



10m wide fire shutter for MRT use, powder coated to client's chosen color;



Fire shutters can also double as daily security shutters.



Using superior galvanized steel ensures rust free use for years.



Testing a fire shutter (4 hours) to BS standards for fire rating.

These are operable barriers that can serve as day to day security shutters but automatically descend when fire segregation is necessary.

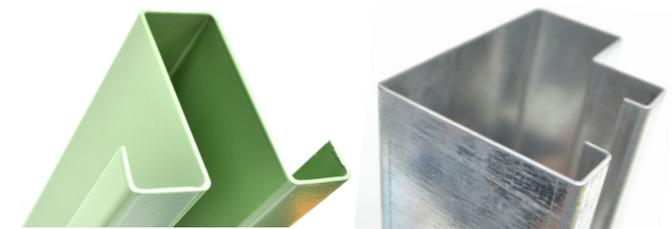
- 2 or 4 hour fire rating. Complies with **BS EN 1634-1. UL 10B** compliant model available on request.
- Made from heavy duty galvanized steel with an optional powder coating finish.
- Single and double skin slat design depending on size and application.
- Approved by UAE & Singapore Civil Defense
- Complete gravity fail safe system using a fire alarm signal conversion panel as standard.
- **Activation:** Fire alarm signal, thermal fusible link and/or connection to heat/smoke detectors.
- **Max sizes;** since we perform continuous R&D, larger sizes can be provided upon consultation.

2 hours: 12000mm(W) x 6500mm(Ht.)

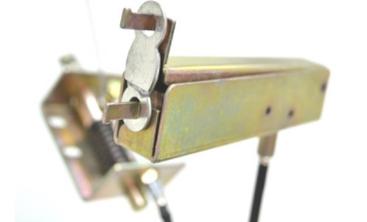
4 hours: 12000mm(W) x 4600mm (Ht.)



Depending on the size and the application, we use single skin (Left) or double skin (Right) precision cold rolled galvanized steel slats (0.8mm, 1.00mm & 1.2mm thickness). We provide a standard range of powder coated colors.



Guide rails for (Left) concealed applications or (Right) exposed wall fixed applications are made from 3mm thickness galvanized steel.



A fire alarm signal conversion panel (Left) will be provided to convert a voltage free signal to the required 24V DC to activate the gravity fail safe descent. (Right) Thermal fusible links are local detection systems to activate the shutters.

SPECIFICATION

Single Skin Curtain Slat

The shutter curtain is made of 75mm pitch and 17mm wide superior single skin galvanized steel slats, with thicknesses ranging from 0.8mm, 1.00mm & 1.2mm depending on the size of the shutter and as specified in the fire assessment report. 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. Wind locks are optional reinforcement in high wind areas.

Double Skin Curtain Slat

80mm pitch and 23mm wide, made from 0.8mm thick galvanized steel.

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 3mm 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 38mm x 38mm x 4.5mm or 50mm x 50mm x 5mm thick galvanized steel angle bars are bolted to the leading slat to form the bottom bar. For double skin slats, the leading slat is made from 0.8mm thick galvanized steel with mineral rock wool infill.

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 4.5mm 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.

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 gearbox 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.

Standard Activation

Thermal Fusible Link: All fire shutters are equipped with fusible link mechanism. Upon sensing a temperature of 70°C, the fusible link mechanism releases the brake of the motor and allows it to descend by gravity.

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.

M & E Requirements

1 phase, 230V, 50Hz, 13A / 3 phase, 415V, 50Hz, 20A power supply at shutter box location. 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.

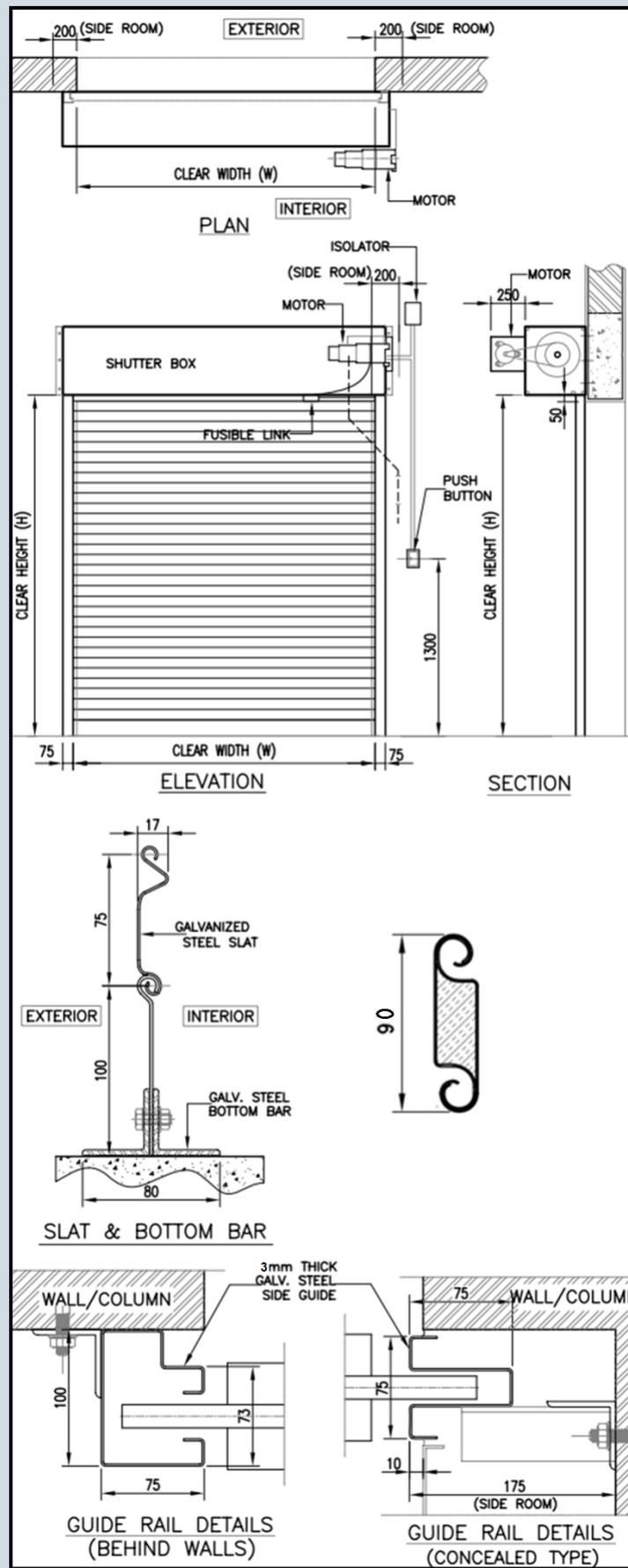
Optional Safety Systems

Connection to the heat / smoke detection systems

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.

Fire Alarm Signal Conversion Panel: A fire alarm signal conversion panel with a battery back-up converts a voltage free (0V) signal to the required 24V DC, 400mA, normally open signal.

Warning audio alarm and flashing lights
Remote control



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