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December 2007

sapa:

buildingsystem

ARCHITECTURAL ALUMINIUM SOLUTIONS



Dualframe Window Wall & Facade Glazing

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 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, Dualfold sliding folding doors, glazed roofing and facades, 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 Window Wall is a suite of profiles which in conjunction with other elements of the Dualframe range can be used to construct high performance single and double storey window walling.

■ 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 for a range of opening light options.

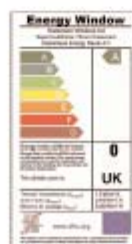
■ Application

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.

Frame members are mitre cut at 45 degrees. Corners are reinforced with extruded aluminium corner cleats. All joints are sealed against water entry during fabrication.

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 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.

Size Limitations

Fixed lights - Maximum area 5 sq.m

Opening lights - See relevant Dualframe Technical Data Sheets - available by contacting our Marketing Department on 01684 853500.

Hardware and Security

The hardware specifications available for the extensive Dualframe suite can be found by consulting the relevant Dualframe Technical Data Sheets - available by contacting our Marketing Department on 01684 853500.

Glazing

Drainage in accordance with details listed in this Dualframe Window Wall Technical Sheet 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.

Weather Performance

When tested in accordance with BS6375:Part 1: 1989 fixed lights listed in this Dualframe Window Wall Technical Data Sheet, when manufactured, installed and glazed strictly in accordance with Sapa Building Systems specifications will exceed exposure category '2400 Special' (see below).

Fixed lights:

Weather tightness 600 Pascals

Air permeability 600 Pascals

Wind resistance 2400 Pascals*

Opening lights:

This data can be obtained by consulting the relevant Dualframe Technical Data Sheets available by contacting our Marketing Department on 01684 853500.

*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 by using BS6399:Part 2 calculations and inertia values given on P6. Intermediate integral mullion/transom and coupling mullion strength requirements must be calculated using BS6399:Part 2 calculations and inertia values given on P6 and contained within the relevant Dualframe Technical Data Sheets.

Thermal Performance

Dualframe Window Wall and Facade Glazing 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.

Site Work

A 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.

- 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.







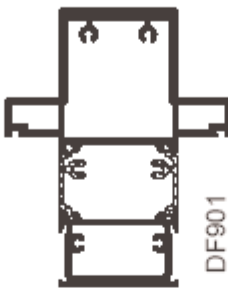


Backed by the resources of the Group, Sapa Building Systems Limited offers architects and specifiers a wide range of innovative aluminium systems for curtain walling, doors, windows and specialist applications. With a wealth of European knowledge and experience our company incorporates the highly respected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

