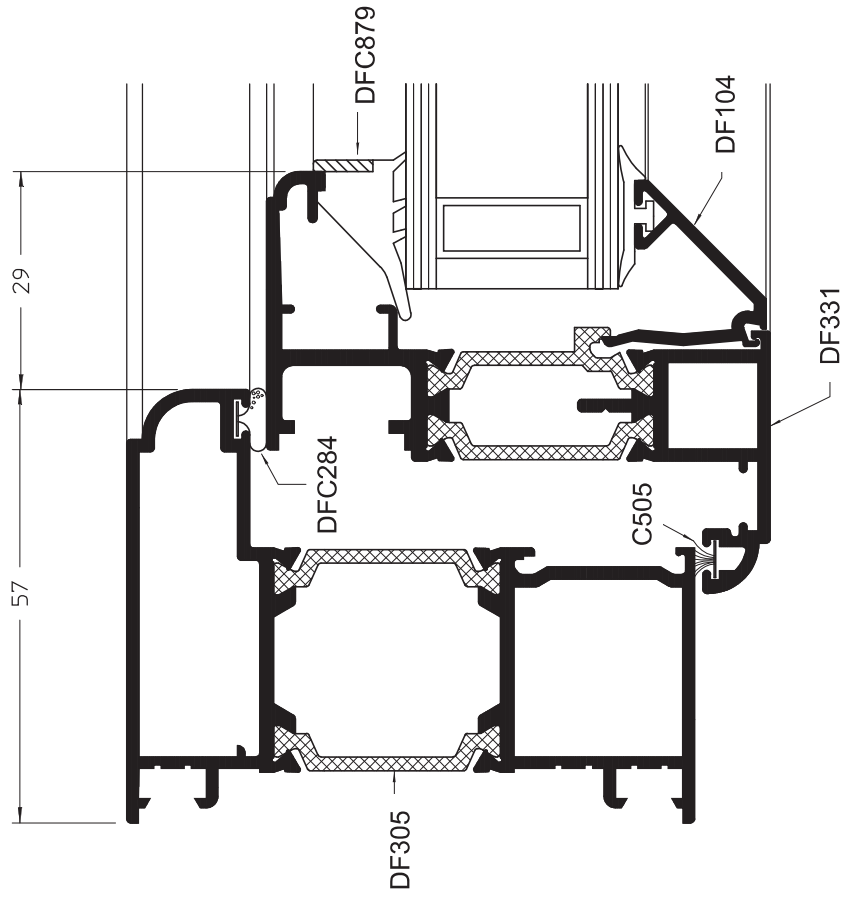
Variable Corner Post 90°-180°



*Extended Square Outerframe and Chamfered Vent*



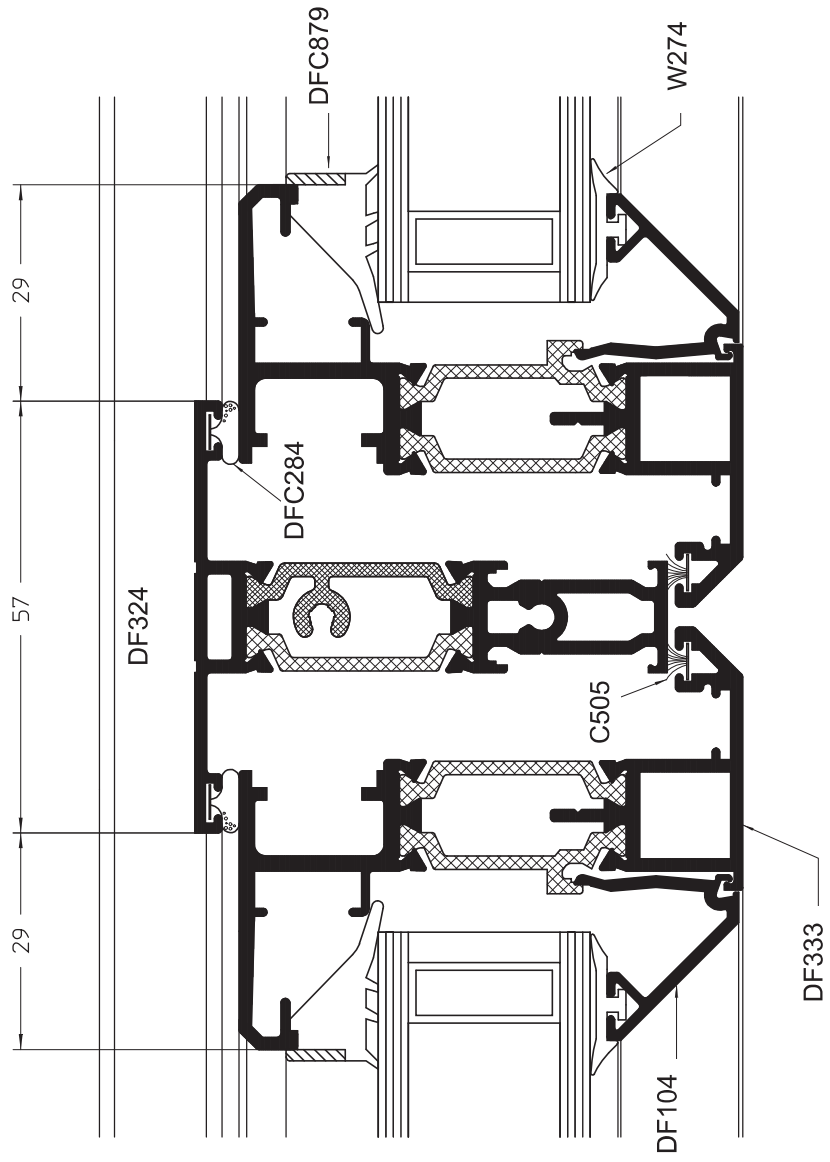
*Extended Softline Outerframe and Softline Vent*



