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CI/SfB (August 2011)	Xh4

August 2011

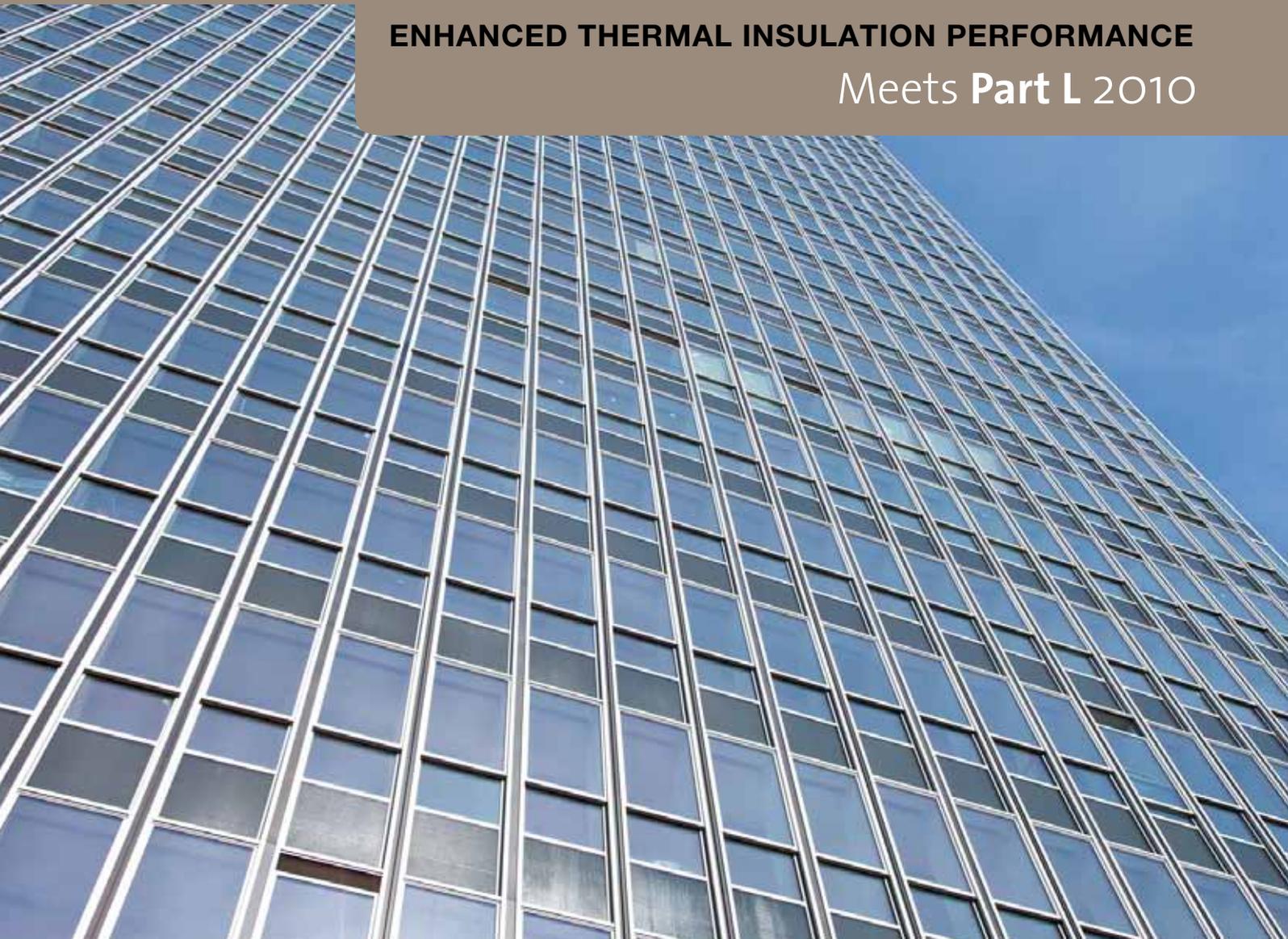
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ARCHITECTURAL ALUMINIUM SOLUTIONS

ENHANCED THERMAL INSULATION PERFORMANCE

Meets **Part L 2010**



Dualslide Horizontal and Vertical Sliding Windows

Technical Data Sheet

Dualslide Horizontal & Vertical Sliding Windows

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Dualframe/Dualslide range

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 2010 of the Building Regulations for both thermal insulation and air permeability and has been designed to be compliant with future anticipated changes. Where required, Dualframe 75mm Si Window 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, all of which can be combined to form composite units. Dualframe MFS (Modular Facade System) is a cost effective alternative to curtain walling for low rise facade applications.

Unique polyamide thermal barrier With integral bead retention leg to minimise projection of opening lights.

Accreditation: The accompanying Dualframe range includes other products such as casement and tilt/turn windows which 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, reversible, Dualframe doors and Dualframe Window Wall meet the Secured by Design specification.

Dualframe 75 casement can achieve an 'A' Window Energy Rating (WER) where required.

Aesthetics: Chamfered, Softline and flat vent 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' feature enables use of industry standard hardware, available from a variety of sources so that the product is competitive and easily maintained.

Product

Dualslide Vertical and Horizontal Sliding Windows

Design Variants

The suite of profiles can be constructed to form vertical sliding windows offering a tilt-in option to facilitate cleaning and horizontal sliding windows. An optional ligature resistant version uses a separate key to operate the catch.

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.

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



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Licence No. FM0114



BS 4873
Licence No. KM74159



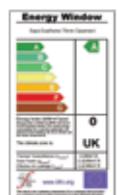
BS 7950
Licence No. KM74141



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



Official Police Security Initiative



ISO 14001
Certificate Number
EMS 562855

Materials

Aluminium profiles are extruded from aluminium alloy 6060 T6 complying with the recommendations of BS EN 755-9:2001. Polyester powder coat finishes are available to BS EN 12206-1:2004 in a wide range of colours.

Weatherstripping is polypropylene backed woven pile and polyurethane foam enclosed in a polythene sheath set in undercut grooves in the sash and / or frame.

The thermal barrier is achieved using polyamide extrusions separating the internal and external aluminium profiles.

Construction

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

Frame members are square cut and shouldered (where necessary). Joints are secured using stainless self tapping screws into screw ports extruded into the profile. All joints shall be sealed during fabrication against water entry.

Authority

BS4873: Aluminium Alloy Windows.

BS6375-1: Performance of windows: Classification for weather tightness 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.

BS3987: 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.

Site Work

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

Hardware & Security

Spring loaded spiral balances are used to support vertical sliding sashes. On tilt in sliders, moulded tilt latches with plated steel inserts enable the tilt operation (when specified) for cleaning from the inside. A pair of tilt restrictors with stainless steel arms and extruded aluminium slide pieces support the window in its tilt in position.

An optional die cast zinc pull ring can be added to top rails for high level operation with a suitable pole. Steel rollers housed in moulded nylon casings are used to support sashes on horizontal sliding units. Windows are secured using a concealed stainless steel hook catch operated by a die cast zinc lever. An optional ligature resistant version uses a separate key to operate the catch. Integral finger pulls are extruded into the sash profiles. On tilt vertical sliders and horizontal sliders, a push lock restrictor with removable key is available to restrict opening to less than 100mm on both sashes. The key is retained within the restrictor when in the un-restricted position. On straight vertical sliders, an Allen key operated restrictor is available to restrict opening of the bottom sash only to 100mm. An optional trickle ventilator at the head of vertical sliders or through the top rail of horizontal sliders is available.

Weather Performance

When tested in accordance with BS6375:Part 1:2009 and manufactured installed and glazed strictly to the enclosed details, will achieve the following weather performance

Tilt In Vertical Slider

Water Tightness	Class 7A (300 Pa)
Air Permeability	Class 3 (600 Pa)
Wind Resistance	Class A5 (2000 Pa)
Exposure Category**	2000

Straight Vertical Slider

Water Tightness	Class 6A (600 Pa)
Air Permeability	Class 3 (600 Pa)
Wind Resistance	Class AE (2200 Pa)
Exposure Category**	2200

Horizontal Slider

Water Tightness	Class 5A (200 Pa)
Air Permeability	Class 2 (300 Pa)
Wind Resistance	Class A5 (2000 Pa)
Exposure Category**	2000

** Exposure category varies with Width/Height of the window. An accurate figure for wind load can be obtained using BS6399:Part 2 this should be checked against the inertia values.

Thermal Performance

When calculated in accordance with BS EN 10077-2, the Dualslide window, will achieve the thermal transmittance shown in the tables below for various sizes, and centre pane U value. For intermediate sizes, use nearest size below actual. Where warm edge spacers are used, reduce U values shown by 0.1 W/m²K.

Sapa Dualslide windows comply with, and exceed, the thermal Uw requirements of the latest revision of Part L of the 2010 building regulations, with appropriate dgu infills. A WER band 'C' rating has also been achieved.

Product, size and configuration specific Uw values can be easily calculated with our Sapa Thermic Software.

Size Limitations - Vertical Sliders

Note : All sizes given are in millimetres.

Sizes shown are to illustrate balance options.

