Fire Shutters
Types and Classification

SECURITYDIRECT
ROLLER SHUTTERS • INDUSTRIAL DOORS • STEEL DOORS • SECURITY GRILLES

Table of Contents

1. What is a Fire Shutters?

A **Fire Shutter** is a fire-resistant roller shutter designed to provide effective fire compartmentation within buildings while maintaining a neat, low-profile appearance.

Every installation must follow the tested and certified configuration, including the correct substrate, cill, and control system.

Each shutter is tested to **BS EN 1634-1** and classified to **EN 13501-2**, with integrity ratings up to **E60, E90, E120, and E240**, ensuring the product can contain fire and prevent its spread for the specified duration.

1.1. How It Works

In normal operation, the fire shutter functions like a standard security shutter—opening and closing via an **electric motor**..

In a fire event, it automatically activates to close when triggered by the **building's fire alarm** or a **local heat detector**, providing a critical barrier that stops flames and heat from spreading between fire zones.

Key safety features include:

- Integrated safety brake to prevent curtain free-fall.
- Battery Backup Unit (BBU) to ensure automatic closure even during power loss.
- Audio-visual warning to alert occupants that the shutter is closing.
- Manual override for emergency reset after activation.

1.2. Main Purposes and Applications

- Fire Compartmentation: Prevents fire from spreading between sections of a building.
- Escape Route Protection: Used on escape corridors or stairwell entrances to maintain safe egress.
- Asset and Stock Protection: Creates physical and fire-rated separation between storage and retail areas.
- Public Areas: Suitable for offices, schools, hospitals, shopping centres, and public buildings.
- Everyday Security: Provides a robust barrier against unauthorised access when not activated for fire safety.

2. Testing and Certification

Independently Tested for Proven Fire Protection

Every **Compact Fire Rated Roller Shutter** supplied by Security Direct is fully tested and certified to the latest **British and European fire resistance standards**.

Testing is carried out by **UKAS-accredited laboratories** such as **Warrington Fire (Element Group)** — a globally recognised independent testing body specialising in fire safety, building products, and certification.

These tests provide verified, third-party evidence that the shutter will perform as intended when exposed to fire, giving you the assurance of compliance with Building Regulations, BS EN standards, and the Construction Products Regulation (CPR) for CE and UKCA marking.

2.1. What They Test

Each Compact Fire Shutter undergoes rigorous full-scale testing that evaluates:

- **Fire Integrity (E):** How long the shutter can resist flames and hot gases without developing cracks or openings.
- **Thermal Expansion & Structural Stability:** Ensuring the curtain, barrel, and guides remain securely fixed during the entire fire period.
- **Operational Performance:** The shutter must close completely under fire conditions (heat, smoke, and power loss) using the safety brake and battery backup.
- **Material Performance:** Verification that all critical components—curtain laths, barrel, endplates, fixings, and canopy—are made from materials that maintain strength at elevated temperatures.
- **Direction of Exposure:** Testing from both sides to confirm performance regardless of which face is exposed to the fire.

2.2. How They Test

Testing follows the European standard procedure **BS EN 1634-1:2014 + A1:2018**, conducted in a full-scale furnace environment:

1. The shutter assembly is installed into a rigid wall (masonry or concrete) test frame.
2. A controlled time–temperature curve simulates a real fire, reaching over 1,000°C within 90 minutes.
3. The shutter is observed for integrity, distortion, and flame leakage while under full furnace pressure.
4. Duration is recorded until the shutter fails to prevent the passage of flames or hot gases.
5. Results are independently verified and reported under a WF Test Report and Classification Report issued by Warringtonfire.

2.3. Classification of Openings – Doors and Serveries

Fire shutters are tested and certified for specific applications and installation types.

Each opening is classed as either a Doorway or a Servery (Counter) during fire testing.

- **Doorway Installations**
  Tested to close onto the floor — typically used for escape routes, corridors, or compartment walls.
  May be fitted onto flexible (timber stud) or Rigid (masonry/concrete) substrates.