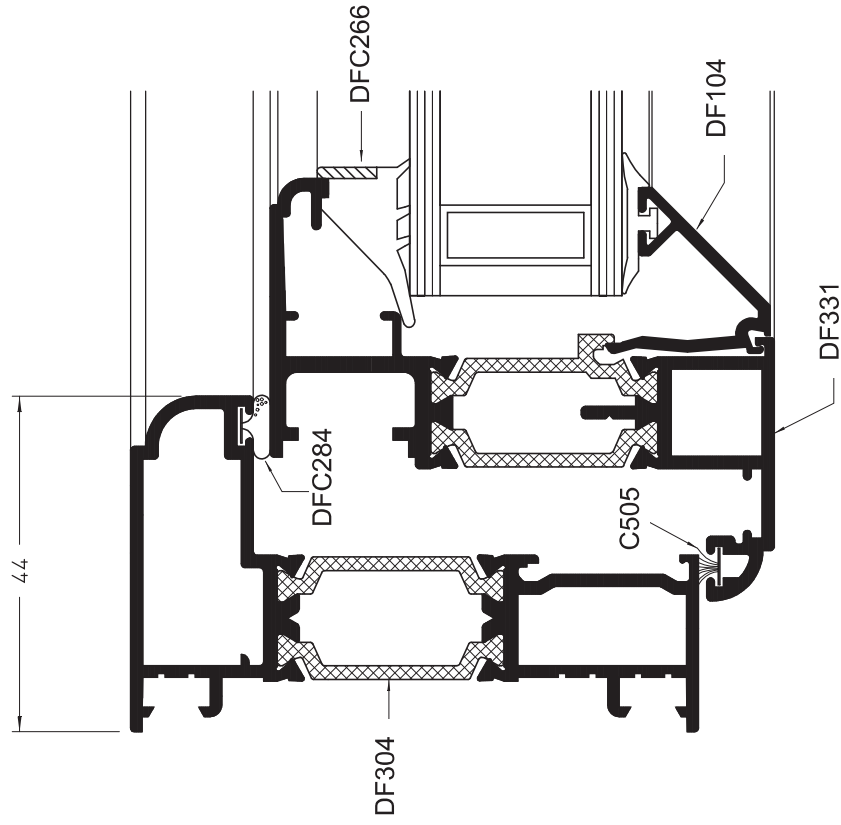
**DUALFRAME** 75mm Casement Window

GENERAL ARRANGEMENTS

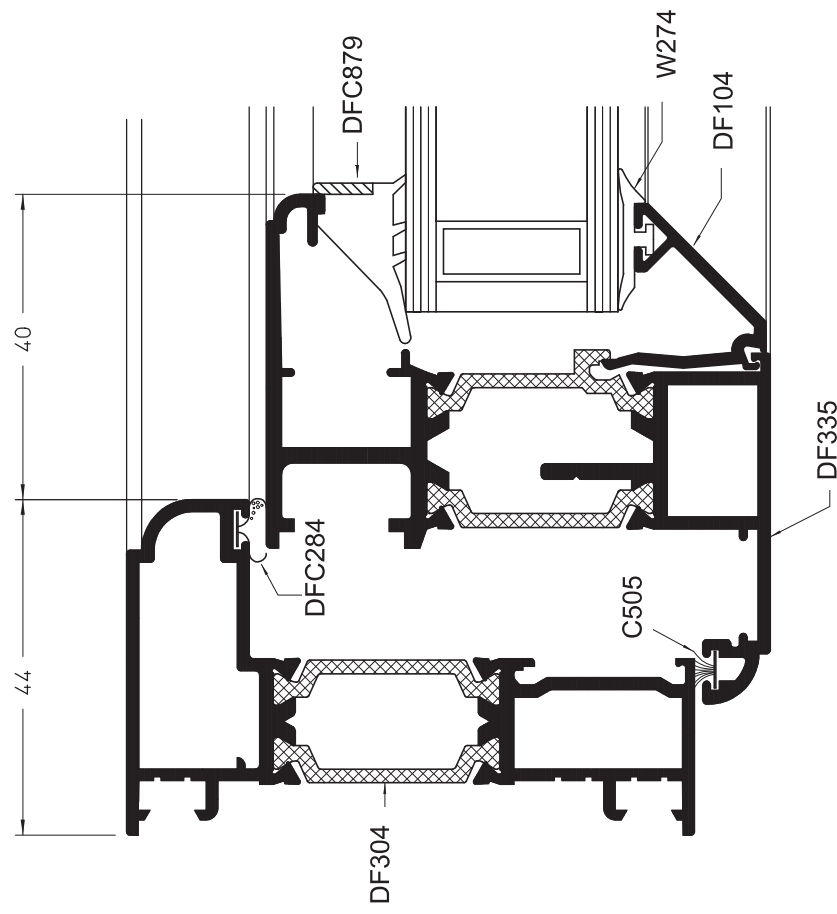
*Chamfered Mullion/Transom*



*Softline Vent Frame*



*Heavy Duty Softline Vent Frame*



**DUALFRAME**

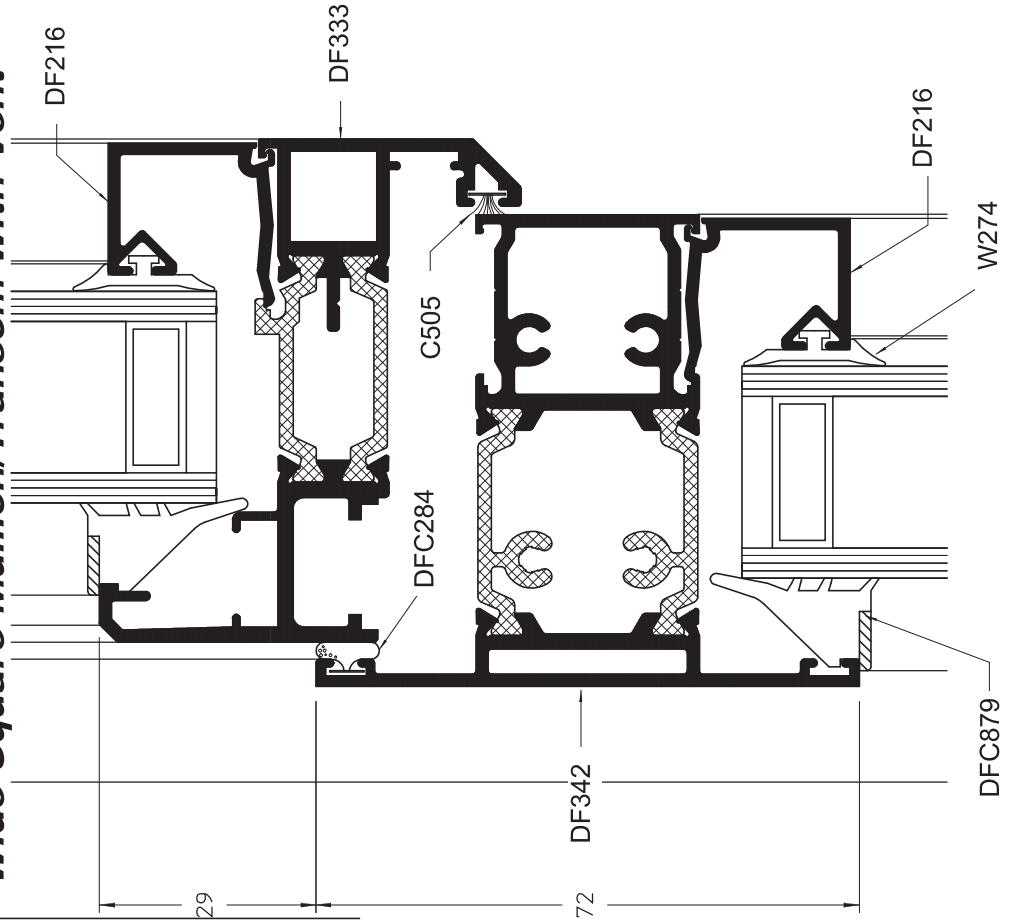
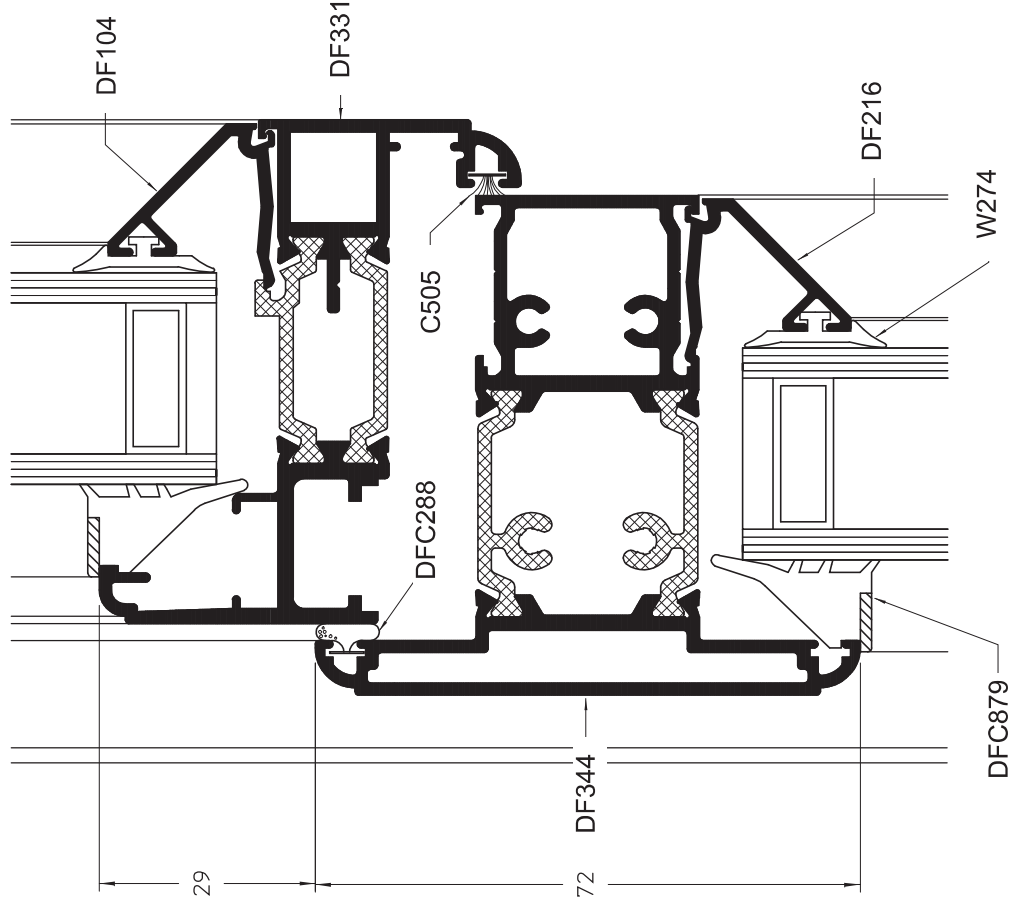
75mm Casement Window