Purpose made window kits are produced within these limitations by Sapa. Sash width must not exceed 2.5 times the sash height (see diagram alongside). Larger sizes can be constructed depending on performance and windloading required – consult Sapa for details.

Size Limitations - Vertical Sliding Window Kits

Min sizes = 900mm High
595 Wide (Tilt)
565 Wide

Max based on weight and height to width ratio.

Spiral up to 18.0Kg per sash, Ultralift up to 27.0Kg Per sash, Torso up to 40.0Kg per sash. Note that the maximum sash weight for a tilt-in sash is 35Kg.

Balance examples below are based on 4-16-4 glass construction. sash sizes are equal unless specified. If window units are to be inserted into curtain walling specify the appropriate outerframe. Also consideration must be given to any subcill condition that may affect the overall aluminium frame size.

Window options available on request are:-

Window Construction - single units.

Outerframe - Standard or standard plus curtain wall adaptor

Window Finish - Single or Dual colour.

Balances - Spiral/Ultralift/Torso (option is weight dependent).

Sash Restriction - Releasable/locking restrictor.

Trickle Vents

Pullring

Heavy Duty Interlocker

	600	900	1200	1500
1100	***	***	***	
1300	***	***	***	**
1500	***	***	**	**
1700	***	***	**	*
1900	***	**	**	*
2100	***	**	*	*
2300	***	**	*	*
2500	***	**	*	
2700	***	**	*	

*** = Spiralift / Ultralift / Torso

** = Ultralift / Torso

* = Torso

Performance Data | Horizontal & Vertical Sliding Windows

Size Limitations - Horizontal Sliders

The standard product range limitations for the horizontal slider are shown below. Sizes shown are overall aluminium outerframe, consideration must be given to any special subcill conditions that will affect the overall frame size. Note limitations regarding proportional parameters - Sash height must not exceed 2.5 times the sash width, units outside this limitation are marked with a 'x' in the kit size range matrix. Sub and top lights cannot be integral to the horizontal sliding unit and must be produced as a separate unit and attached via one of the available couplers.

Max Width : 3100mm (3 Pane Slider)
 2300mm (2 Pane Slider)
 Max Height : 1500mm (Dependent On Windload)
 Max Weight : 40Kg per panel

Size Limitations - Horizontal Sliding Window Kits

Min sizes = (Standard top) 575mm High
 (Deep) 590mm High
 2 pane 915mm Wide
 3 pane 1365mm Wide

Purpose made windows kits are produced within these limitations by Sapa.

Total window options on request are:-

Outerframe - Standard or standard plus curtain wall adaptor.
 Window Finish - Single or Dual colour.
 Panel Restriction - Releasable/locking restrictor.
 Trickle Vent - Through top rail of sash (min rail width = 500mm).

Note : The 3 pane slider has two outer panes and one inner pane on the left hand side (viewed from outside). All horizontal windows are manufactured with equal pane sizes only.

2-Pane Slider Size Range

Note : If glazing with two sheets of 6mm (or greater), those units marked '**' are over 40Kg in weight and are therefore over the maximum sash weight.

	900	1100	1300	1500	1700	1900	2100	2300
600								
900								
1200								*
1500								
					*	*	*	

3-Pane Slider Kit Size Range (For Pricing)

	2100	2300	2500	2700	2900	3100
600						
900						
1200						
1500						
				*	*	*

Project Consultancy

Our field based Project Consultants, working with our in-house technical services department, 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.

Specification Process

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.

Partnership Approach

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.

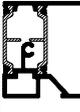
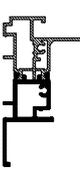
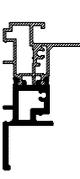
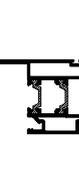
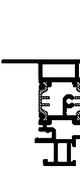
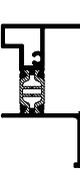
Sapa Group

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, Sapa Group has extensive multisite 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 we have the product range and service that incorporates the highly respected 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 are recognised as an Investor in People. Sapa Building Systems is committed to the environment and has a strong CSR agenda. To this the company has now been awarded BS EN ISO 14001.

[For specification assistance or details of fabricators & installers, please call our Marketing Team on 01684 853500.](#)

NOTE - 'A' and 'B' ref in brackets after some profiles relates to reference for SP/SP finish only

Illustration	Part No.	Description	Illustration	Part No.	Description	Illustration	Part No.	Description
	DF195	Curtain Wall Rebate Adaptor Profile		DF1132	Cill Trim (HS)		DF1307	Outer Stile (Tilt VS)
	DF1107	Interlock Capping		DF1300 (A)	Cill (VS)		DF1308	Jamb (Straight VS / HS)
	DF1116	Head Trim (VS)		DF1300 (B)	Head (VS)		DF1309	Stile (Straight VS) Top Rail (HS)
	DF1117	Outer Interlock Insulator		DF1301	Jamb (Tilt VS)		DF1310	Head & Cill (HS)
	DF1118	Bead		DF1302	Bottom Rail (VS)		DF1312	Recessed Finger Pull Top Rail (Straight VS) Stile (HS)
	DF1122	Track (HS)		DF1303	Inner Interlock		DF1383	Heavy Duty Inner Interlock
	DF1125	Sash Stop (Straight VS)		DF1304	Inner Stile (VS) Top / Bottom Rail (HS)		M666	Sash Stop (Tilt VS)
	DF1128	Cill Trim (VS)		DF1305	Outer Interlock		DF704	155mm Sub Cill
	DF1131	Meeting Stile Adaptor (HS)		DF1306	Top Rail (VS) Stile (HS)		DF705	190mm Sub Cill

Profile Inertia Values

Dualslide Horizontal & Vertical Sliding Windows

This page gives information on the inertia values of the framing profiles calculated in accordance with BS EN 14024 : 2004. BS6399 Part 2 must be used to calculate the inertia value required.

The table below gives Ixx values for varying spans of profile. Select the nearest span BELOW the actual span and use the Ixx shown to compare against the Ixx required.

Span (mm)	Ixx (mm ⁴)																	
	600	700	800	900	1000	1100	1200	1300	1400	1500	2000	2100	2200	2300	2400	2500	2600	2700
 DF1300	53,900	243,808	279,216	315,239	350,997	385,659	418,637	449,969	479,061	506,132	531,024							
	All	600	700	800	900	1000	1100	1200	1300	1400	1500							
 DF1301	147,400	451,534	492,781	531,631	568,498	602,498	634,020	663,712	690,571	715,385	738,119	759,576	778,674	796,475	813,523	828,024	842,202	855,121
	All	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	2600	2700
 DF1308	98,000	511,931	554,075	594,530	632,901	669,367	703,443	735,497	765,437	793,060	819,057	842,904	865,297	885,890	904,787	922,636	939,265	954,503
	All	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	2600	2700
 DF1310	106,700	549,178	595,399	640,172	683,047	723,902	762,647	799,045	833,521	865,478	895,569	923,140	949,311	973,695	995,897	1,017,072	1,036,486	1,054,990
	All	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	2600	2700

Frame Width (VS) Frame Height (HS) (mm)	Wind Load									
	600Pa	800Pa	1000 Pa	1200 Pa	1400Pa	1600Pa	1800Pa	2000Pa	2000Pa	2000Pa
600	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
700	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
800	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
900	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1000	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1100	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1200	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1300	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1400	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1500	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1600	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1700	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