PROFILE INERTIA VALUES

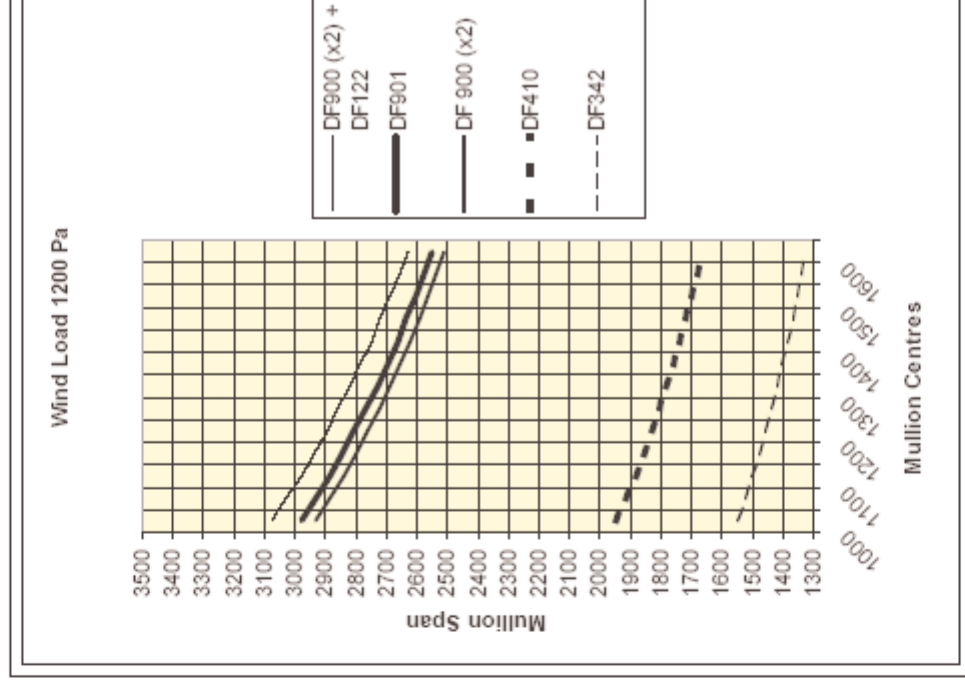
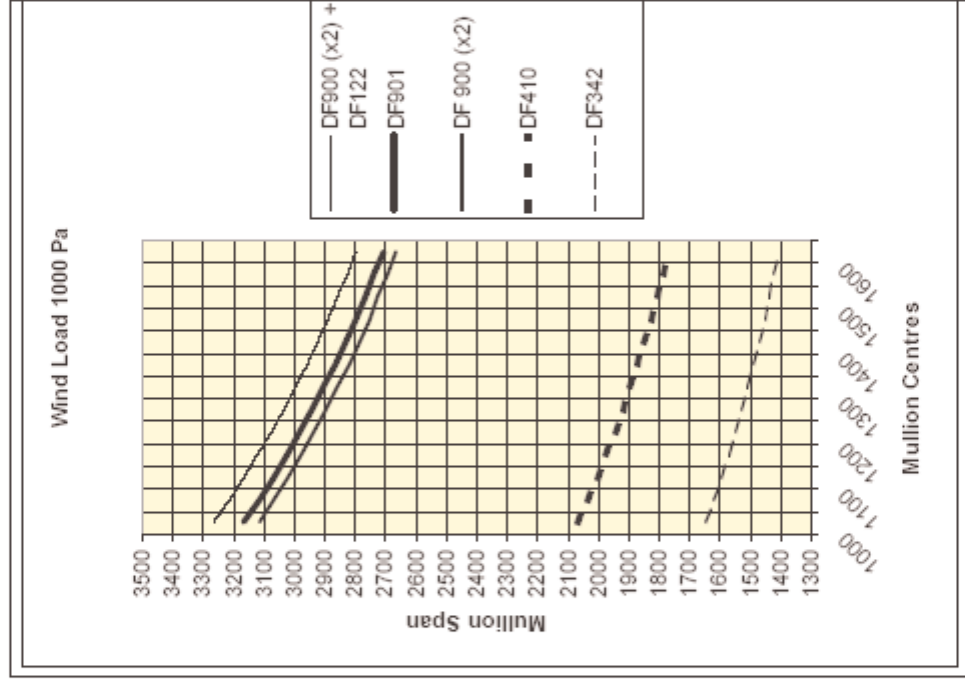
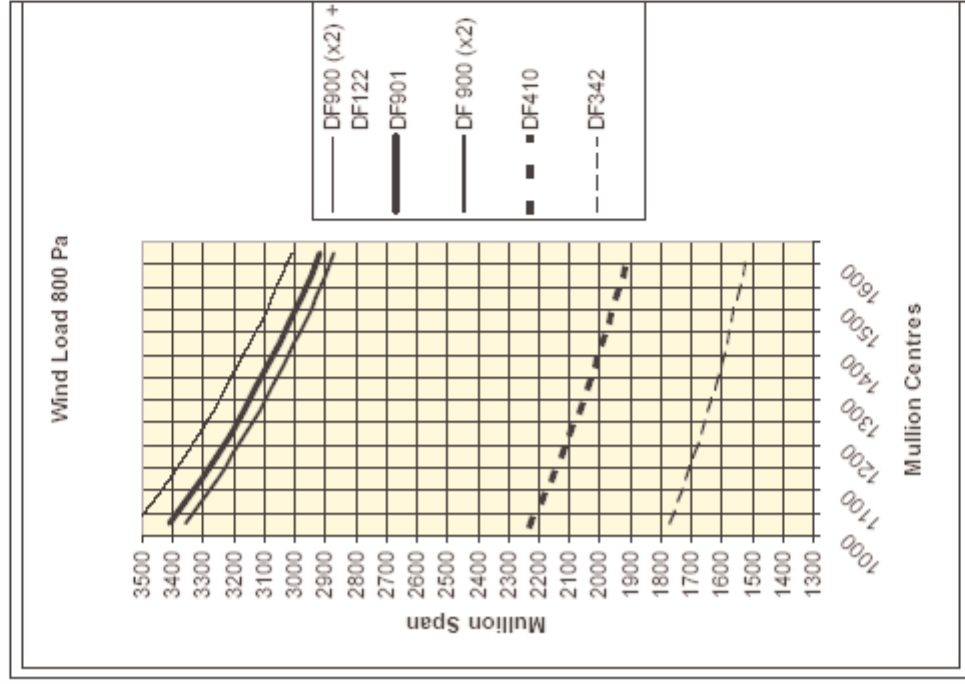
The information on this page shows the inertia values of baypoles and the coupling mullion. BS6399 Part 2 must be used to calculate the inertia required.