- **Servery Installations**
  Installed above a counter or worktop.
  Fire shutters in this category must have dedicated test evidence for this configuration.
  These are not covered under extended application testing and require direct furnace testing

2.4. Key Testing Standards

Standard	Description	Purpose
BS EN 1634-1: 2014 + A1: 2018	Fire resistance and smoke control tests for door and shutter assemblies	Determines integrity and insulation performance
EN 13501-2	Fire classification of construction products	Assigns the "E" fire rating (E60 / E90 / E120 / E240)
BS EN 15269-10: 2011	Extended application for steel rolling shutters	Defines how test results can be extended for size and configuration
BS EN 16034: 2014	Product standard for CE/UKCA marking of fire-resisting shutters	Ensures compliance with the Construction Products Regulation

2.5. Certified Performance

Our Compact Fire Shutters have achieved the following independent certifications:

- **Integrity Rating:** Up to 240 minutes (E240) on masonry or concrete walls.
- **Test Reference**: WF 413395 (Fire Resistance Test, Warringtonfire)
  Extended Application: WF 415113 (BS EN 15269-10:2011)
  Classification Report: WF 415114 (EN 13501-2:2023)
- **Classification Report:** WF 416674 in accordance with EN 13501-2.
- **Extended Application:** WF 416673 per EN 15269-10 for alternative wall types and dimensions.

All shutters are manufactured in accordance with a Certificate of Constancy of Performance (CoCoP), confirming continuous compliance with tested design, materials, and manufacturing controls.

2.6. Why Certification Matters

Certified testing ensures your fire shutter is:

- Legally compliant with UK Building Regulations and CPR.
- Fully traceable with documented fire performance data.
- Reliable under real fire conditions.
- Accepted by building control and fire officers without the need for additional testing or assessments.

3. Motor Types – Compact vs Industrial

3.1. Tube Motor – Compact Fire Shutters

- Uses a single-phase tubular motor concealed inside the barrel.
- Compact design ideal for smaller openings and aesthetic installations like counters or internal doorways.
- Requires a Battery Backup Unit (BBU) for automatic closure during a power failure.
- Linked to a Fire Control Panel with audio-visual warning (as required by BS EN 12604).
- Commonly used for serveries, reception counters, and internal corridors.
- Tested for fire durations up to 120 minutes.

Advantages:

- Neat, space-saving enclosure.
- Quiet and efficient.
- Ideal where space or headroom is limited.

Limitations:

- Restricted lifting capacity.
- Not suitable for large or external openings.

3.2. Industrial Fire Shutters (Inline or External Motor Type)

- Fitted with an external chain-driven inline motor, either single or three-phase.
- Designed for larger openings or heavy-duty commercial applications.
- May include a fusible link or auto-solenoid release that triggers closure without electrical power.
- Can operate under gravity fail-safe descent, ensuring the shutter closes even if power fails.
- Typically used in warehouses, plant rooms, and service corridors.

Advantages:

- High lifting capacity.
- Suitable for large apertures up to 10,000 mm wide × 7,000 mm high.
- Durable and robust industrial build.

Limitations:

- Requires more space for motor housing and chain assembly.
- Louder in operation than compact systems.

4. Fire Shutter Types

At Security Direct, we offer four different types of certified fire shutters, each designed to suit specific site conditions and fire protection requirements. The main differences between these models relate to the motor type, supporting substrate, and fire rating. Depending on the application, shutters can be fitted with either a Compact Tube Motor for smaller, space-sensitive openings such as serveries and internal doorways, or an Industrial Inline Motor for larger or heavier-duty installations. They are tested and approved for installation onto either flexible structures (such as protected timber stud walls) or Rigid substrates (including masonry, concrete, or protected steelwork). Each type provides a certified fire resistance period ranging from 60 to 240 minutes, ensuring the correct solution can be selected to match the building's fire strategy and level of protection required.

Type	Application	Fire Rating	Motor Type	Substrate Type	Opening Class	Notes
Type 1	Compact or Industrial Fire Shutter	60 min	Tube or Inline Motor	Flexible or Rigid	**Servery**	Tested and certified for serveries up to 60 min.
Type 2	Compact Fire Shutter	120 min	Tube Motor	Flexible Only	**Servery**	Directly tested on timber stud wall with countertop at 900 mm.
Type 3	Compact or Industrial Fire Shutter	60 / 90 min	Tube or Inline Motor	Flexible Only	**Door**	Installed to flexible walls (timber stud) only.
Type 4	Compact or Industrial Fire Shutter	60–240 min	Tube or Inline Motor	Rigid (Masonry / Concrete / Protected Steel)	**Door**	Full range tested up to 240 minutes on masonry.