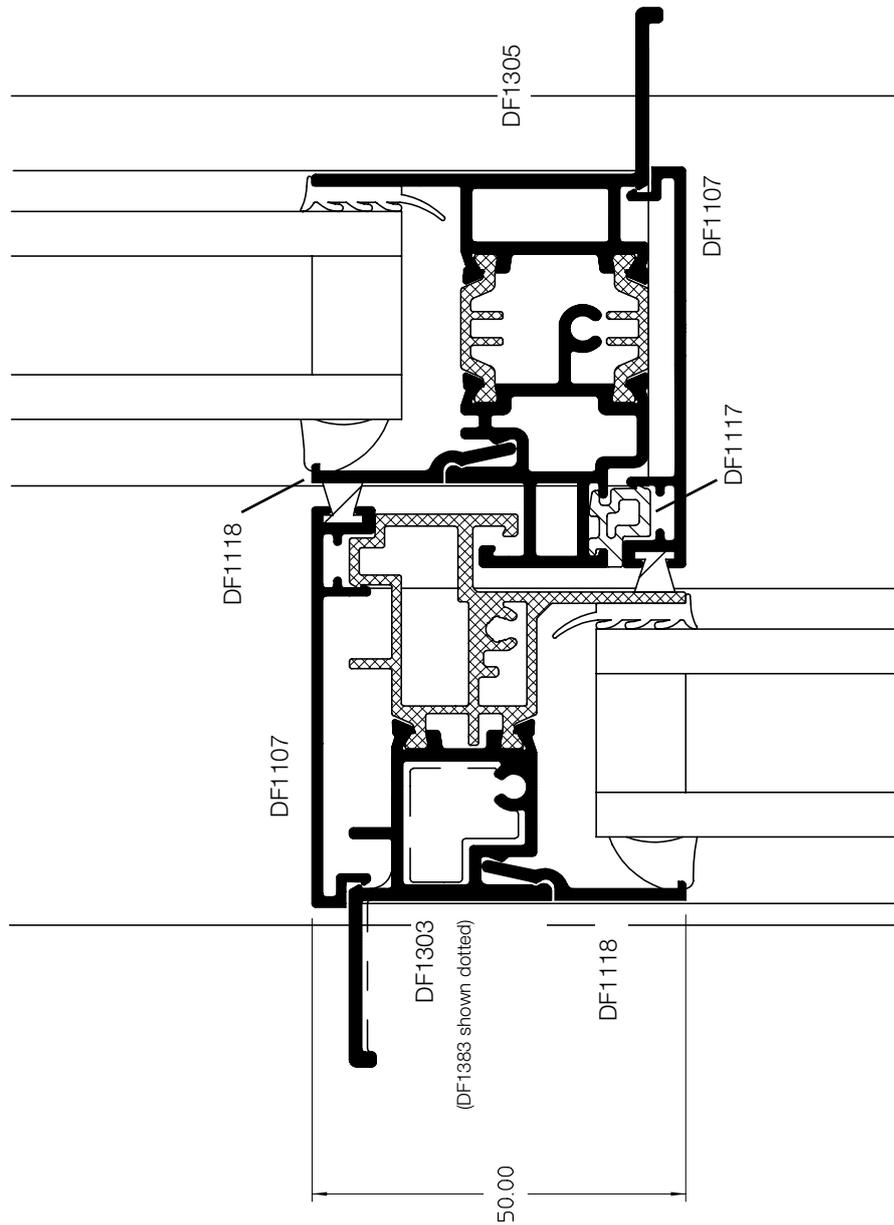
For the interlock assembly, the table below alongside the overall width (VS) or height (HS) of outframe which can be achieved for various wind loads.

Consideration must also also given to maximum sash weight for the type of spring balance being used, or roller capacity, when determining overall sizes.

*Using HD Interlock



Interlock (Straight and tilt vertical slider)



General arrangements | Dualslide Vertical Sliding Window

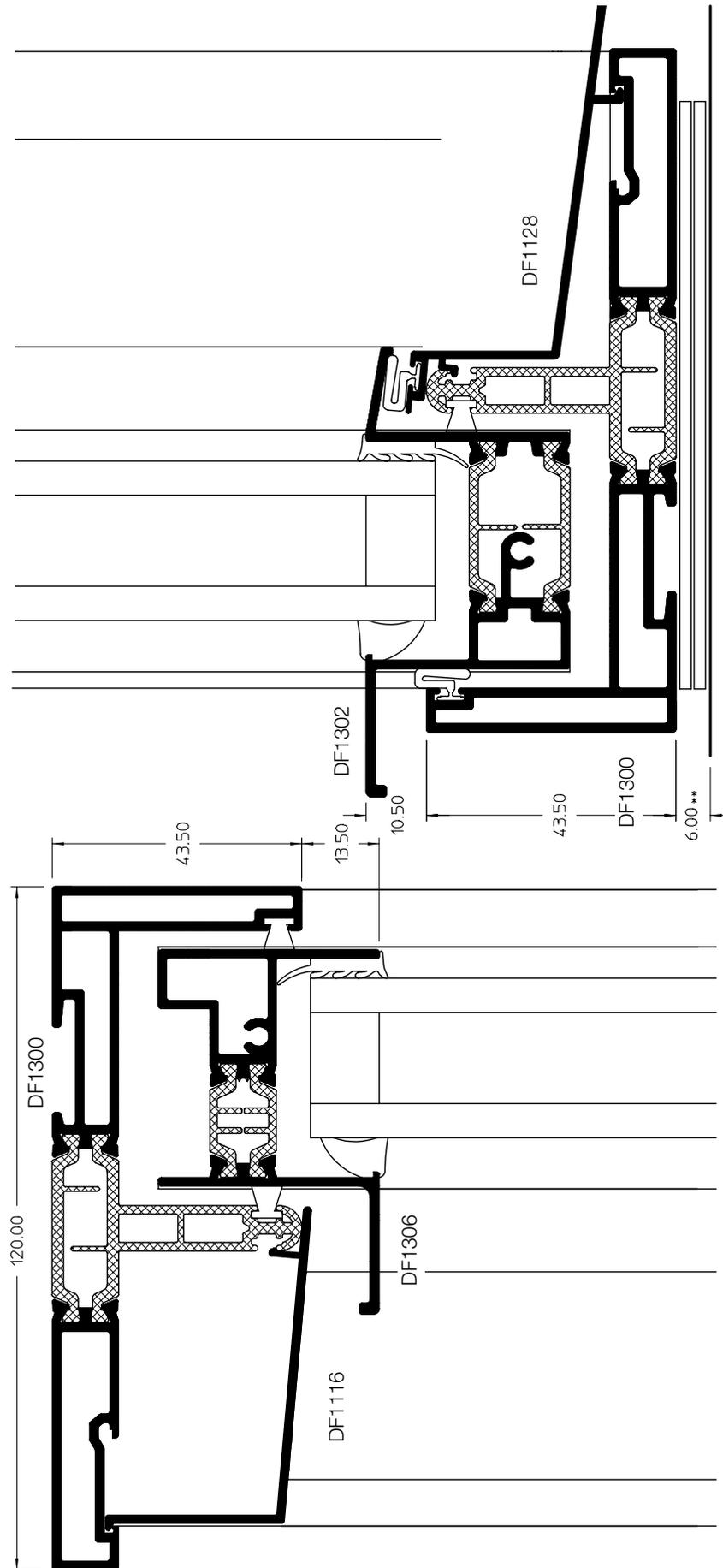
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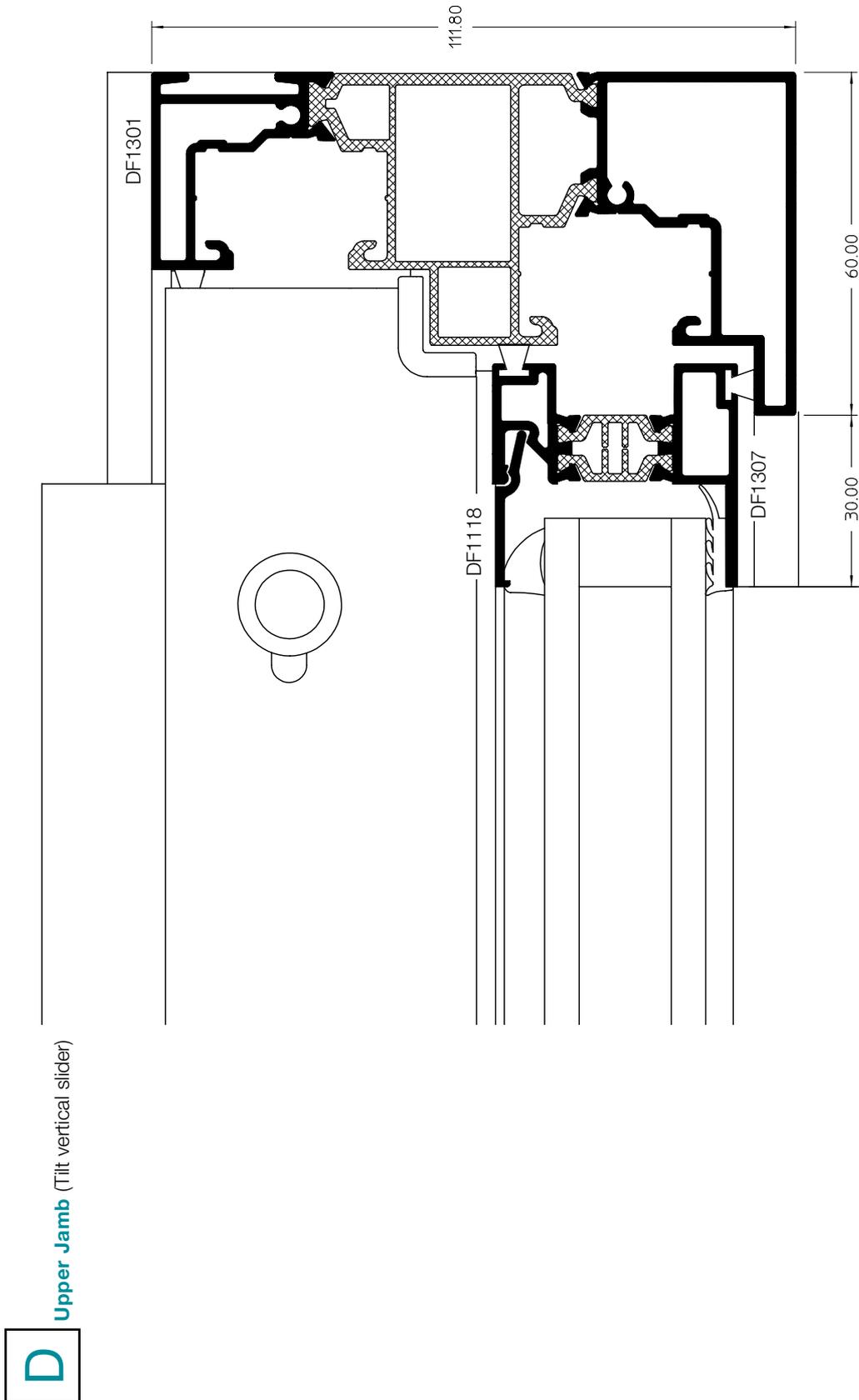
Head (Straight and tilt vertical slider)