Profile	Inertia (mm ⁴)	
 DF122		161,075
		2,930

Profile	Inertia (mm ⁴)	
 DF309		165,465
		47,603
 DF310		227,945
		70,307
 DF342		155.242
		54.757

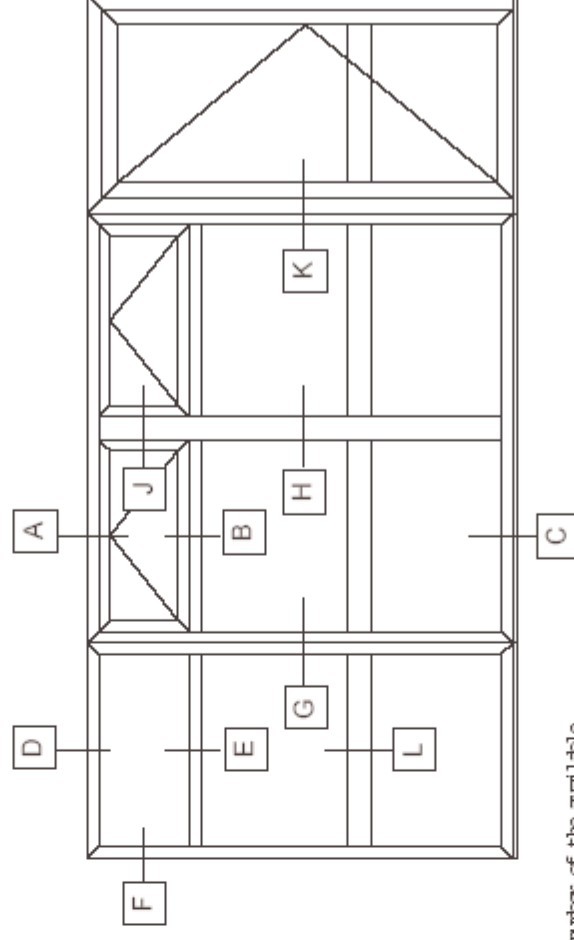
Profile	Inertia (mm ⁴)	
 DF410		456,318
		308,535
 DF900		525,523
		78,519
 DF901		1,101,772
		524,806

WIND LOADING SPAN CHARTS



GENERAL ARRANGEMENTS

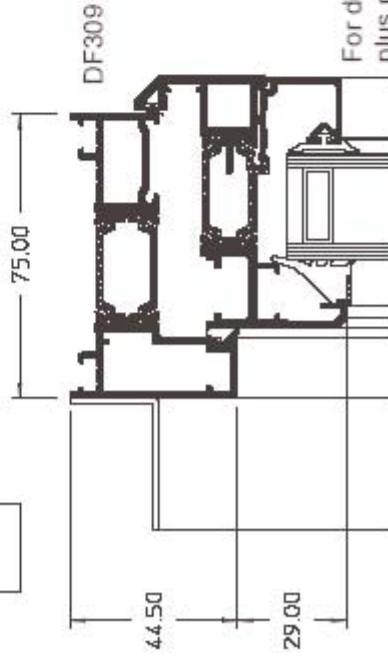
Detail	Elevation	Page
A	Head/Vent	9
B	Transom/Vent	9
C	Cill/Fixed Light	9
D	Head/Fixed Light	10
E	Transom/Fixed Light	10
F	Jamb/Fixed Light	10
G	Coupled Mullion	10
G	Coupled Expansion Mullion	10
H	Integral Mullion Fixed/Fixed	11
J	Integral Mullion Opener/Opener	11
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These drawings illustrate a number of the available profile combinations. Other combinations are available please consult Sapa Building Systems for further details.

A

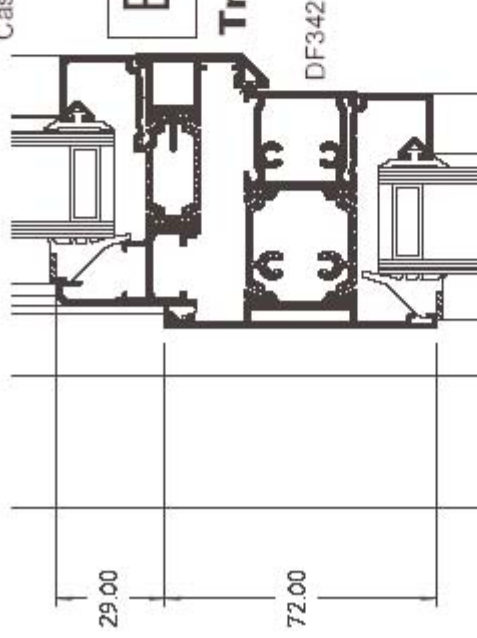
Head / Vent



For details of opening lights,
plus range of transoms,
see the Dualframe 75mm
Casement Product Manual

