



## **Forster Fuego/Fuego Light (EI30 + EI60 + EI90 + EI120)**

### **System Provider:**

Fraser Global Trading (Pty) Ltd, South Africa.

### **Manufactured by:**

Manufactured by Forster approved Fabricators, list of fabricators available from above contact.

### **Product reference:**

Forster Fuego is a complete profile system with fittings and accessories for flush fitting doors and screens. Fuego is a thermally insulated profile system and is suitable for fire integrity and insulation applications. Forster Fuego/Fuego Light has a product depth of 65mm, both in steel and stainless steel.

### **General Use (Fire Integrity & Insulation Only):**

#### Doors

Can be used for single & double leaf single acting doors, inward or outward opening, along with double acting doors. Fire integrity & insulation ranges from EI30, EI60 & EI90, dependant on relevant test data, please contact for advice. All test data complies with BS476 or BS-EN 1634. All fire doors must be self closing to comply with current fire regulations.

#### Windows

Windows have not specifically been fire tested. Unless windows are self closing, fire integrity rating cannot be offered. Windows have not been fire tested with automatic smoke/fire control systems, should this be a requirement please contact a Forster technical Advisor and the local Fire Officer to discuss.

#### Fixed Screens

Can be used for fire integrity & insulation from EI30 to EI120 in a variety of solutions for fixed screen applications, please contact for advice.

### **Materials:**

#### Steel

Profiles are supplied in Pre-Galvanized (GV-GC yellow chromated) finish.

#### Stainless Steel

Profiles are available in mill finish Stainless, to 304 standard. Profiles can be finish polished to various requirements. Stainless steel has been fire assessed for EI30 & EI60 applications only.

### **Construction method**

Doors and windows are to of fully welded construction, spigot joints can be used for multiple screens or combinations frames.

### **Fabrication Tolerances:**

Frames, doors and windows are to be manufactured within the following tolerances, these are to be +/- 1.5mm in height and width, and +/- 4mm diagonally.

### **Pre finish**

#### Internal/External applications

Doors, Frames & screens can either be Two-Pack primed or Zinc rich primed prior to powder coating.

***Distributed exclusively by Fraser Global Trading (Pty) Ltd***

***Unit 1 Meadowbrook Park, 110A North Reef Road, Wilbart, Germiston***

***JHB: (011) 450 0263 DBN: (031) 564 8692***

***Web: [www.fgtrading.co.za](http://www.fgtrading.co.za)***

***Email: [info@fgtrading.co.za](mailto:info@fgtrading.co.za)***



**Finish:**

Standard finish to be Polyester powder coated to RAL/BS.....

**Glazing details:**Fire integrity & insulation

Single or double glazed units can be accommodated for fire integrity & insulation requirements. Minimum glass thickness will generally be from approx 12mm and a maximum of 44mm for single and double glazed units.

Examples of fire integrity/insulation glass used in Forster fire tests are 15mm Pilkington Pyrostop for EI30, 25mm thick Vetrotech Swissflam for EI60 or 44mm Glaverbel Pyrobel for EI90.

EI120 has been tested with Pyrostop 120-10 56mm within the triple boxed 110mm Fuego profiles.

Double glazed units are available for external uses or for when a level of sound reduction is required. Other combinations are also available incorporating low 'E' glasses and tints. Only glasses that have been fully tested for fire integrity & insulation may be used.

In certain instances maximum sizes to glass apply for both doorleaves and fixed elements. If in doubt please consult.

Internal/External glazing applications

Please note that for external insulated glazing it is generally thicker than for internal applications. For example, for EI30 Schott Pyranova is 15mm thick for internal applications and 19mm thick for external applications, whilst for EI60 Pilkington Pyrostop is 21mm thick for internal use and 27mm thick for external applications.

**Panel details:**Fire integrity/insulation

Panels can be constructed to achieve integrity and insulation up to EI120. Generally these need to be as a minimum, each wall thickness of 2mm steel and with a rockwool infill (minimum 120kg/m<sup>3</sup>).