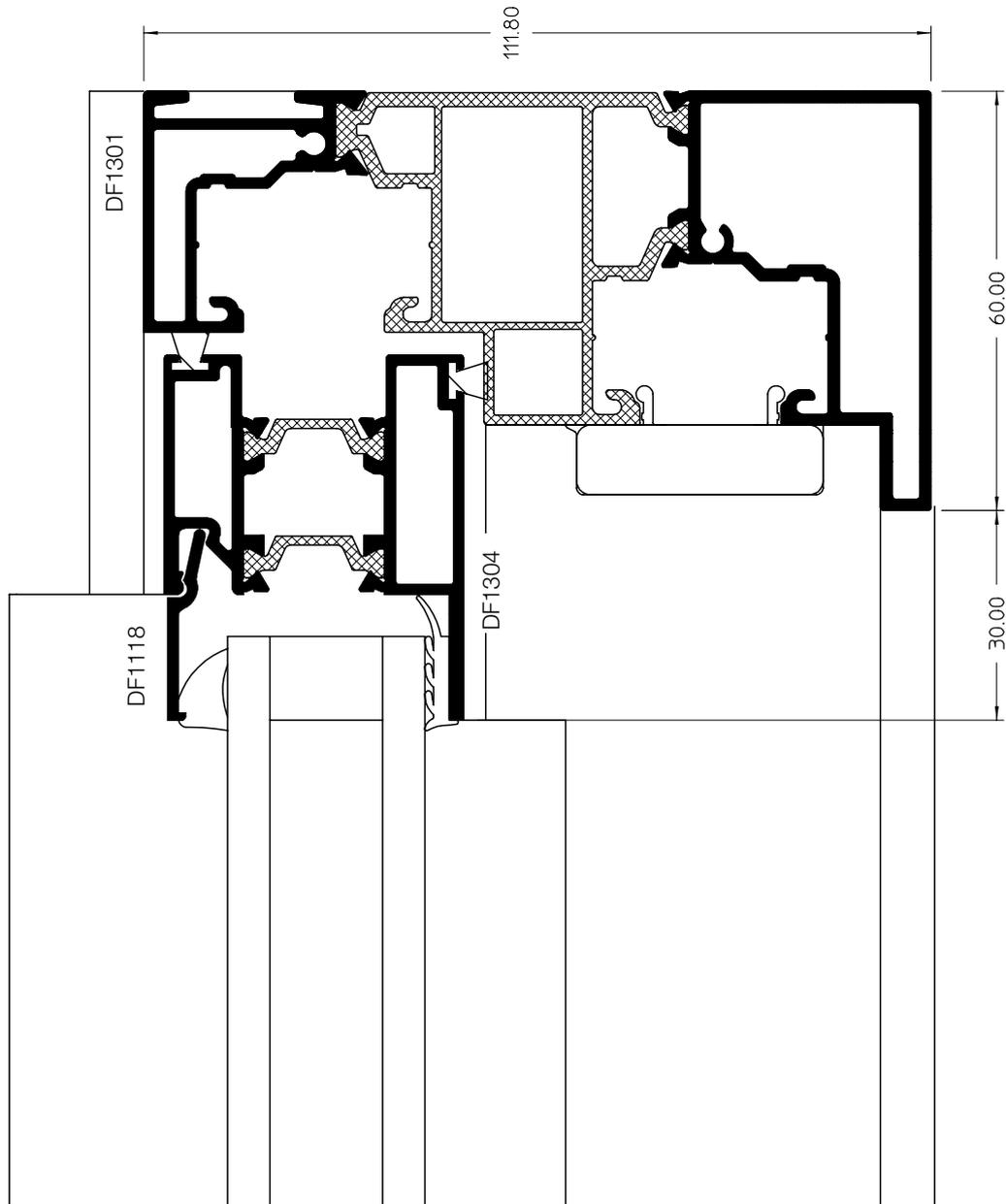
C

Cill (Straight and tilt vertical slider)

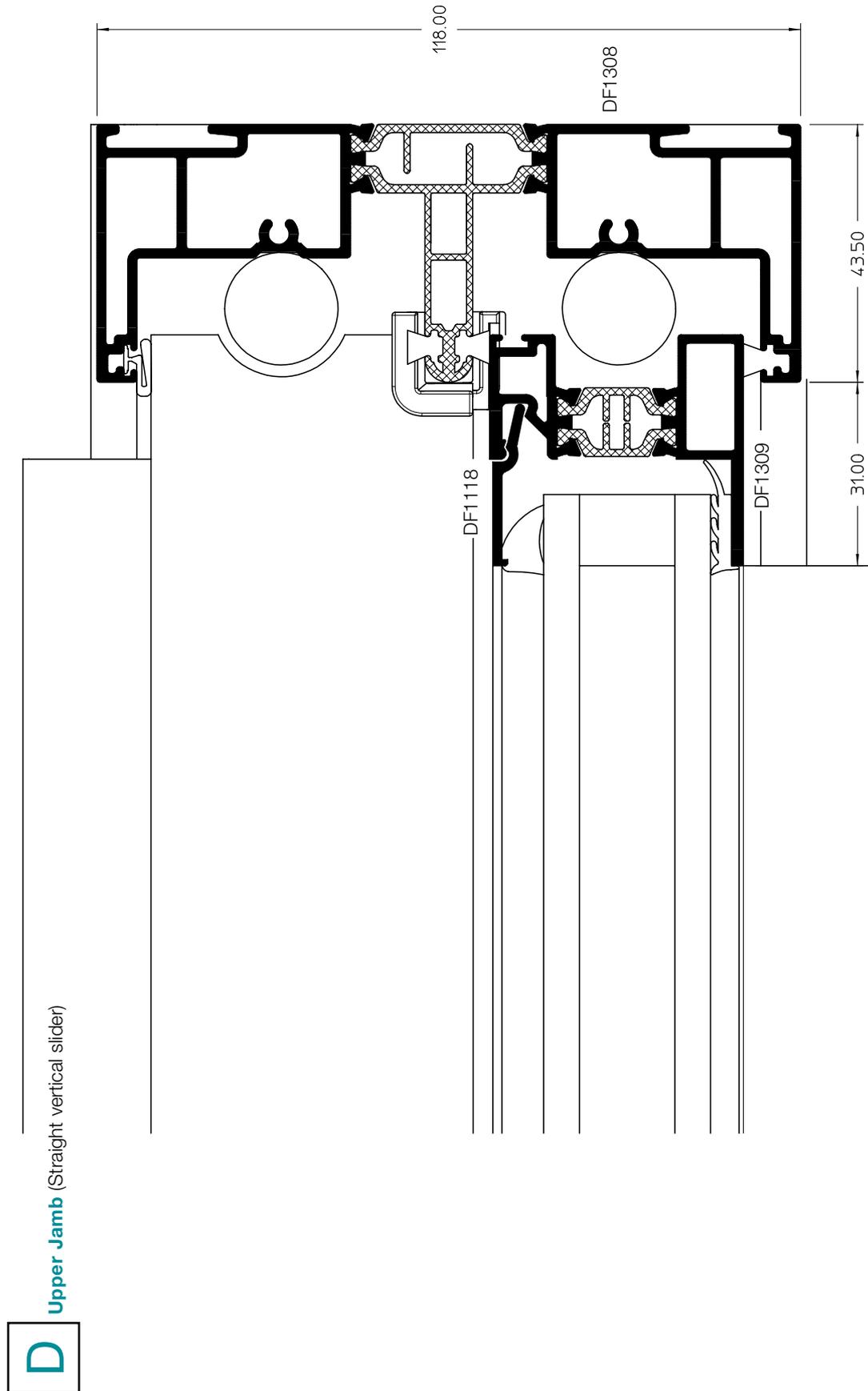
** NOTE min 6mm clearance required at cill to allow drainage