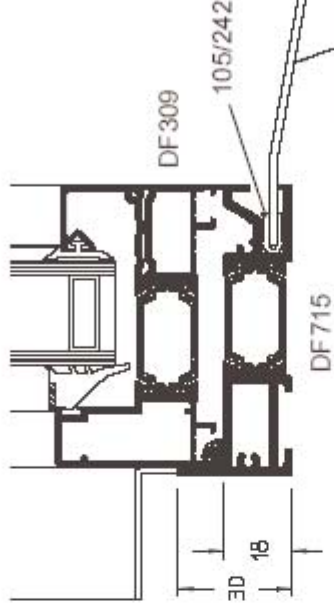
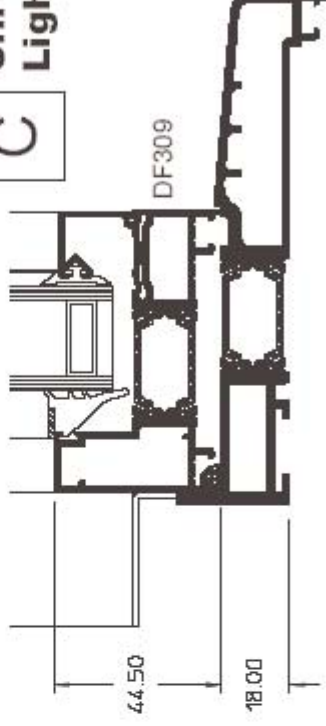
B

Transom / Vent



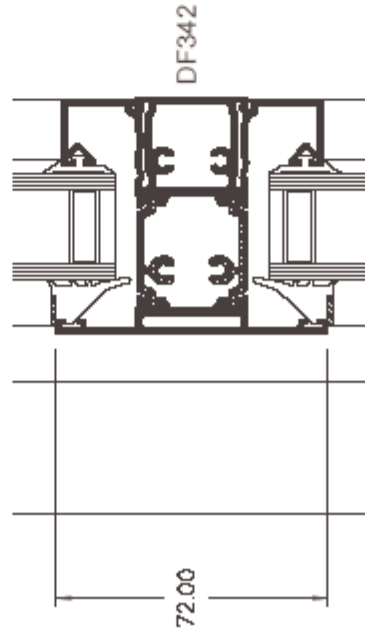
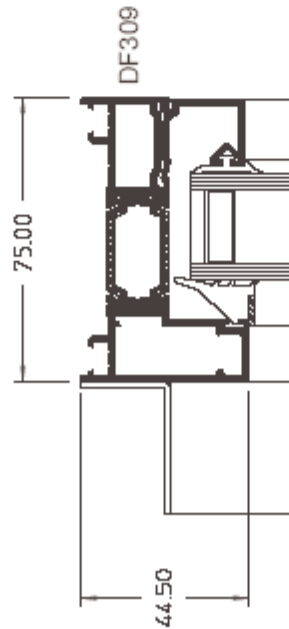
C

**Cill / Fixed
Light**

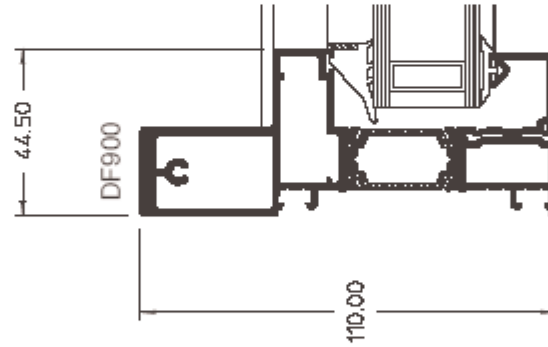
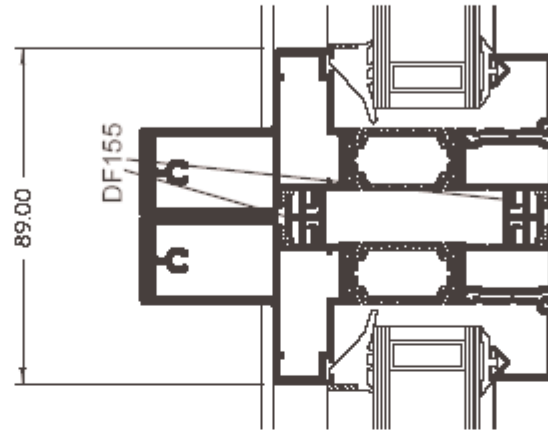
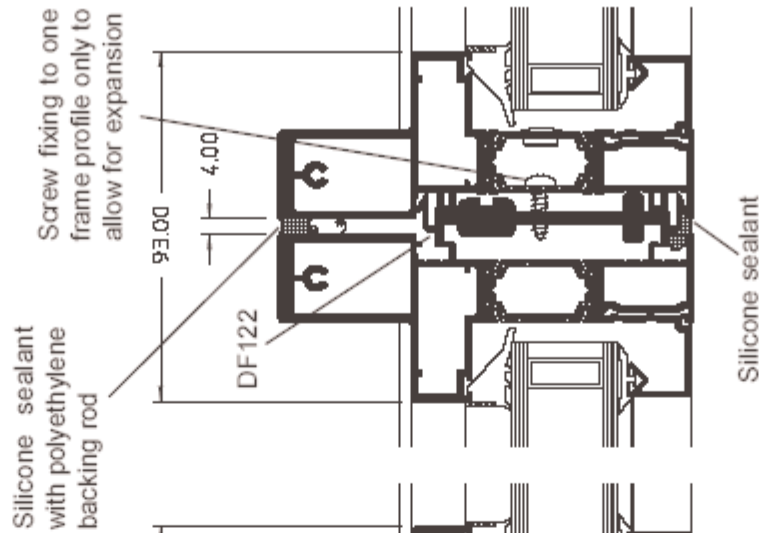