4.1. Type 1 – Servery – 60mins – Rigid and Flexible Structure

	Tube Motor	Industrial Motor
Fire Rating	60minutes (*Test Report – 552862 with Technical Report FPA107941*)	
Standards	BS EN 1634-1:2014 + A1:2018 BS EN 15269-10:2011 EN13501-2 CE Marked to BS EN 16034: 2014	
Radiation	EW20 *(Restricted to Direction of Exposure and tested Sizes 2500mm x 1550mm)*	
Opening Type	Servery (Approx 900mm from FFL)	
Substrate	Rigid (Masonry, Protected Structural Steel) Steel Box Section Posts (Protected) Flexible (Timber Stud)	
Counter Top/Cill Type	Class A1 (Non Combustible) EN13501-1	
Max Sizes	4000mm W x 1000mm H 3000mm W x 1500mm H 3000mm W x 2000mm H (Clear Opening Sizes)	8000mm Wide In-between Guide Size 2400mm High Clear Opening Height
Standard Controls	Key Switch Battery Backup Audio Visual Warning with Fire Alarm Interface	Push Button Station Fusible Link Solenoid Release Audio Visual Panel with Fire Alarm Interface

4.2. Type 2 – Servery – 120mins – Flexible Structure

	Tube Motor
Fire Rating	120minutes (*Test Report – 552862*)
Standards	BS EN 1634-1:2014 + A1:2018 BS EN 15269-10:2011 EN13501-2 CE Marked to BS EN 16034: 2014
Radiation	EW20 *(Restricted to Direction of Exposure)*
Opening Type	Servery (900mm from FFL)
Substrate	Flexible (Timber Stud)
Cill Type	Stainless Steel Type 304 – 1.5mm
Max Sizes	2500mm Wide In-between Guide Size 1550mm High Clear Opening Height
Standard Controls	Key Switch Battery Backup Audio Visual Warning with Fire Alarm Interface

4.3. Type 3 – Doorway – 60 or 90mins – Flexible Structure

	Tube Motor	Industrial Motor
Fire Rating	60 or 90minutes (Warrington *Test Report – 429933*)	
Standards	BS EN 1634-1:2014 + A1:2018 BS EN 15269-10:2011 EN13501-2 CE Marked to BS EN 16034: 2014	
Radiation	EW20 *(Restricted to Direction of Exposure – Limited Sizes 2500mm H x 2400mm H)*	
Substrate	Flexible (Timber Stud)	
Floor Type	Class A1 (Non Combustible) EN13501-1	
Max Sizes	2500mm W x 2400mm H Clear Opening Sizes	7000mm Wide In-between Guide Size 7000mm High Clear Opening Height
Standard Controls	Key Switch Battery Backup Audio Visual Warning with Fire Alarm Interface	Push Button Station Fusible Link Solenoid Release Audio Visual Panel with Fire Alarm Interface

4.4. Type 4 – Doorway – 60 to 240mins – Rigid Structure

	Tube Motor	Industrial Motor
Fire Rating	60, 90, 120 or 240minutes (Warrington *Test Report – 404452*)	
Standards	BS EN 1634-1:2014 + A1:2018 BS EN 15269-10:2011 EN13501-2 CE Marked to BS EN 16034: 2014	
Radiation	EW20 *(Restricted to Direction of Exposure)*	
Opening Type	Doorway	
Substrate	Rigid (Masonry, Protected Structural Steel) Steel Box Section Posts (Protected)	
Floor Type	Class A1 (Non Combustible) EN13501-1	
Max Sizes	4000mm Wide In-between Guide Size 2300mm High Clear Opening Height (Based 60mins)	10000mm Wide In-between Guide Size 7000mm High Clear Opening Height *(Based on E60)*
Standard Controls	Key Switch Battery Backup Audio Visual Warning with Fire Alarm Interface	Push Button Station Fusible Link Solenoid Release Audio Visual Panel with Fire Alarm Interface