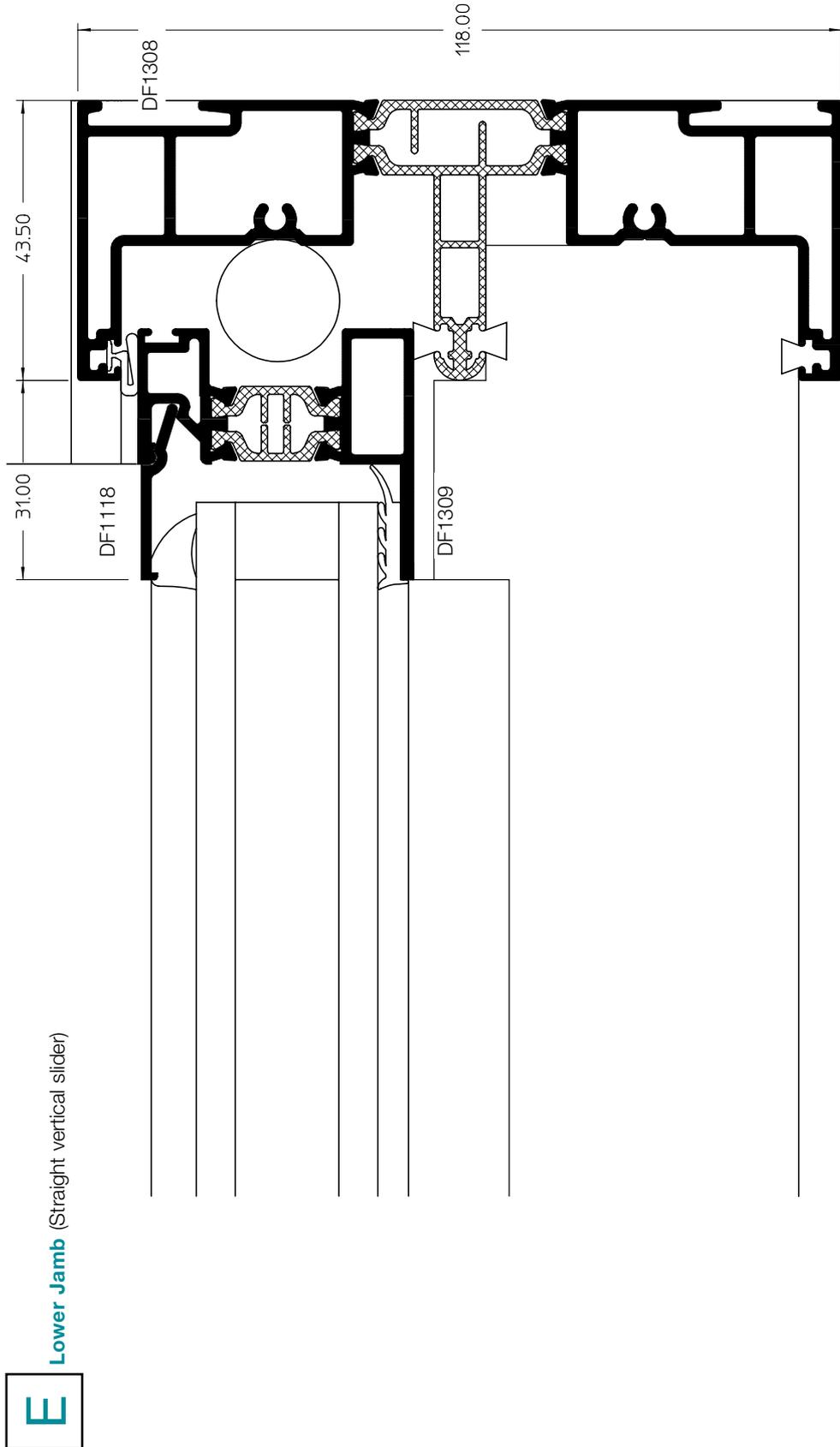


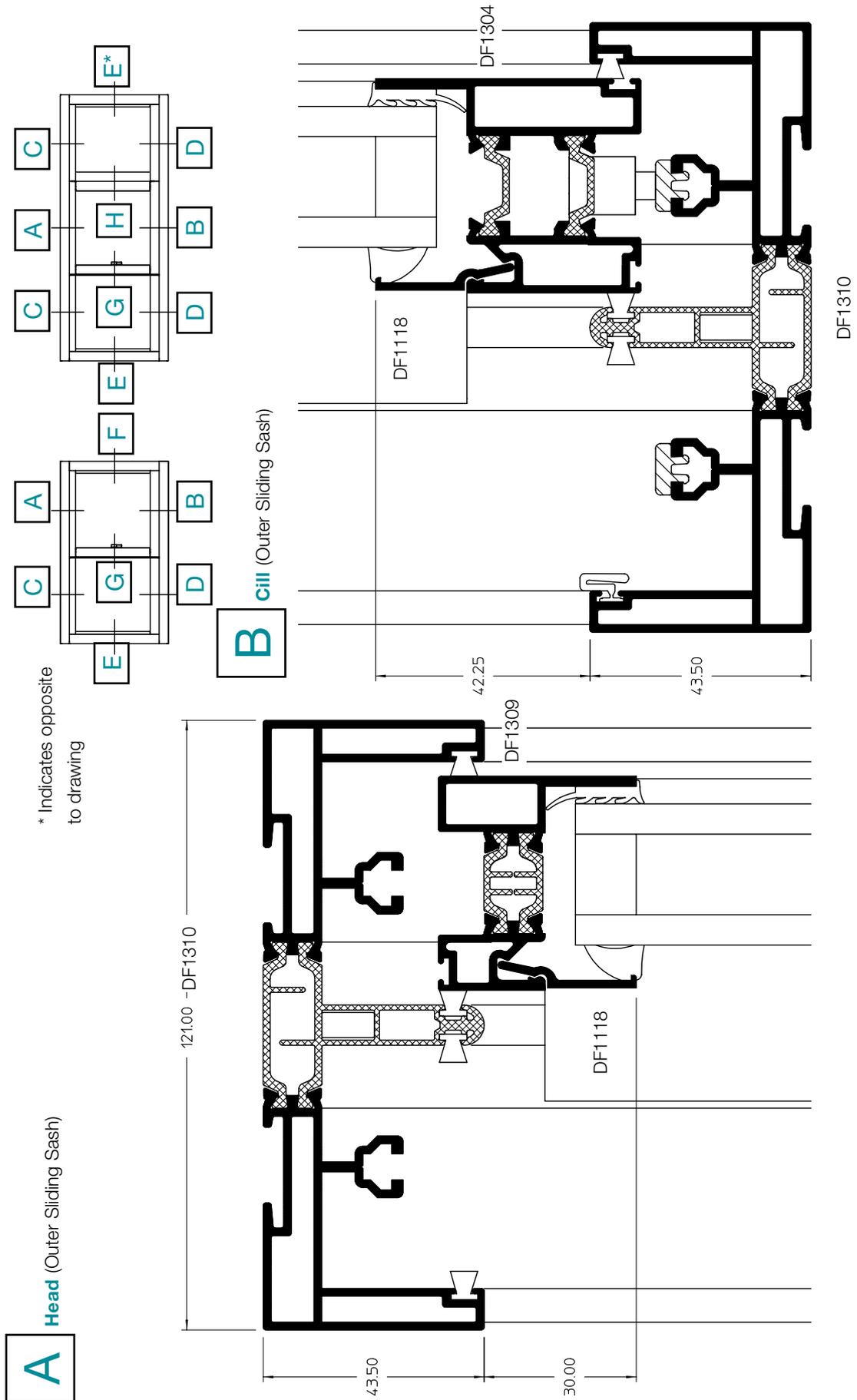




E Lower Jamb (Tilt vertical slider)