**sapa:**

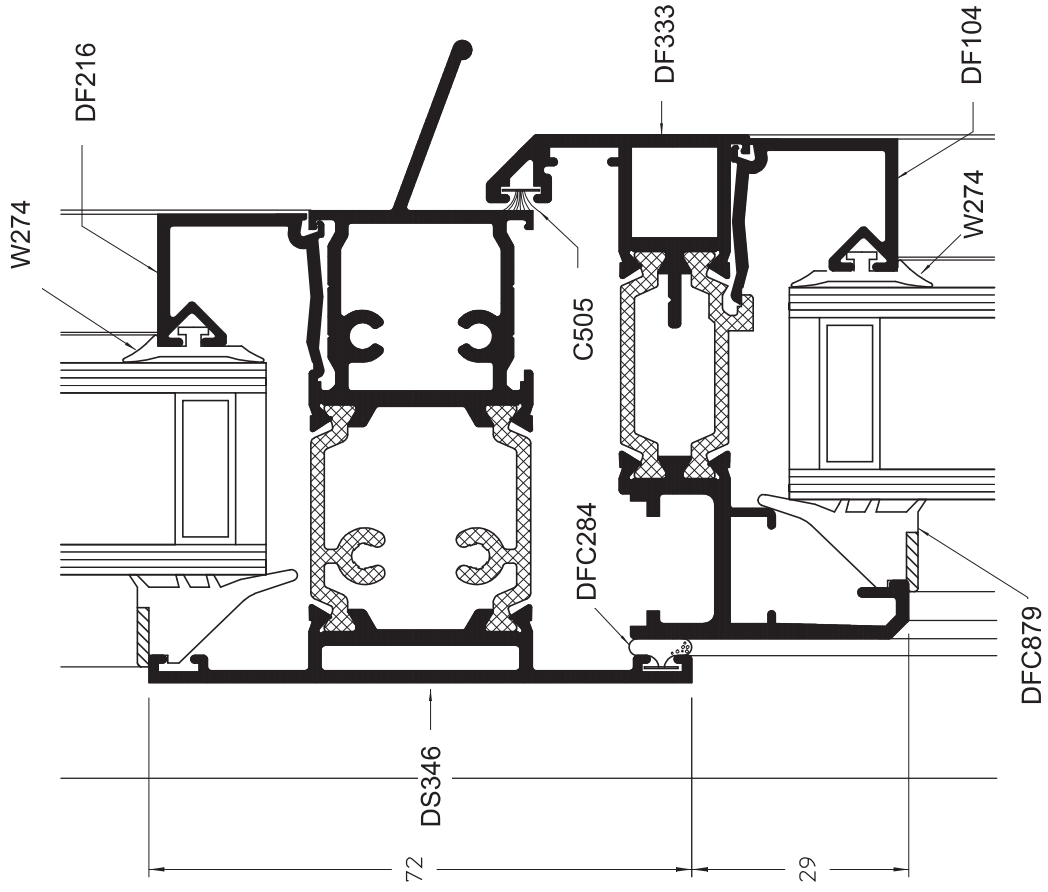
GENERAL ARRANGEMENTS

*Wide Softline Mullion/Transom with Softline Vent*

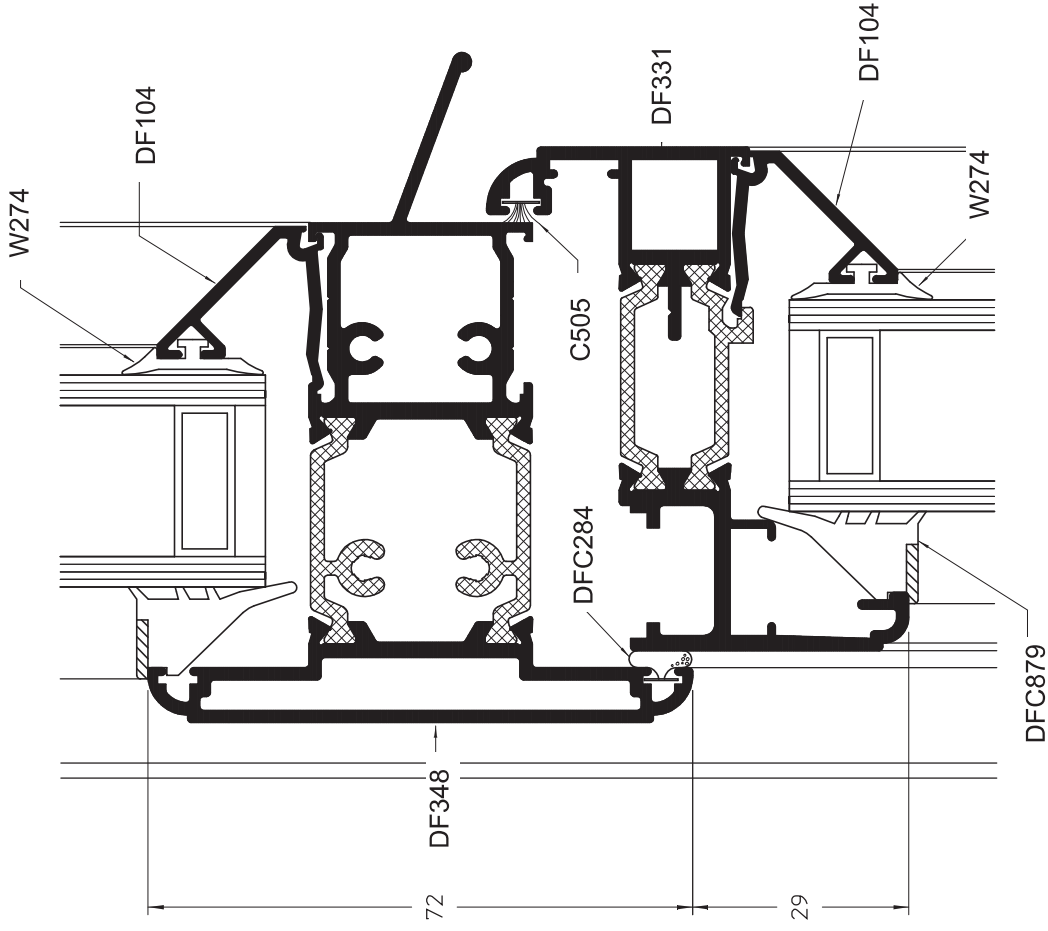
*Wide Square Mullion/Transom with Vent*