As a guide, the panels can be welded to the face of the profiles by slug welding or by crush folding top and bottom to produce a profile flange, welding to the profile in the glazing areas. Depending on the fire requirement (EI30/60 etc), the panel sizes/thickness/infill will differ throughout to suit the relevant requirement.

**Ironmongery:**General

Fuego doors are designed to utilize a full range of Forster hinges, which are available depending on choice or application. Hinges are either screw fixed to the door/frame or are welded to the door/frame.

Depending on test data, Forster Dog Bolts (947013) must be used to comply with fire test requirements for ironmongery.

A full range of locking devices are available depending on application required, and include a range of latch/deadlocks with and without two/three point locking along with a complimentary range of lever handles. A range of panic latching devices as well as an emergency escape range is also available, along with a range of flush bolt locking mechanisms, including emergency panic bar solutions.

Note that Forster Fuego door profiles are pre machined to allow the two/three point lock shoot rods to pass through the insulation in the doors to reach the top/bottom latching points. Door Profiles are also available with pre machined lock cut-outs to ensure minimum cut away of insulation area.

For double acting requirements, Fuego doors can also be mounted on suitable floorsprings, centre located on profiles and used for 60 minutes integrity and 30 minutes insulation. Currently no internal locking device can be fitted, should locking be required please consult the local fire officer to request use of surface mounted shoot bolt type mechanisms.

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Various overhead and internal door closers can be fitted to the Fuego range of doors including automatic opening, smoke detection and selector controlled devices, available from companies such as Dorma or Geze. These items must have been tested to the relevant BS or EN standard.

Tested to the EN standard, Dorma ITS96 internal mounted door closers may be used. Forster produce special head profiles pre machined for the closers, this minimizes the cut away of insulating material.

#### Fire

When specifying and using fire integrity & insulated doors, certain ironmongery must be used to comply with the fire test data. Those items must always be Forster hinges, Forster locking mechanisms and (unless it is a double acting door) a tested door closer, usually from the Dorma/Geze ranges or those tested to either the relevant BS or EN standards.

To ensure compliance please contact our Forster Technical Advisor or distributor.

#### **Accessories:**

Because Forster Fuego can be used in a multitude of applications, such as fire or security, various types of accessories can be used. For example, electric lockstrikes or magnetic locks can be easily fitted for security applications or full door entry solutions with automatic detection and opening. However, any additional hardware items not fire tested specifically must be checked with the local fire officer to ensure his/her acceptance.

Automatic drop seals can also be fitted to Forster Fuego doorsets to either enhance sound reduction or to prevent wind/draft ingress in external applications.

Please note that fire/escape solutions or rights of exit will usually take precedence over security requirements.

#### **Fixing of ironmongery/accessories:**

Fixing of ironmongery and accessories is to be by machine screws wherever possible, drilled and tapped to size as per manufacturers stipulation wherever possible. This is critical for fire integrity & insulated units in order to maintain correct performance in case of attack by fire.

Self tapping screws or nutserts may be used for retaining certain ironmongery accessories that are non critical in fire situations, such as roses or escutcheons.

With pull handles utilize concealed back to back fixings, or if a handle is fitted to one side then ensure it is secured by machine screws. All other fixings to be as recommended by the supplying ironmonger or by the fabricator.

#### **Frame fixing to structure:-**

Fixing of frames can be achieved in several ways. The most common detail is by having the fixing screws/bolts through one of the frame box profiles and into the structure, with the fixing either being covered by a cap or by the glazing detail.

The second most common detail is by attaching (screwing or welding) a bracket or strap to the frame and then fixing through the strap/bracket into the structure, which is then covered by plasterboard or render etc. When fixing into concrete/stone/brick type material it is recommended that fixings should be at least 50mm in from an edge to prevent breakout of the structure/fixing.

Typical fixings include woodscrews, plug & screw combinations, expanding anchors, machine screws/bolts, and chemical fix.

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