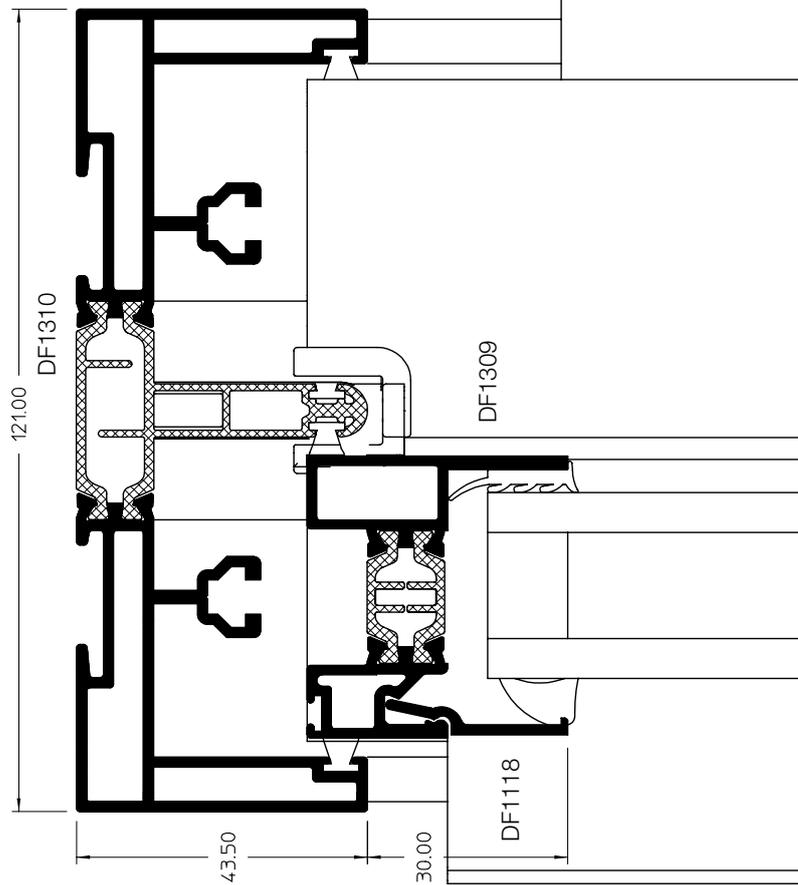




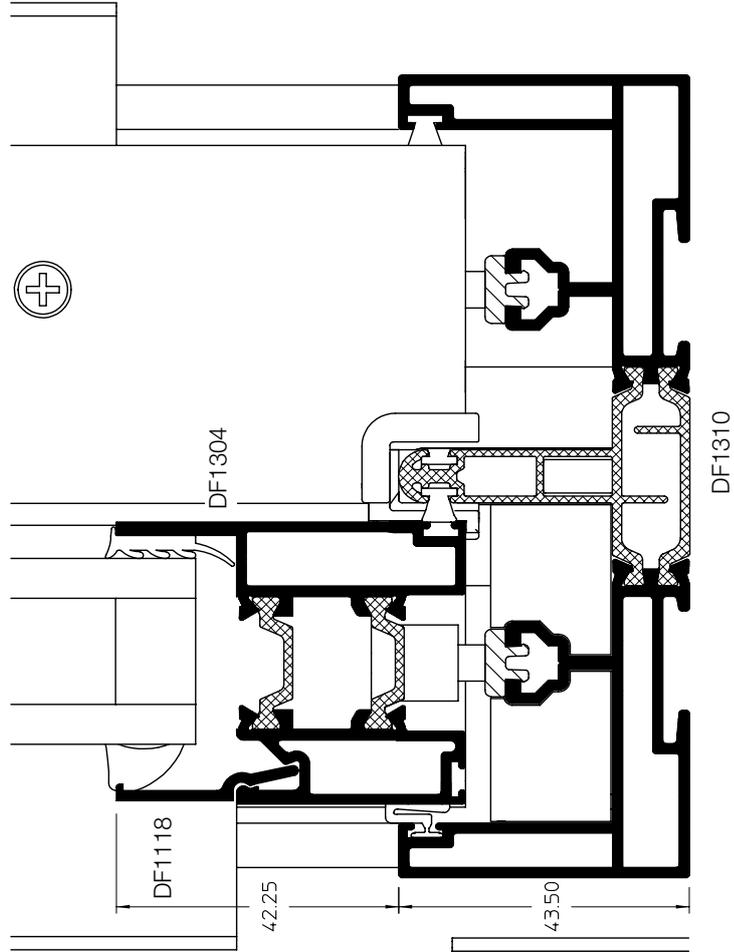




C Head (Inner Sliding Sash)

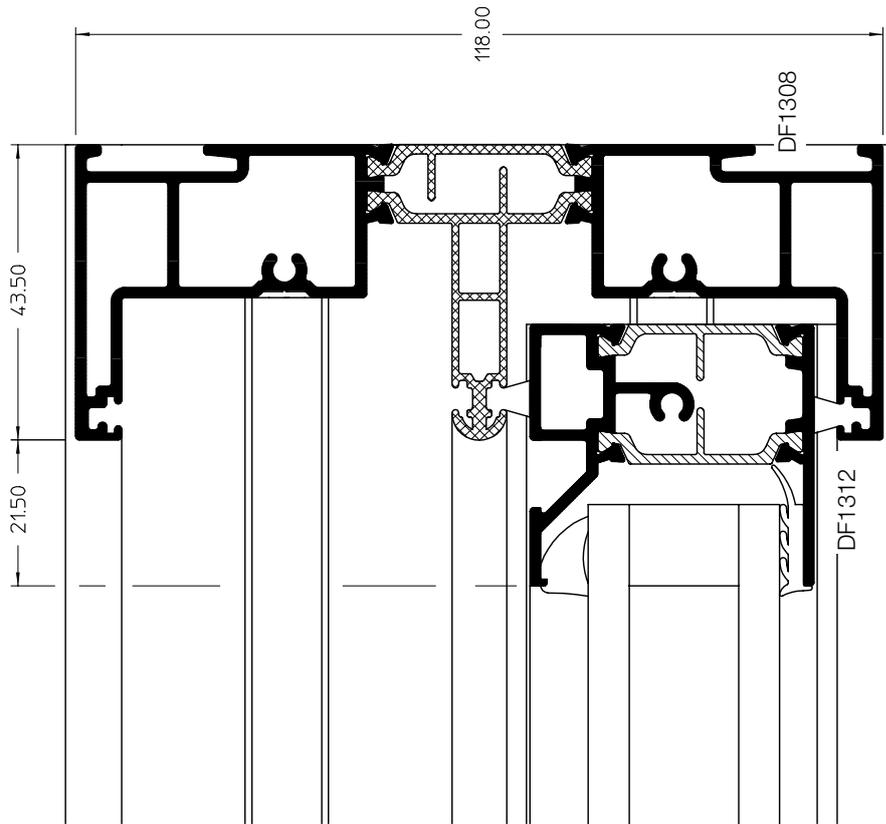


D Cill (Inner Sliding Sash)



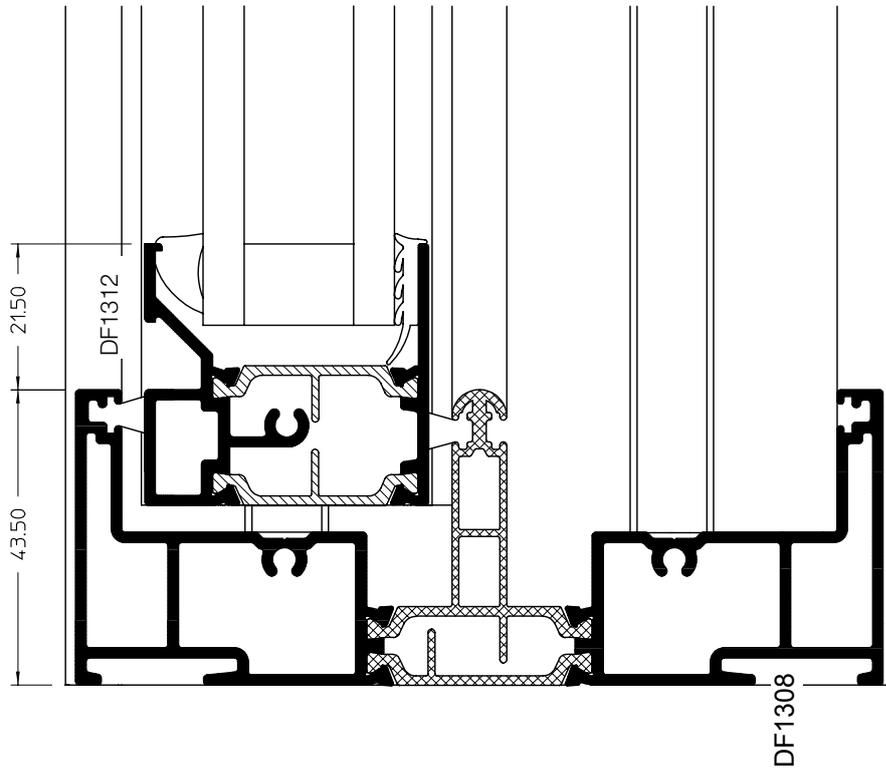
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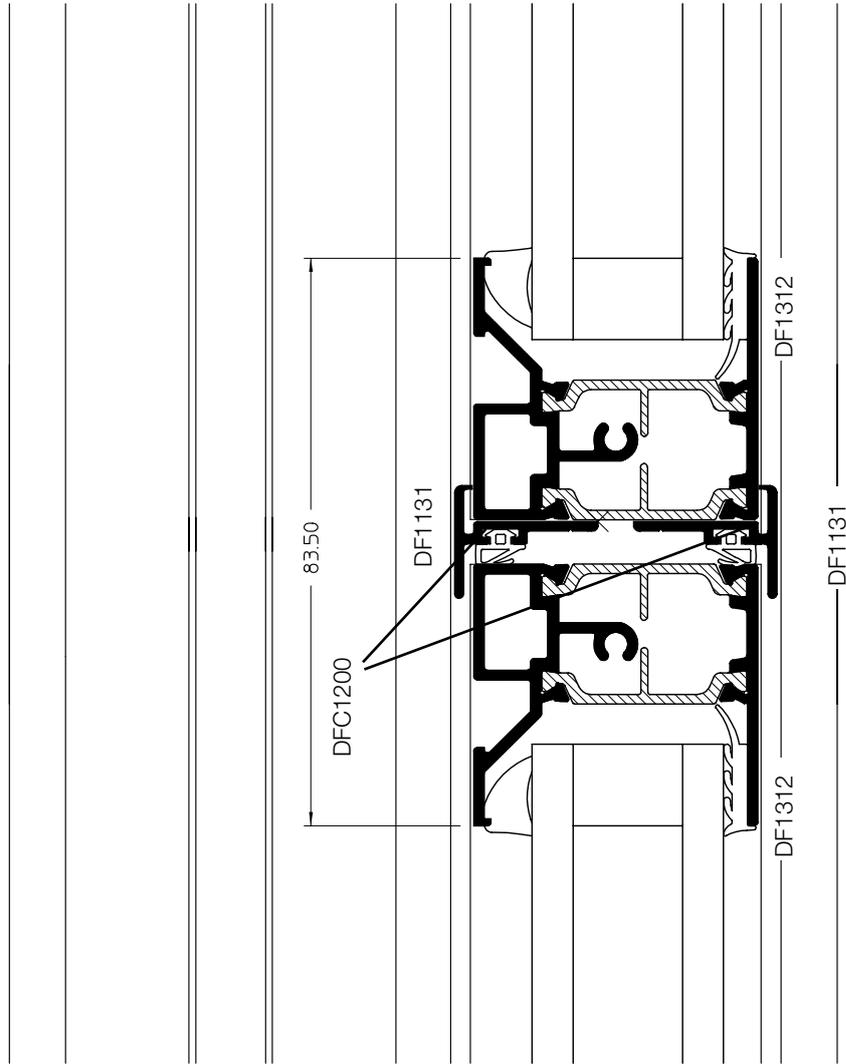
Jamb (Outer Sliding Sash)