**Wide Square Transom with Drip**



**Wide Softline Transom with Drip**



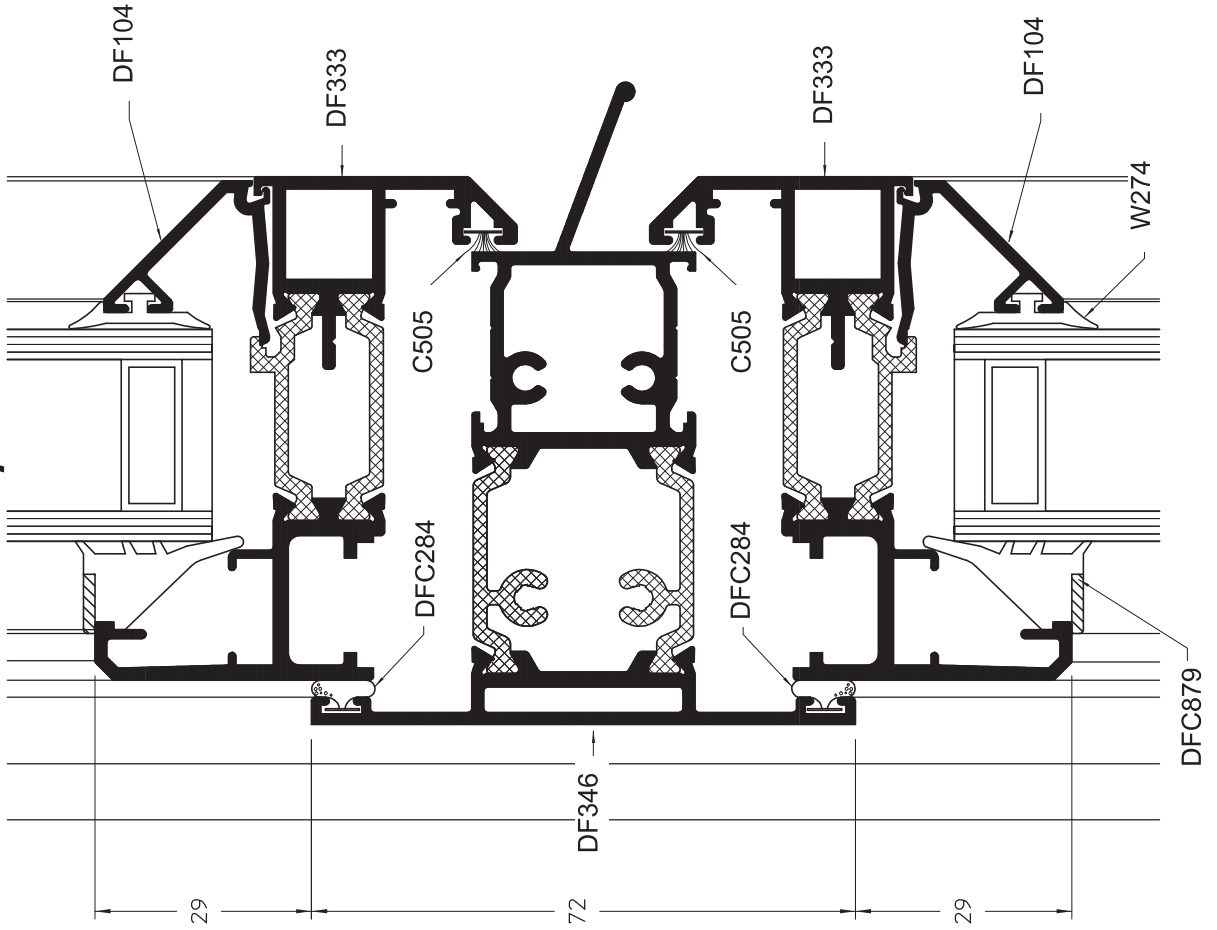


**DUALFRAME**

75mm Casement Window

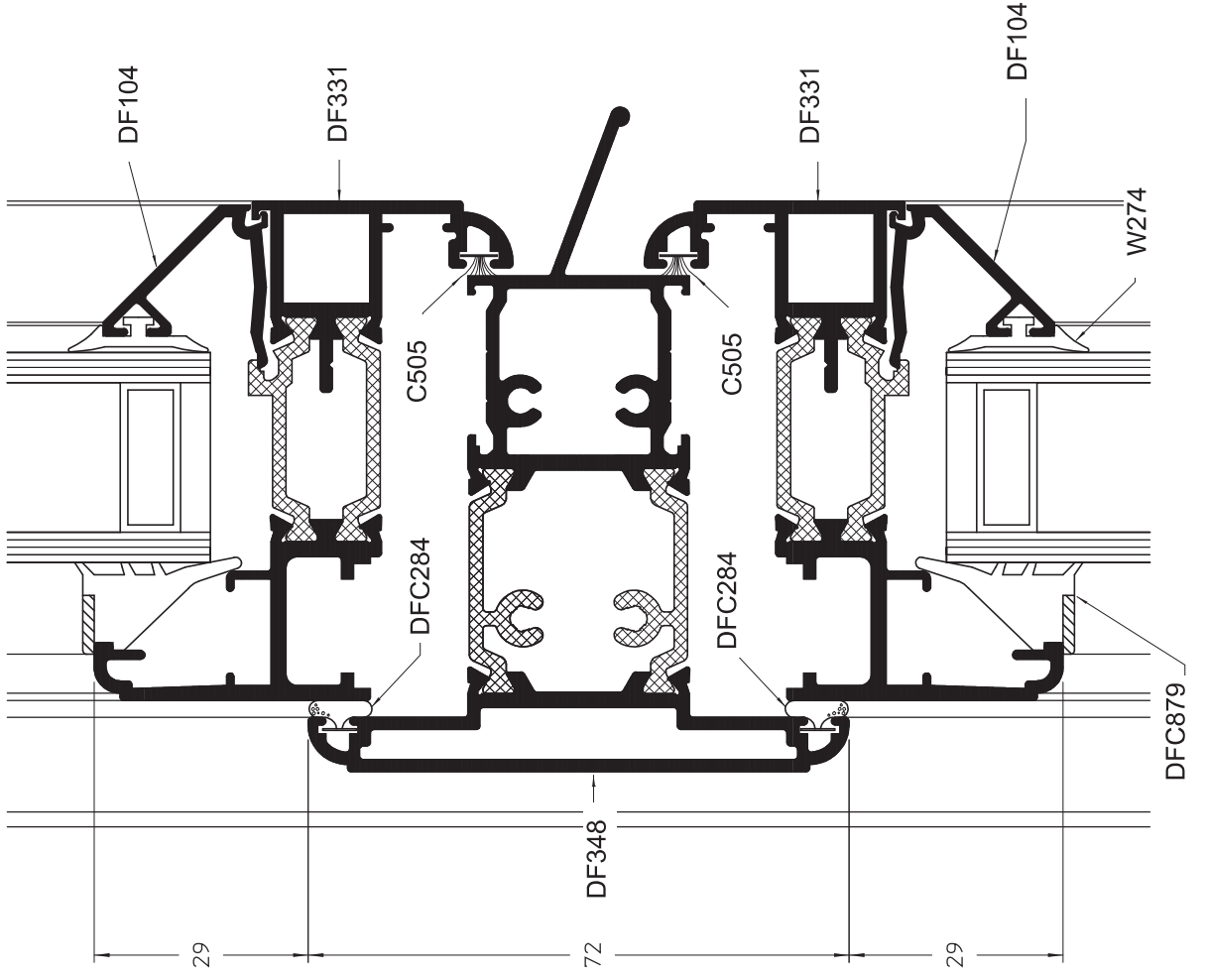
**Wide Square Transom with Drip Vent / Vent**