Pressed 14g Aluminium
Cill Nosing Not By Sapa

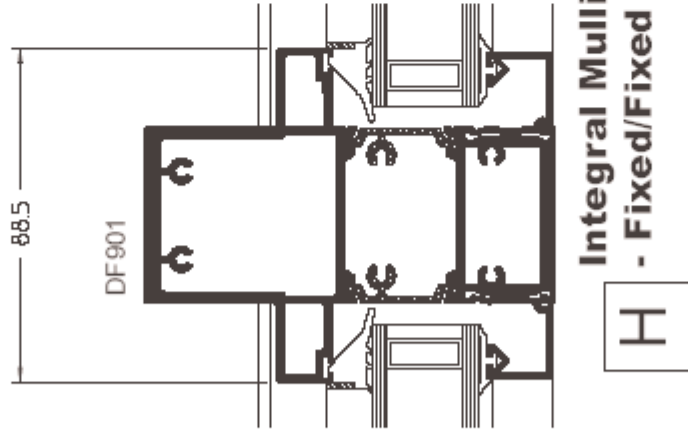
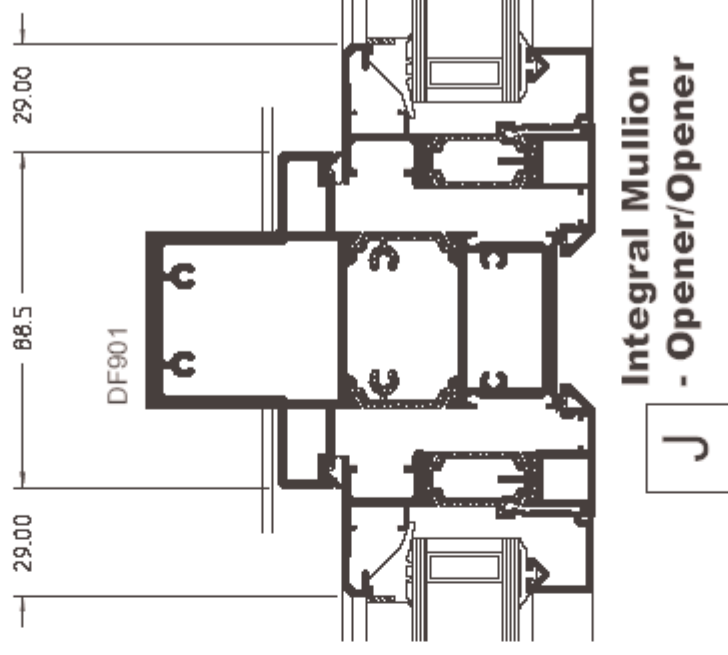
Cill / Fixed Light

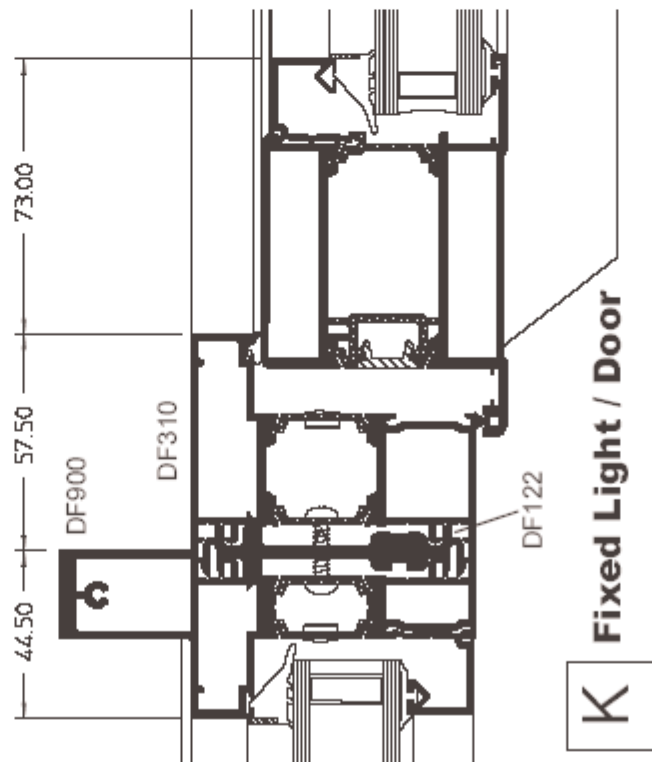
D Head / Fixed Light**E Transom / Fixed Light**