E

Jamb (Inner Sliding Sash)

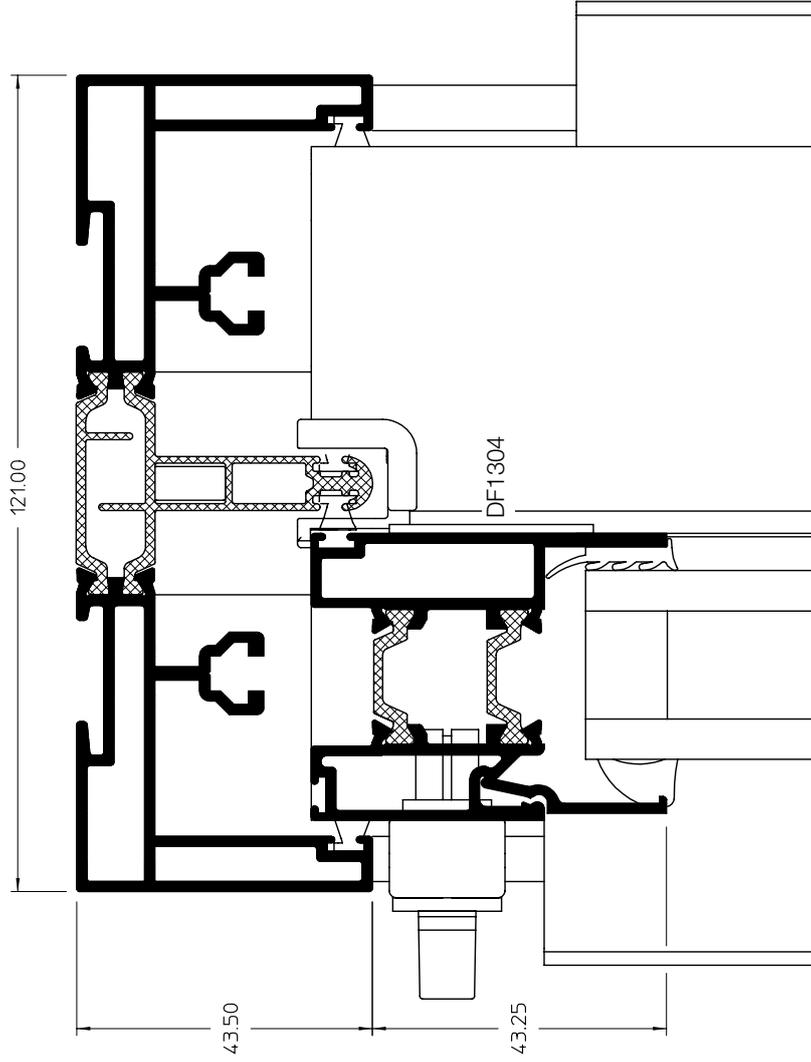




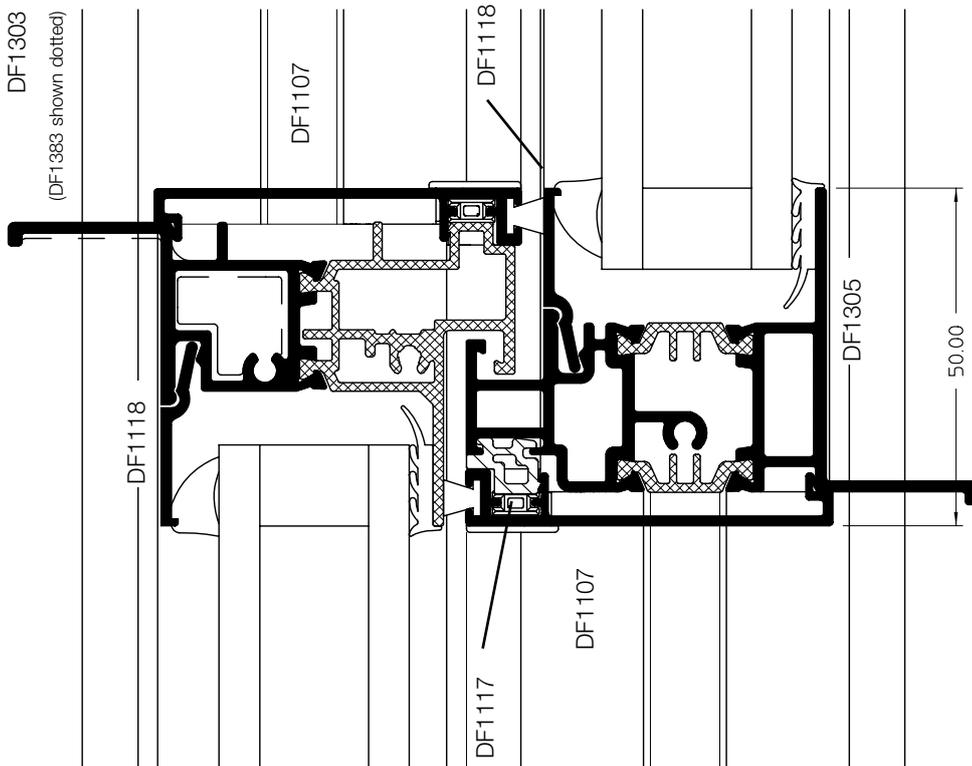
Meeting Stiles

C Head with Trickle Vent

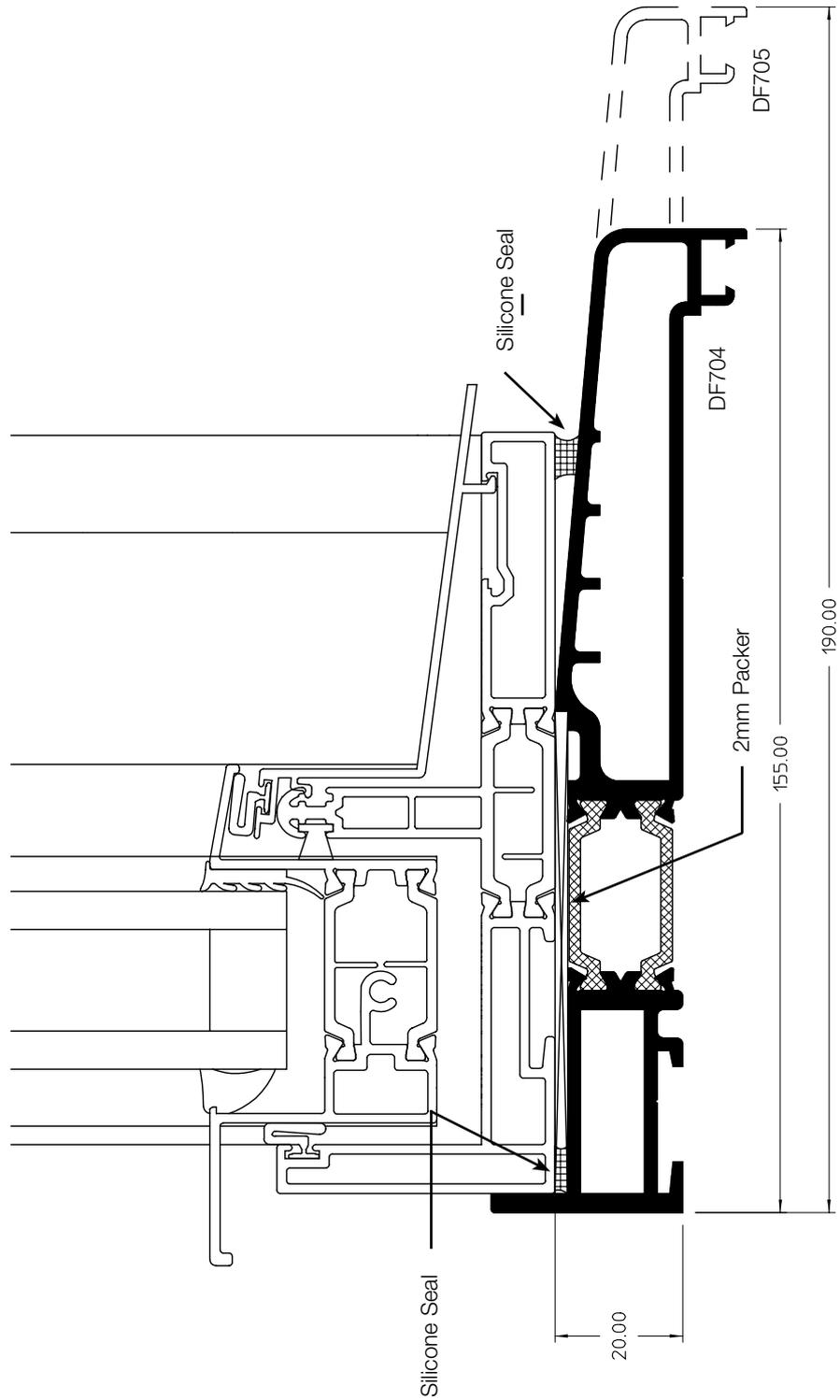
Alternative deep top rail (DF1304) can be used even when trickle vents are not used