GENERAL ARRANGEMENTS

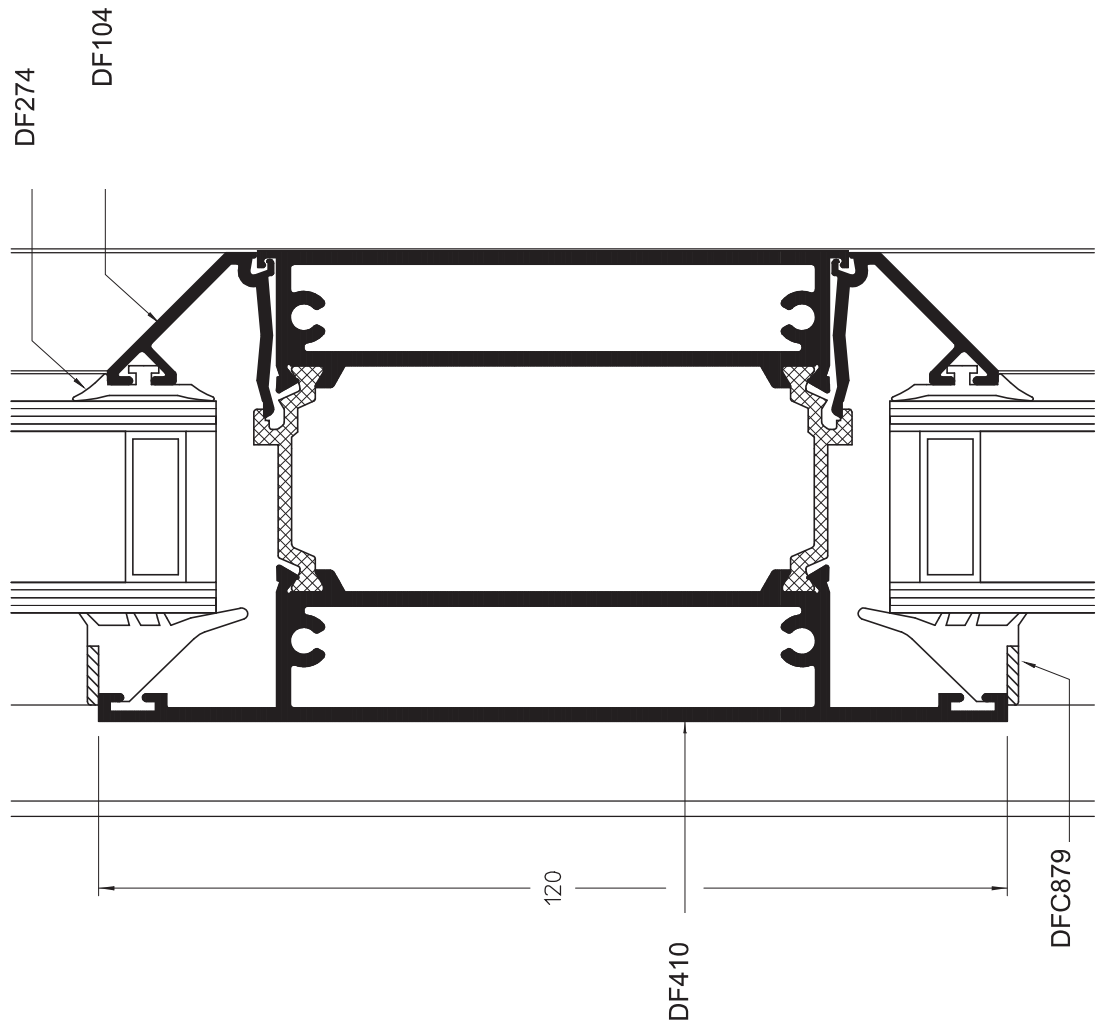


**sapa:**

**Wide Softline Transom with Drip Vent / Vent**



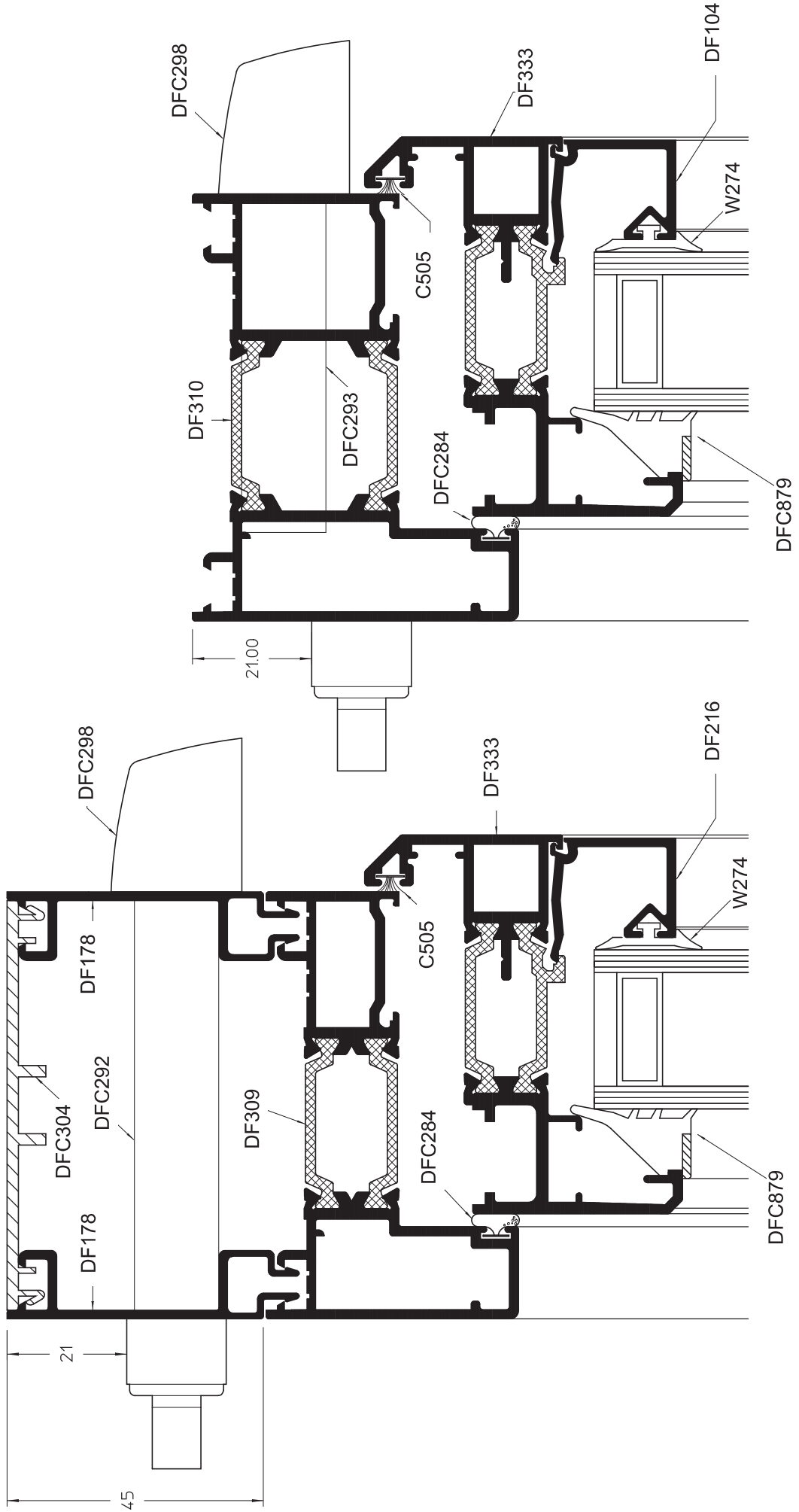
**120mm Midrail**



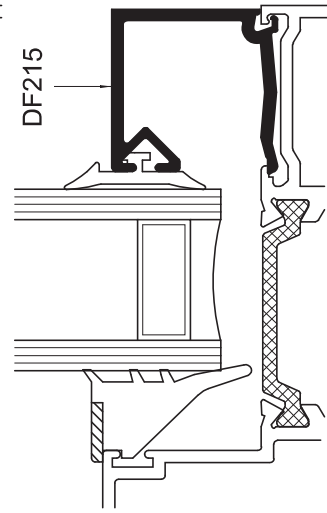
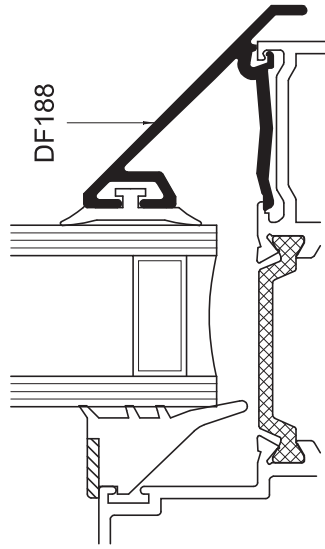