For details of bead and gasket combinations, plus range of transoms, see the Dualframe 75mm Casement Product Manual

**F Jamb / Fixed Light****G Coupled Mullion****G Coupled Expansion Mullion**

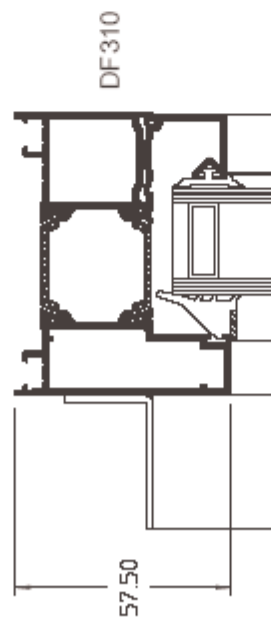
(For every 5 metres in length)



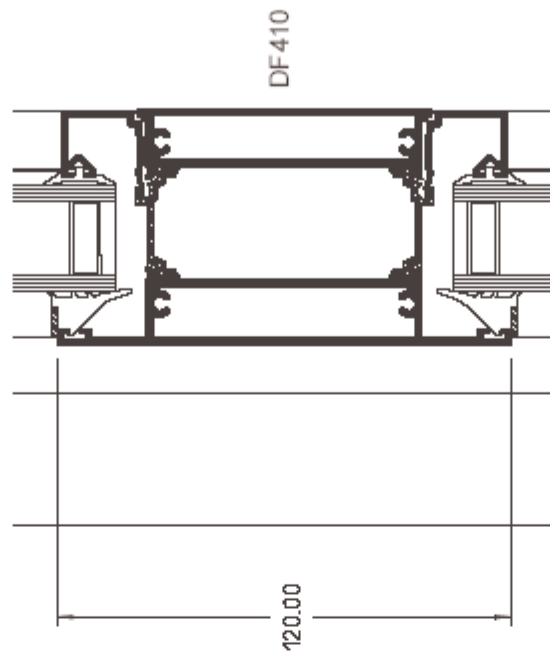
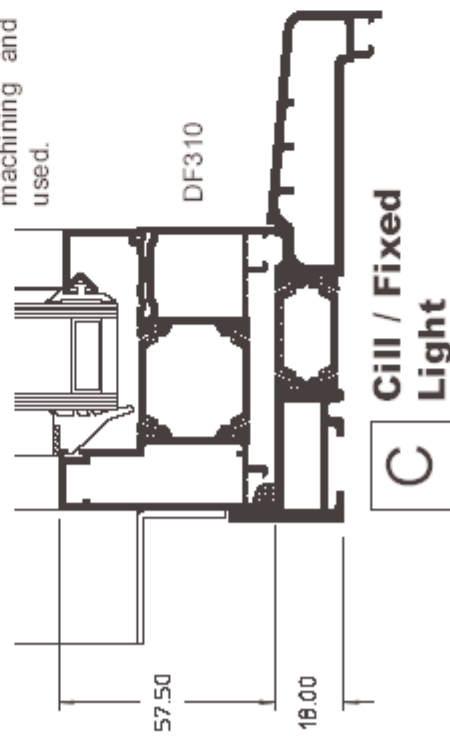


For details of door inserts, see the
Dualframe 75mm High
Performance Door Product Manual

D Head / Fixed Light

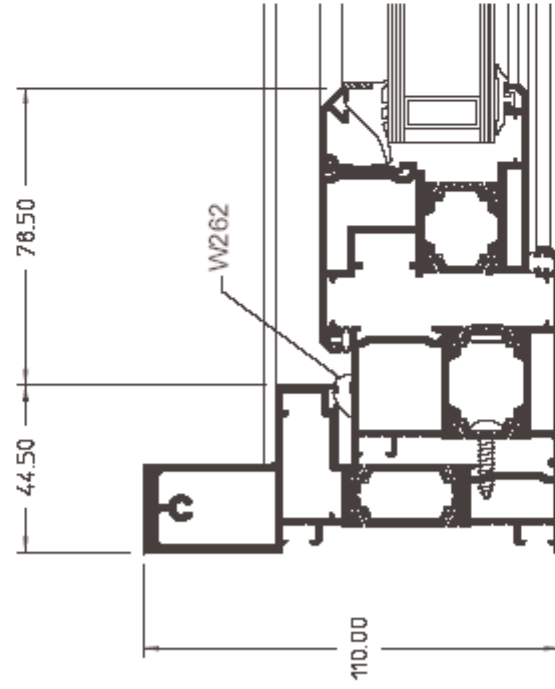


Alternative deep head and cill profiles. When using this configuration, the unequal cleat detail shown in machining and assembly must be used.



