FR90EI –fire RATED Door, side and top-light system (ei30 or 60)

A flush rebated leaf and frame arrangement with fixed pane frame options.

Designed for use as open out or open in as single or double leaf arrangements.

Door and door frames 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 doors are hung on aluminium knuckle or face hinges and fitted with one or three point locking mechanisms.

Glazing conforms to the requirements of BS 6262 and Part ‘N’ of the Building Regulations for both thickness and type. Weatherseals are EPDM set in undercut channels.

Beads and gaskets will accommodate up to 60mm glazing thickness.

Doors are manufactured according to customer requirements from a range of standard profiles that include an internal gypsum core and are designed to incorporate a range of options, therefore it is advisable to contact Smart Systems technical design department early in the design process.

Doors are manufactured to the required design to within the following maximum limitations (subject to location).

Single door leaf – Max width 1541mm. Max height 2806mm (EI30).

Double door leaf –Max width 1541mm. Max height 2806mm (E130).

Single door leaf – Max width 1340mm. Max height 2735mm (EI60).

Double door leaf –Max width 1340mm. Max height 2735mm (EI60)

**Maximum square meterage per leaf – 3.09m2**.

Weather Performance – Air – Class 4 EN12207, Water – Class A4 EN12208, Wind – Class C1 EN12210

Security – System currently not tested to PAS24. Includes hardware from PAS24 certified systems.

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 835169.  
Email: [sales@smartsystems.co.uk](mailto:sales@smartsystems.co.uk) Web: [www.smartsystems.co.uk](http://www.smartsystems.co.uk)

**Product reference**: FR90-EI Door, Side and Top-lights

**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.

**Exposure**: Design Wind Pressure **TBA**

**Thermal**: All doors, 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 **TBA**

**Structure**: All structural profiles to be designed so as the maximum deflection of any glass edge into a framing member under wind load 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 doorsets 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. Depth of outer frame sections shall be 90mm incorporating two 30mm polyamide thermal break sections and gypsum cores within the profiles. All outer frame and door members to be 45° mitred corner construction, reinforced by means of extruded aluminium cleats with gypsum linings and stainless steel corner braces. All corner joints to be secured by gluing and crimping or gluing and mechanical corner Cleats. All mullions and transoms to be cut/shaped and secured using 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. It is recommended that the door system be drained and ventilated in accordance with Smart Systems Technical Manual.

**Finish as Delivered:** Internal Colour: TBA External Colour: TBA

**Glazing details**: Glazing shall be site glazed as section L40. Windows shall be glazed with square bead and include steel retaining clips mechanically secured as indicated in system fabrication manual. Unit thickness- overall thickness of **TBA** mm. All doors to be dry glazed using ‘snap in’ extruded aluminium beads and EPDM extruded gaskets.

Refer to relevant Fire Test report relevant to glazing medium used (glass, panels etc).

**Ironmongery / Accessories:** TBA

**Fixing**: All fixings to be in strict accordance with the relevant British Standards, including BS 6262 and BS8213 Part 4: 2007, and shall ensure the door frame is retained securely within the opening without incurring any damage or distortion to the 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 door frames 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 and to include details of all intumescent fire rated sealants.