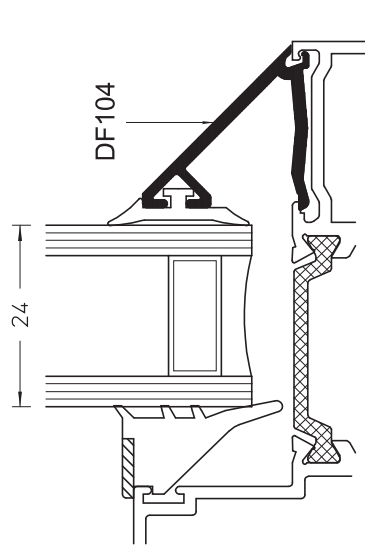
GENERAL ARRANGEMENTS

**Extended Outerframe / Trickle Vent**

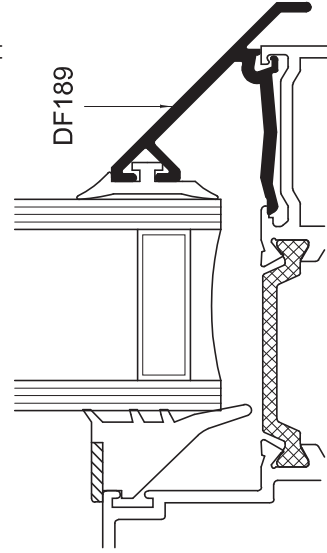
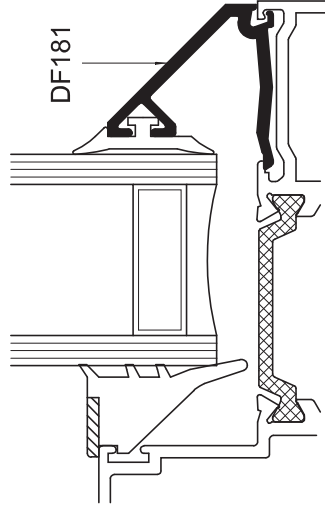
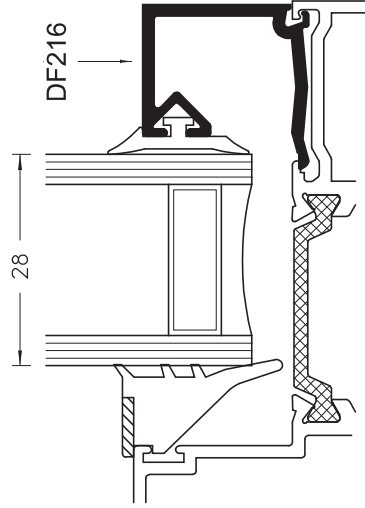
**Frame Extender / Trickle Vent**



