

## Specification

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## Scope

This specification details materials, construction, finish and size limitations for the Dualslide sliding window system. This range is designed to meet high performance requirements in a variety of applications. The suite of profiles can be constructed to form vertical sliding windows (tilt and non-tilt) and horizontal sliding windows.

## 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. Anodised finishes are to BS 3987:1991 Grade AA25 etch silver as standard, with a range of special anodised finishes on application.

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

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.

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

## Hardware

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 prevent the window from tilting too far inwards. 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. On horizontal sliding windows, an alternative latch lock is available that is fitted at the jamb stiles and automatically engages when the window is closed. 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.

## Assembly and Installation

Detailed instructions are provided in this publication, which must be strictly conformed to.

## 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 units of 24mm, 28mm and 32mm can be accommodated.

Glass is set against extruded self adhesive synthetic rubber gaskets retained in the aluminium sash profile for security. 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 bead.

Compliance with the requirements of all current Regulations and Standards is the responsibility of the manufacturer.

Sapa's policy is one of continual system development and we reserve the right to incorporate design improvements and changes. Every effort is made to ensure that all details are correct at time of publication. However, it is the responsibility of the customer to check the accuracy of the relevant facts and information before entering into any contract or other commitment. Up to date information is freely available from the Sapa Building Systems Webshop.

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

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### Performance (Weather)

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 9A (600 Pa)
Air Permeability	Class 3 (600 Pa)
Wind Resistance	Class AE (2200 Pa)
Exposure Category**	2200

#### Horizontal Slider

Water Tightness	Class 4A (150 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 given on page 2-22.

### Performance (Thermal)

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/m<sup>2</sup>K.

		1.2 W/m <sup>2</sup> K Centre Pane				1.5 W/m <sup>2</sup> K Centre Pane			
		600	900	1200	1500	600	900	1200	1500
Height	1100	2.2	2.0	2.0		2.3	2.2	2.2	
	1300	2.1	2.0	1.9	1.8	2.3	2.2	2.1	2.1
	1500	2.1	1.9	1.8	1.8	2.2	2.1	2.1	2.0
	1700	2.0	1.9	1.8	1.7	2.2	2.1	2.0	2.0
	1900	2.0	1.8	1.8	1.7	2.2	2.1	2.0	2.0
	2100	2.0	1.8	1.7		2.2	2.0	2.0	
	2300	2.0	1.8	1.7		2.2	2.0	2.0	
	2500	2.0	1.8	1.7		2.1	2.0	1.9	
	2700	1.9	1.8	1.7		2.1	2.0	1.9	

### Performance (Mechanical)

When tested in accordance with BS6375:Part 2:2009 the horizontal sliding window achieves :-

Operating forces	Class 1
Mechanical strength	Class 3
Racking	Class 3
Resistance to repeated opening and closing	Class 2.

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### 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. Windows are fitted with Spiral, Ultralift or Torso balances depending on the sash weight :-

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 alongside are based on 4-16-4 glass construction. Sash sizes are equal unless specified. Consideration must be given to any subcill condition that may affect the overall aluminium frame size. Sub and top lights cannot be integral to the vertical sliding unit and must be produced as a separate unit and attached via one of the available couplers.

Window options available on request are:-

- Window Construction - Single units.
- Window Finish - Single or Dual colour.
- Sash Restriction - Releasable/locking restrictor.

Min width = 595 (Tilt VS) or 565 (Straight VS)

Min height = 900

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

\*\*\* = Spiralift / Ultralift / Torso  
\*\* = Ultralift / Torso  
\* = Torso

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### Size Limitations - Horizontal Sliders

The standard product range limitations for the horizontal slider are shown alongside. 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

Min Height: 575mm (Std Top Rail) or 590 (Deep Top Rail)

Min Width: 1365mm (3 Pane Slider)

915mm (2 Pane Slider)

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 or permanent.
- 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				*	*	*