

FIRE RATED
SINGLE SKIN
ROLLING SHUTTERS



NAFFCO
PASSION TO PROTECT

FIRE RATED SINGLE SKIN ROLLING SHUTTER

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ROLLING SHUTTER

Fire Rated / Non-Fire Rated

Fire shutters are used to provide compartmentalization for wide/big openings within a building and as such, help prevent a fire from rapidly spreading to other parts of the building. In addition to it, these shutters offer the required security and accessibility. This way, fire shutters allow people to evacuate safely and helps to make the work of the emergency services easier. Whilst conventional static barriers are permanently fixed in one place and are non-operational (e.g. fire-walls, glass partitions, etc.), a fire shutter can actually be operated (whenever required) and will close automatically in the event of a fire.

AREAS OF APPLICATIONS

- Warehouse
- Industrial Facilities
- Garages
- Shopping Malls
- Airports
- Metros and Rail Terminals

KEY FEATURES

- Fabricated and Assembled in UAE
- Up to 240* Minutes Fire Integrity
- Tested to ANSI/UL 10B (or) BS 476 Part 22 Standard
- Sizes* upto 12 m (w) x 6.5 m (h) for 2 hours and 12 m (w) x 4.6 m (h) for 4 hours under specific standard.
- Electrically Operated with Emergency Manual Override Chain
- Optional Wind Lock Feature
- Superior Galvanized Steel Slats
- Option of Single / Double Skin
- Incorporates Heavy Duty Guide Channels
- Fusible Link / Fire Alarm Signal / Heat (or) Smoke Detector Activation / Delay Timer
- Fire alarm signal conversion panel with battery back up
- 3-way Push Button Control
- Finished Factory Applied Powder Coating at factory to match desired RAL color scheme
- Option of larger sizes with special assessment

Fire Rated Rolling Shutter

Technical Data	Model: EO-FRS-SS/E
Fire Resistance	120 minutes
Operation	Vertical coiling; motorized and manual operation available
Fire Activation	Gravity fail safe. Connection to fire alarm signal, thermal fusible link and smoke/heat detector
Tested to	UL10B
Certified By	Underwriters Laboratories
Curtain Material	Single Skin Galvanized steel with end locks and optional wind locks
Side Guide	75mm deep/3mm thick guides as applicable
Head box	From 500mm (height) x 450mm (depth) - ceiling or wall fixed
Max Sizes	Single Skin 120 minutes: 12m (W) x 5.5m (H). Since we perform continuous R&D, contact us to explore larger sizes for your specific application
Finish	Natural G.I steel or powder coated to NAFFCO's standard RAL colors. Non-standard RAL colors can be done upon request at an additional charge.

Shutter Curtain and Guides

Single Skin Curtain Slat

The shutter curtain is made of 75mm pitch superior single skin Galvanized steel slats, with 1.2mm thickness. These slats are manufactured by a roll forming process and constructed of reinforced interlocking slat profiles. The edges of the slats are auto cut-off to (end) lock the axial movement of the interlocked curtains, providing maximum strength and integrity. For external applications, the shutters can withstand a 40 km/h wind speed, with wind locks as optional reinforcement.

Guide Rails

For exposed and face fixing applications, 'G' shaped guides made of heavy duty 75mm wide x 100mm deep x 3mm thick Galvanized steel is used. For concealed guide application, 75mm wide x 75mm deep x 1.5mm thick 'U' shaped Galvanized steel guides are used.

Bottom Bar

The leading slat is roll formed from Galvanized steel with a thickness equivalent to that of the slat. Two 50mm x 50mm x 3.7mm thick Galvanized steel angle bar are bolted to the leading slat to form the bottom bar.

Drum Assembly

Shutter Box

The Shutter box is made out of two heavy duty steel endplates of thickness 4mm to 7mm according to the size of the shutter; joined together using five steel hollow sections of 50mm x 25mm, primer finished in black. Two 50mm x 50mm x 4.5 thick steel angles with slotted fixing holes are welded with the end plates to fix the shutter box to the building structure.

Barrel

The barrel is made of a heavy duty seamless steel pipe, welded with axles of dia 35mm to dia 50mm according to the size of the shutter. This barrel is fixed to the right and left endplates with heavy duty sealed roller bearings.

Box Cover

The shutter box covers are made out of 0.8mm thick Galvanized steel sheets, with the edges folded to provide rigidity.

Shutter Operation

Motor Operation

The motor is suitably sized with a fully enclosed design. The motor has a high starting torque, built-in gear box and a built-in thermal protector. The motor gear box has a inbuilt centrifugal type speed governor that reduces the speed of the shutter during gravity descent. An ‘emergency-release lever’ shall be provided for emergency closing operation, which ensures that the shutter can descend by gravity at a rate which is maintained by the in-built speed governor. In case of power failure, an endless hand chain is provided for manual operation from the ground level. Adjustable limit switches are used to set the upper and lower limit for the travel of the curtain.

Push Button Control

Push button control with ‘up’, ‘down’ and ‘stop’ buttons are housed in a lockable push button box. The outer cover of the push button box is made of stainless steel. Weatherproof NEMA rated push button boxes can be provided as an option.

Standard Activation

1. Thermal fusible Link

All fire shutters are equipped with fusible link mechanism. Upon sensing a temperature of 70⁰C, the fusible link mechanism releases the brake of the motor and allows it to descend by gravity.

2. Fire Alarm Signal

Where fire shutters are needed to be activated by fire alarm signal, a dual fusible link (electric solenoid releaser) is used which releases the brake of the motor, upon receipt of a 24V DC, 400mA fire alarm signal. A reset pull is provided to reapply the brake on the motor. Note that a true gravity fail safe should ensure that even in the event of a total power failure, the shutter should descend at a controlled rate by gravity not with standing the presence of a battery back-up.

Optional Activation and Safety Mechanisms

1. Connection to the heat/smoke detection systems provided by the Building Management System.
2. Delay Timer
On activation of the shutter through standard mechanisms, a delay timer closes the shutter in a two stage operation with preset limits and at pre-determined time period.
3. Fire Alarm Signal Conversion Panel
A fire alarm signal conversion panel with a battery back-up converts a voltage free (OV) signal to the required 24V DC, 400mA, normally open signal.
4. Warning audio alarm and flashing lights
5. Remote control
6. Weatherproof NEMA rated push button box.

M & E Requirements

- G. 1 Phase, 230V, 50Hz, 13A/3 phase, 415V, 50Hz, 20A power supply at shutter box location.
- H. 24V DC, 400mA, normally open fire alarm signal at fire shutter's shutter box location. Where a voltage free fire alarm signal is used, a fire alarm signal conversion panel will be provided as needed. See optional activation mechanisms.

Support

Shop Drawings

Our standard drawings provide the details on the requirement of headroom, side room and fixing details. We also provide customized shop drawings to customers, on their request, after taking site measurements of the clear openings and studying the site conditions. This process takes into consideration the factors that will affect the fixing of the shutters in the opening provided and to calculate whether there is enough headroom and side room for the shutters to be fixed.

Warranty

We provide 1 year warranty on the entire product that we supply from the date of testing and commissioning after installation. We provide 10 years warranty for the steel used.