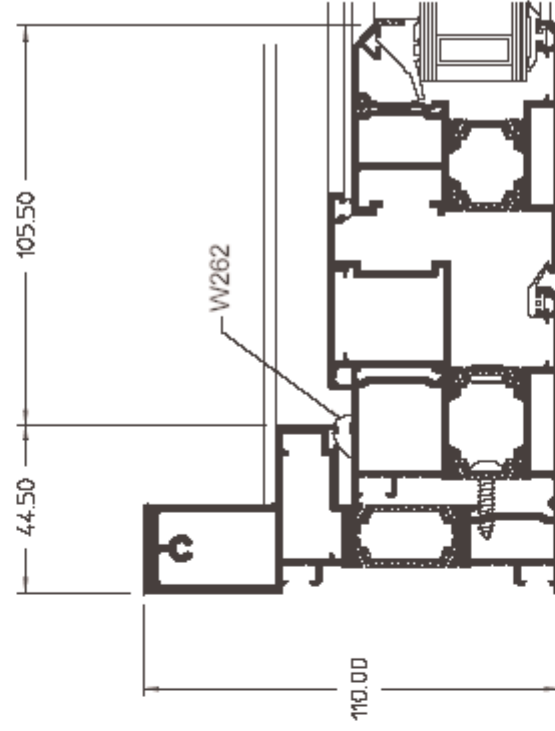
L Midrail / Fixed Light

For details of alternative cills, see the Dualframe 75mm Casement Product Manual. (DF703 shown)



Tilt Before Turn Insert

For details of TBT inserts, see the
Dualframe 55mm Tilt Before Turn
Window Product Manual

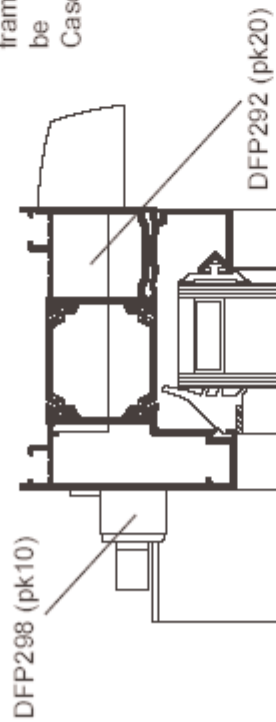


Pivot Insert

For details of Pivot inserts, see the
Dualframe 55mm Pivot Window
Product Manual

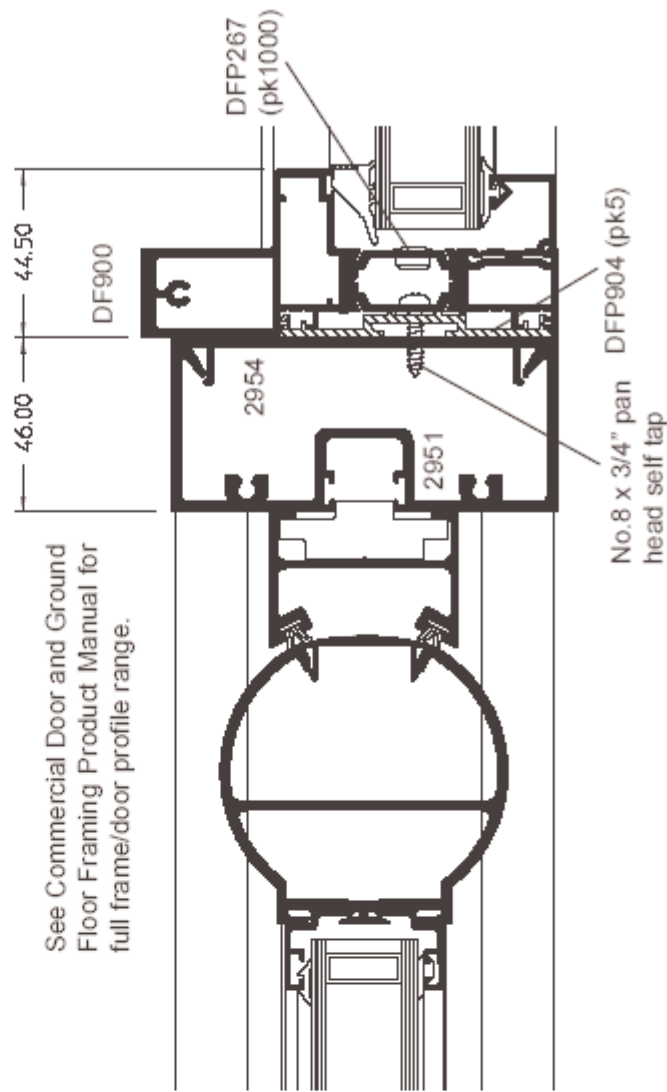
Trickle Vent / Head

DF310 outerframe profile shown. When using DF309 outerframe then frame extender profile DF178 must be used. See Dualframe 75mm Casement manual for further details.



