# Smart Systems Ltd

Tel: 01934 876100

**L10 WINDOWS/ROOFLIGHTS/SCREENS/LOUVRES**  
**330 ALUMINIUM WINDOWS**  
Smart Systems are a major supplier to the window and door fabrication industry and are active members of The Council for Aluminium in Building (CAB) and members of CWCT.  
Smart Systems aluminium and composite profile product range includes, doors, windows, glazed screens, curtain walling, roof glazing and conservatories, for both the commercial and domestic markets. An extensive range of ancillary items such as door panels, louvres, balustrades and glazed in trickle vents are available to complement each product range.   
Aluminium profiles are manufactured from grade 6060/6063 T5/T6. Size tolerances are in accordance with DIN and BS standards.  
Co-extruded profiles and EPDM seals are tested in accordance with DIN 7863, TV 110, NFP 85301, ISO 3994. Thermal breaks are formed with polyamide strips PA 6.6 25 reinforced with glass fibre, fitted between aluminium extrusions.   
Profiles can be Electrostatic powder coat finished in a range of RAL colours to APA Qualicoat guidelines with the option of BI-colour, different internal and external colours. Other finishes include anodised in satin with EWAA/EURAS-Qualanod quality label. Powder-coated woodstructure finishes are available on request.

**Visoline Windows**   
Designed for use as fixed lights, tilt and turn, single or double sash side-hung open in or out, tilt in, side or top hung open out, horizontal or vertical pivot and tilt and slide windows, internally beaded, for domestic and light / medium / heavy commercial applications.  
Thermal breaks are formed with polyamide strips PA 6.6 25 reinforced with glass fibre, fitted between aluminium extrusions.  
All profiles are extruded from aluminium alloy 6060/6063 T5/T6 and comply with the recommendations of BS EN 12020-2; 2001/BS 755-9: 2001. Profiles can be Electrostatic powder coat finished in a range of RAL colours to APA Qualicoat guidelines with the option of BI-colour, different internal and external colours. Other finishes include anodised in satin with EWAA/EURAS-Qualanod quality label. Powder-coated woodstructure finishes are available on request.  
All opening vents are hung on non-corrosive hardware and fitted with cockspur/espagnolette/espagnolette shoot bolt/multi-point locking mechanisms.  
Restrictor stays are fitted on all vent openings, manufactured from material meeting the requirements of BS 4873.   
Glazing conforms to the requirements of BS 6262 and Part ‘N’ of the Building Regulations for both thickness and type.   
Internal beads and gaskets will accommodate 4mm to 38mm units.  
Windows are manufactured according to customer requirements from a range of standard profiles and are designed to incorporate a range of vent openings and various options, therefore it is advisable to contact Smart Systems technical design department early in the design process.   
Product tested to BS 6375: Part 1. Weather Tightness classification:  
Air Permeability – Class ‘C’.  
Water Tightness – 600pa.  
Wind resistance – 2400pa  
Windows are manufactured to the required design to limitations as stated within technical manuals (subject to location).   
Subject to agreement it is possible to exceed these limitations depending on design criteria, contact Smart Systems Technical Department for details.  
Consult Smart Systems Ltd technical literature for details. Smart Systems Ltd can also provide design and specification guidance and it is recommended that they are consulted early in the design process.  
  
**Manufacturer:** Smart Systems Ltd. Arnolds Way, Yatton, North Somerset BS49 4QN Tel: 01934 876100. Fax: 01934 83516. Email: sales@smartsystems.co.uk Web: www.smartsystems.co.uk   
**Product reference:** Visoline Windows  
**Materials:** All profiles are extruded from aluminium alloy 6060/6063 T5/T6 and comply with the recommendations of BS EN 12020-2; 2001/BS 755-9: 2001. Thermal breaks are formed with polyamide strips PA 6.6 25 reinforced with glass fibre sections capable of withstanding temperatures up to 200°C for over painting.  
**Performance**: Product tested to BS 6375: Part 1. (Air Permeability – Class 'C'. Water Tightness - 600 pa. Wind resistance - 2400 pa. ).  
  
**Exposure**: Design Wind Pressure of 2400 Pa.   
**Thermal**: All windows, in conjunction with a suitable glazing specification, to achieve an average project U-value to meet the current requirements of the approved Building Regulation Document L1/L2 for England and Wales. Target window U-value to be 1.5 W/m²K.   
**Structure:** All structural profiles to be designed so as the maximum deflection of any glass edge into a framing member under windload shall not exceed L/175 of its span with no evidence of any permanent deformation once the load has been removed. All horizontal framing members to restrict dead load deflection to L/400, up to a maximum of 3mm.  
**Construction:**  
All windows shall be manufactured, installed and glazed in strict accordance with Smart Systems instructions and guidelines as set down in the appropriate technical literature, details and specifications.  
Minimum depth of outer frame sections shall be 51mm incorporating two 18.6mm polyamide thermal break sections within the window profiles.  
All outer frame and vent members to be 45° mitred corner construction, reinforced by means of extruded aluminium cleats and stainless steel corner braces.  
All corner joints to be secured by gluing & crimping or gluing and mechanical corner cleats.  
All mullions and transoms to be cut/shaped and secured using either stainless steel screws driven into integral screw ports within the sections or cruciform cleats.  
All joints to be sealed during construction using suitable 'small gap' sealant.  
The windows to incorporate an internal pressure equalized drainage system with concealed down drainage through a sub sill or frontal drainage with snap on cover caps.

**Finish as Delivered:**   
**Internal Colour**: White.   
**External Colour**: White.

**Glazing details:** Windows shall be glazed and internally with square bead.  
Unit thickness. Overall thickness of TBA.  
  
All internal glazed windows to be dry glazed using ‘snap in' extruded aluminium beads and EPDM extruded gaskets.  
 **Ironmongery / Accessories:** No additional Ironmongery or Accessories required.   
  
**Fixing:**All fixings to be in strict accordance with the relevant British Standards, including BS 6262, and shall ensure the window is retained securely within the opening without incurring any damage or distortion to the window frame.  
Generally, fixings to be positioned 150mm from each corner and each mullion/transom and at centres not exceeding 600mm.  
Fixing lugs/straps only to be used where they can be suitably concealed to approval.  
All fixing of windows to the supporting structure to be achieved using a suitable lug and/or frame anchor fixing method capable of accommodating all applicable loads, deflection, tolerances and expansion expected on site. Details of the proposed fixing method shall be submitted to the project engineer for approval prior to installation.