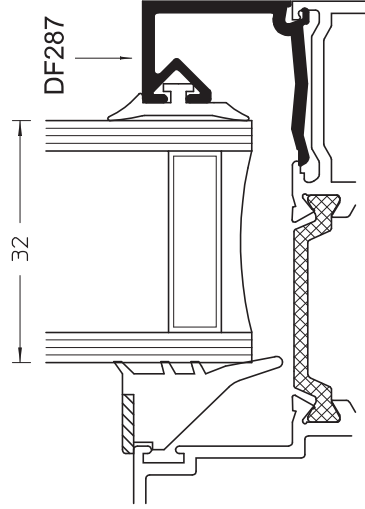
**24mm Glazing Bead Options**



**28mm Glazing Bead Options**



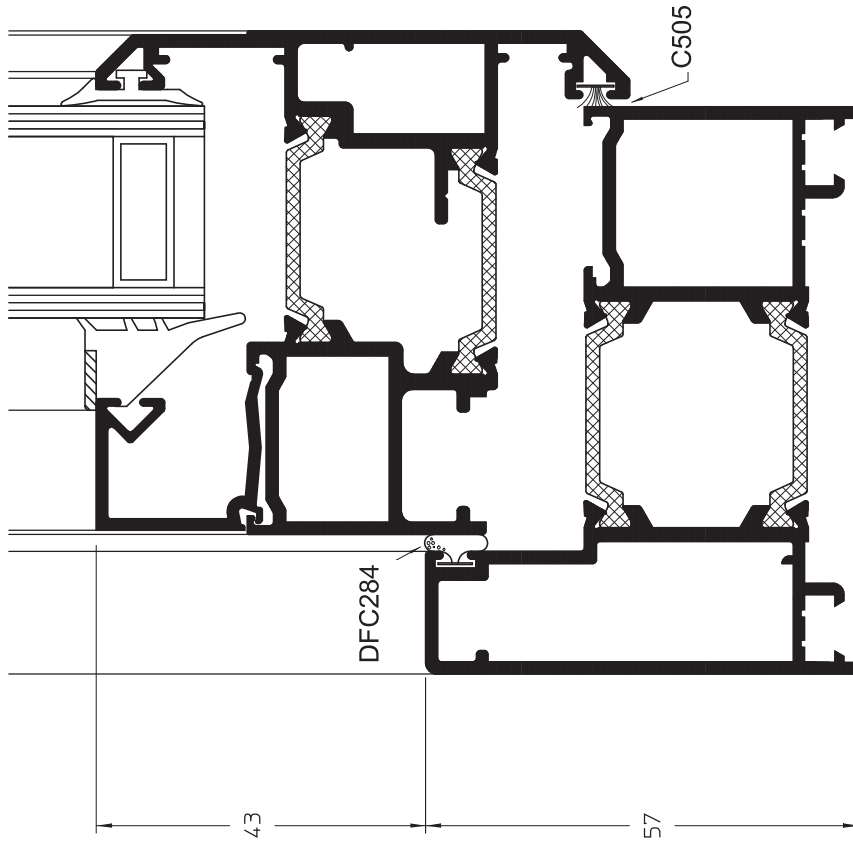
**32mm Glazing Bead Options**



GENERAL ARRANGEMENTS

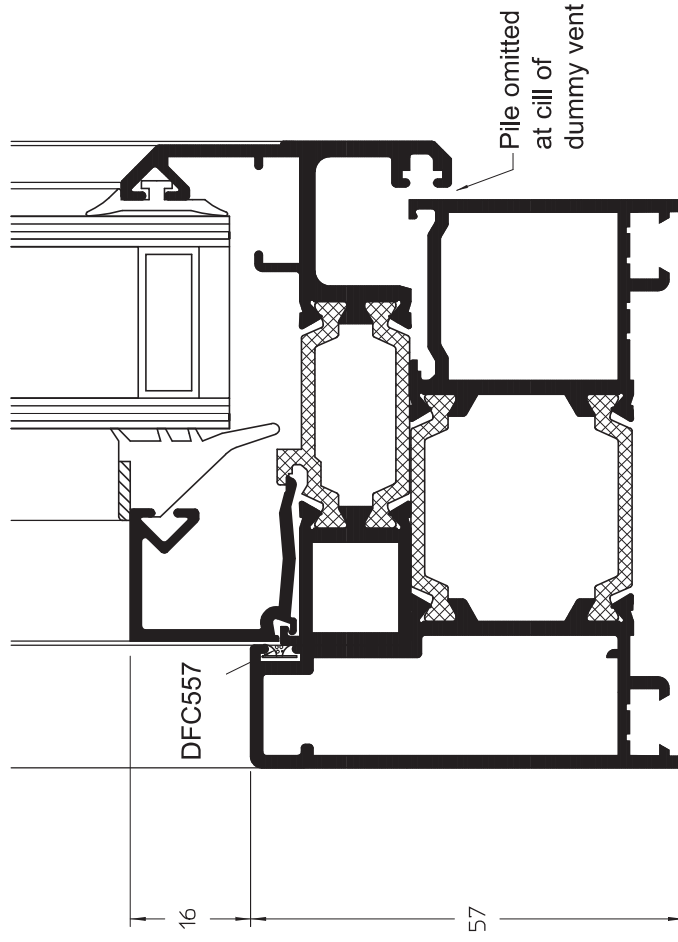
**Internal Glaze Vent**

(Showing Extended Square Frame & Square Bead)