202-Easyway Door / Fixed Light

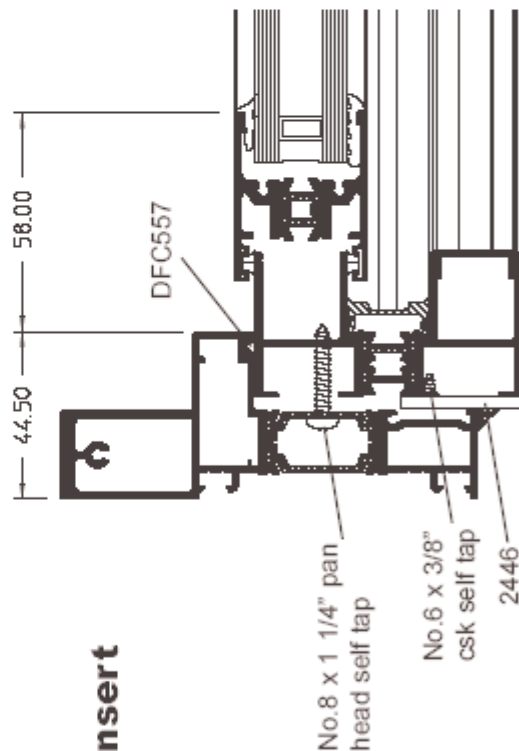
See Commercial Door and Ground Floor Framing Product Manual for full frame/door profile range.



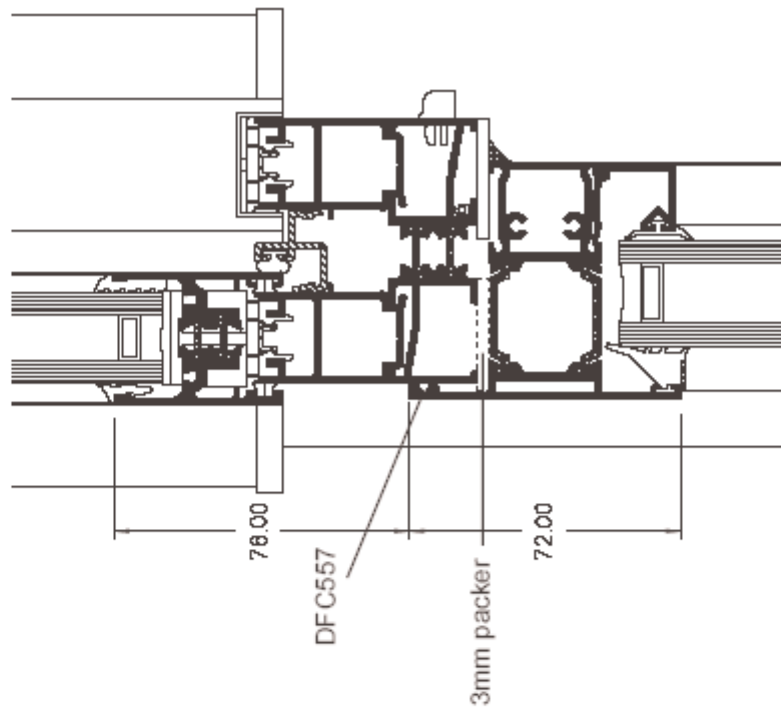
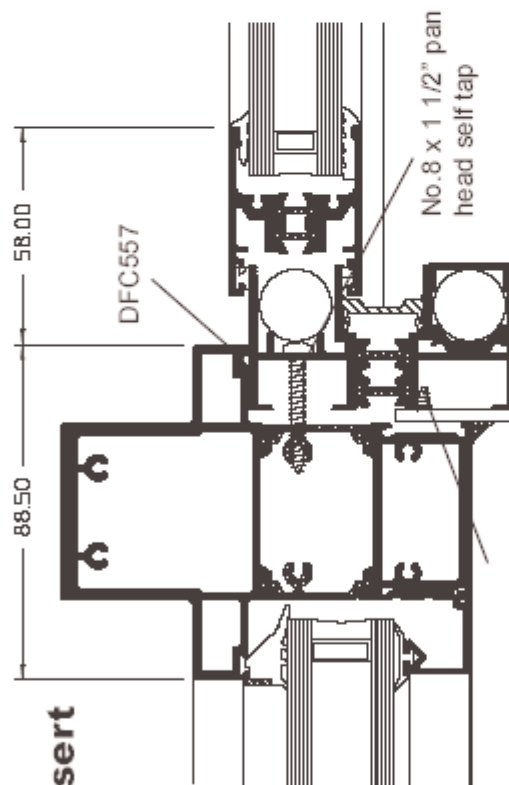
GENERAL ARRANGEMENTS

Horizontal Slider Insert

For details of Horizontal Sliding inserts, see the Dualframe Horizontal & Vertical Sliding Window Product Manual

**Vertical Slider Insert**

For details of Vertical Sliding inserts, see the Dualframe Horizontal & Vertical Sliding Window Product Manual

**Horizontal Slider Insert**

For details of Horizontal Sliding inserts, see the Dualframe Horizontal & Vertical Sliding Window Product Manual

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Window Wall

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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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