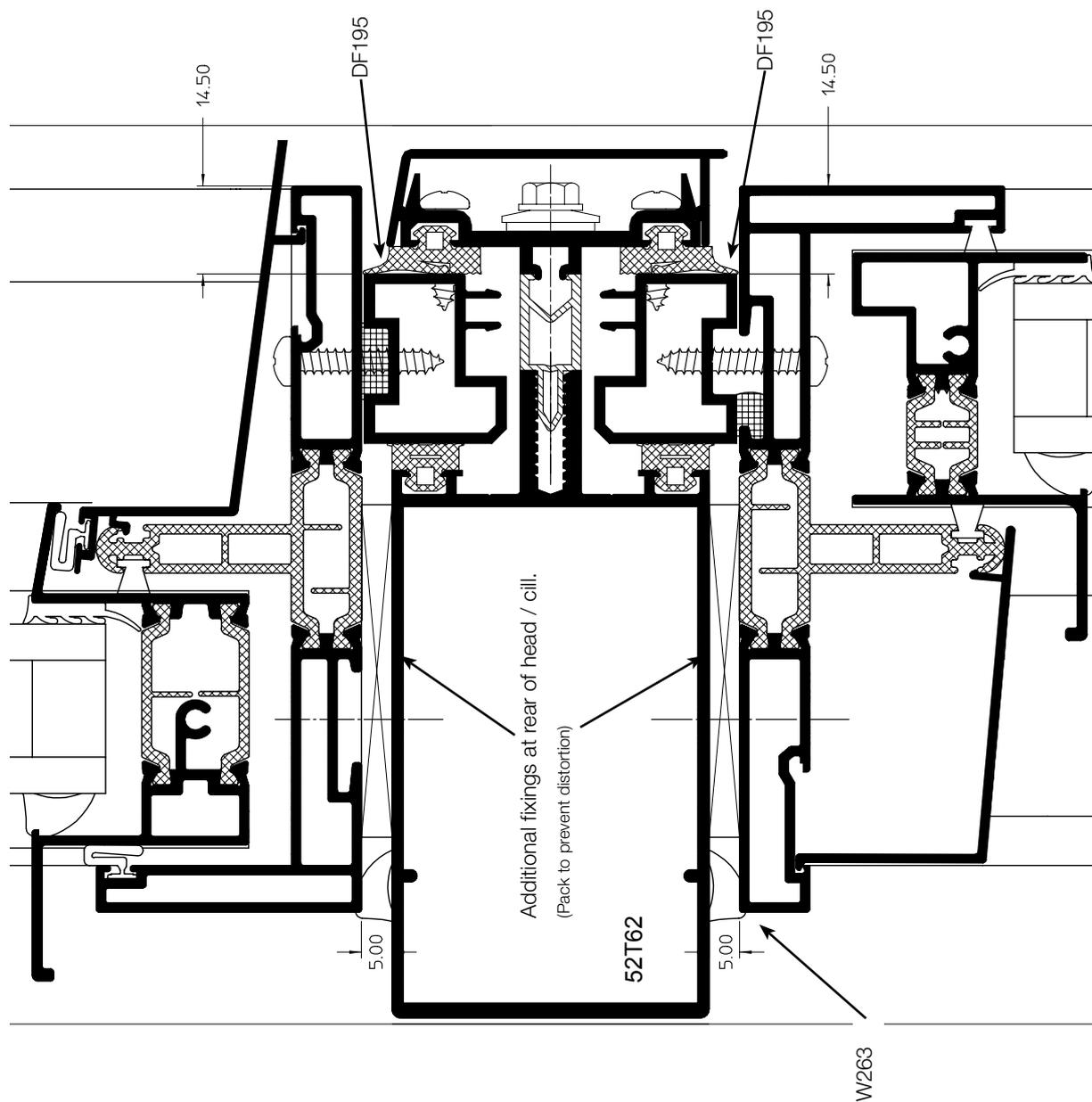


G Interlock



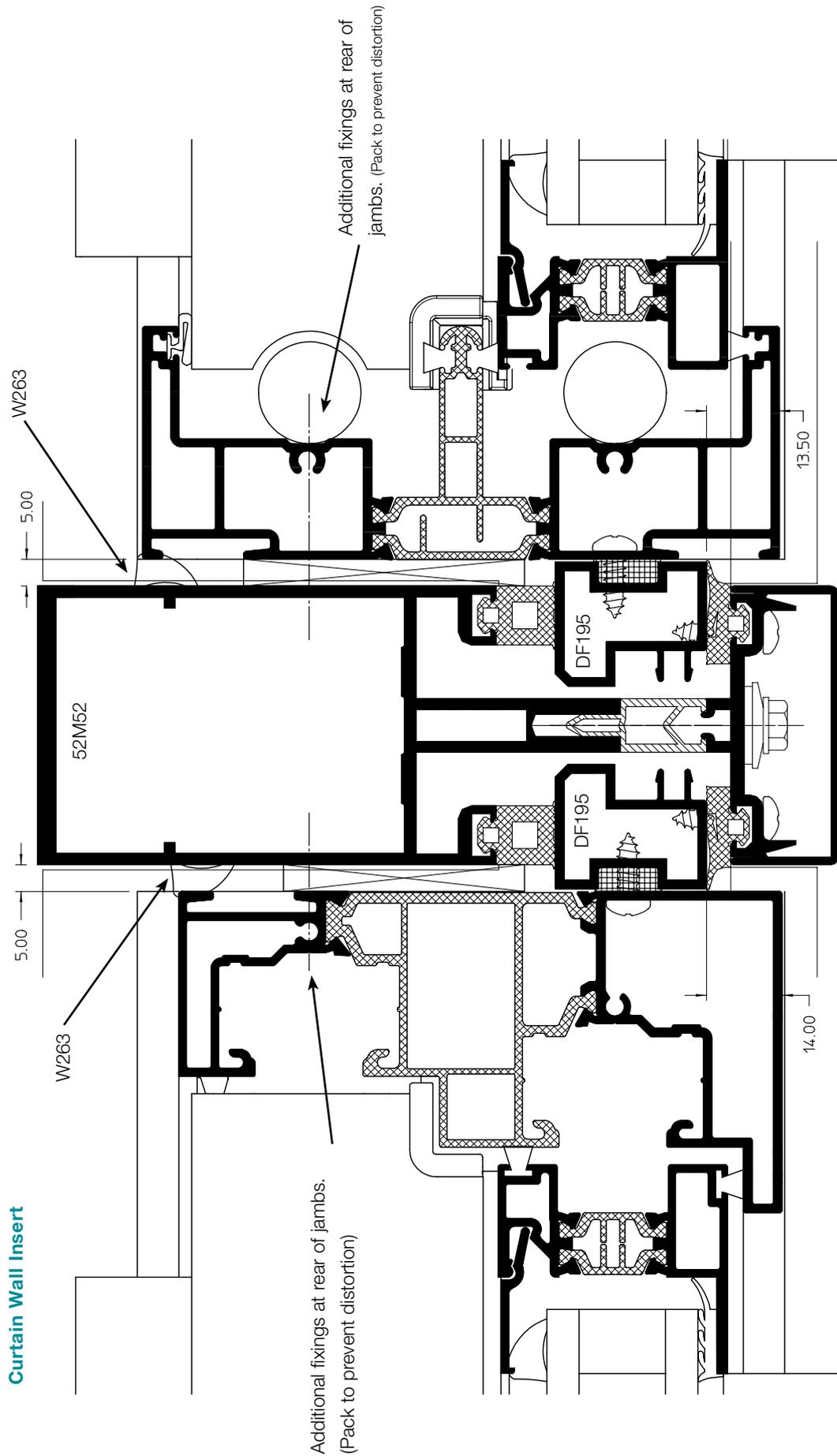
Sub Cill





Curtain Wall Insert

General arrangements | Dualslide Horizontal Sliding Window



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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 Team on the number below.

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Brochure reference DFC43 0811

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ARCHITECTURAL ALUMINIUM SOLUTIONS