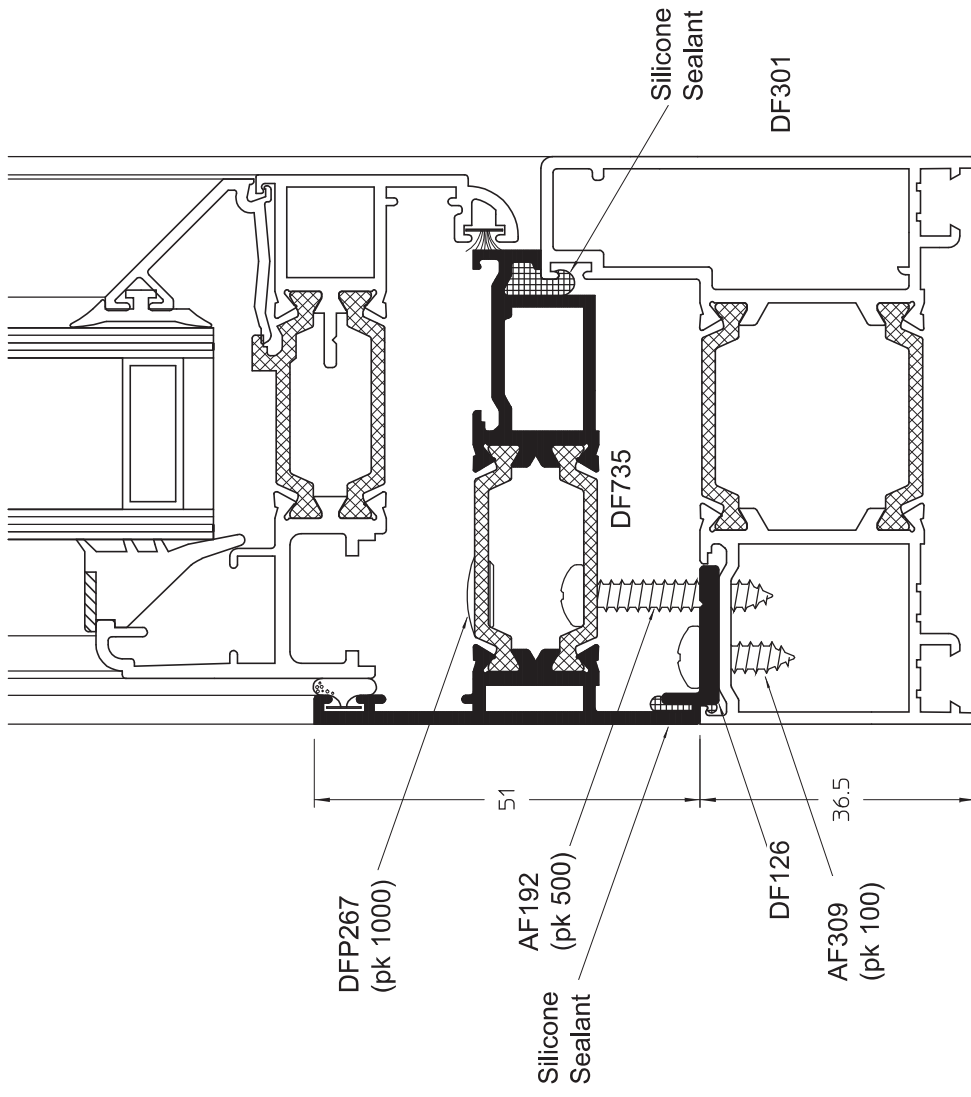


**Internal Glaze Dummy Vent**

(Showing Extended Square Frame - note that square beads must always be used with Internal Glaze Dummy Vent)



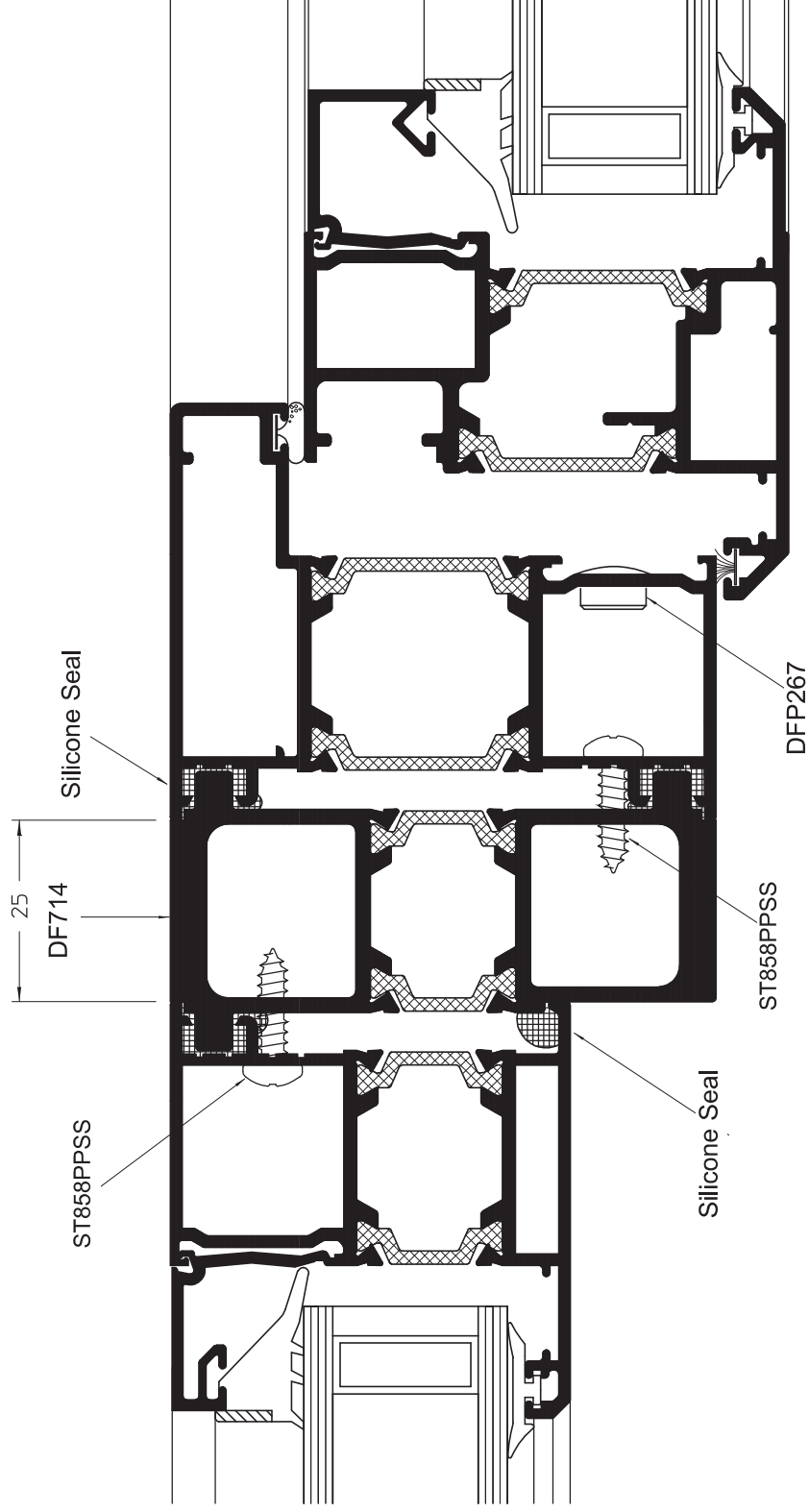
***Reverse Rebate Adaptor***



## GENERAL ARRANGEMENTS

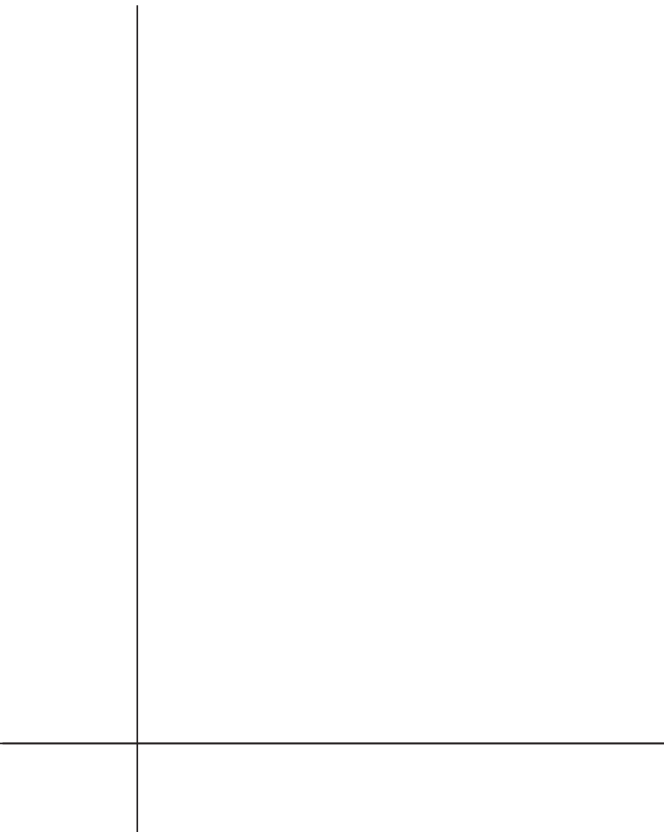
**55mm to 75mm Coupler**

(Showing extended square frame - Note for use with 55mm glaze in profiles only)



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