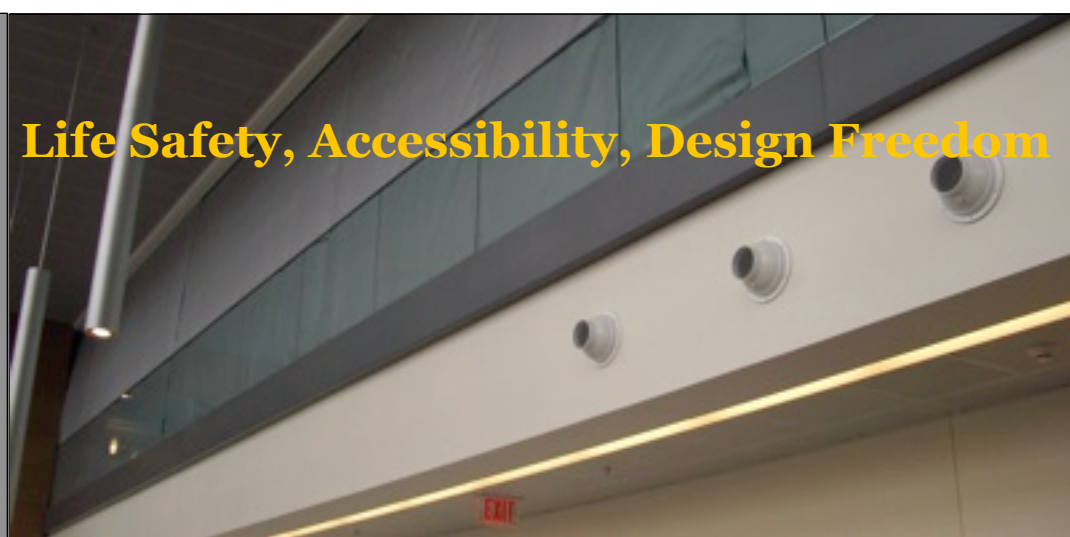


# U.S. SMOKE & FIRE Atrium Shield™

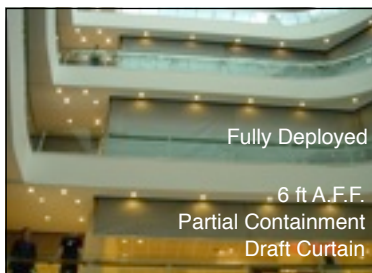
Protect atriums from fire and smoke spread, and reduce dependence on extraction systems with our Fail Safe design. Open up your atrium to light and air without sacrificing safety. Hidden protection you always know is there.

## Life Safety, Accessibility, Design Freedom



Smoke management is required within atrium spaces connecting more than two stories per IBC Section 404.4

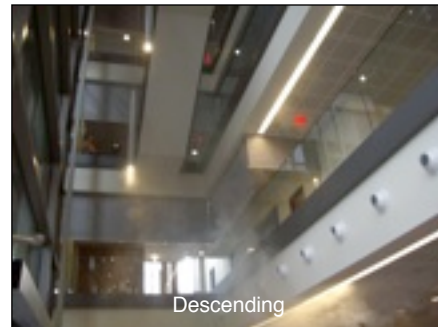
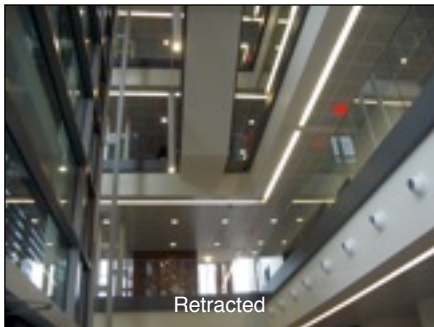
**US Smoke & Fire Curtain LLC** provides a robust and effective means of achieving smoke and fire protection for any buildings with multi-level atria, such as buildings, warehouses, malls, large areas, civic centers and museums. Our products operate as smoke draft curtains in mandatory compliance with NFPA 92B and IBC 2006 Section 404.4 Our fully automatic Atrium Shield™ smoke curtain employs smoke and fire curtain technology that has been utilized for decades around the world, allowing for reduced horizontal smoke migration to communicating spaces during a fire, as well as reduced amounts of make up air needed for smoke extraction.



Our gravity fail-safe smoke curtains have market-leading features and meet demanding specifications, yet offer a cost-effective and flexible solution to fire and smoke control and UL listed as an opening protective. The smoke curtains maintain the smoke 6 feet above the finished floor in compliance with IBC 909, which provides enough time for a safe exit.

In addition, our exclusive light-weight curtain material is UL Listed, Fire Rated at 1800°F for one or two hours, and offers an optional smoke seal rating carrying the UL S label.

Under normal conditions our Atrium Shield™ and smoke curtains are retracted in a steel head box hidden from view in the ceiling, and can be designed to incorporate a two inch shadow gap. Upon receipt of a signal from the fire alarm system, or the complete loss of power or communication, the system descends by gravity. Thus deployment is Gravity Fail Safe and does not require battery-backup to descend.



### Smoke Curtain Features:

- Smoke and Fire Protection in One Solution: UL Listed opening protective for 1 or 2 hour fire rating
- UL 10B, 10D, UL S Label
- Advanced & Mature Technology
- Controlled Descent
- Lightweight, easy to lift by hand
- Installs Compactly Overhead—as little as 6" of ceiling headroom
- Design freedom, LEED Credit
- Available in Sizes up to 90 feet wide x 42 feet high
- Low Life Cycle Cost
- Fail Safe Design
- Battery Back-up standard, NOT Required for Gravity Fail Safe Deployment

Smoke curtains can be installed onto the void edge to prevent smoke entering the floor from a fire on the floor below. The curtains in this instance were installed inside a faceted head box allowing us to form a curve profile using separate rollers.

Due to the formation of the angled head box, the edge gap on the non-overlapping curtains can be reduced to around 1.5 inches.

Smoke reservoirs can be formed using automatic curtains. The curtains will descend to a pre-determined height. This height will be greater than the calculated smoke layer produced from the surrounding fire load.

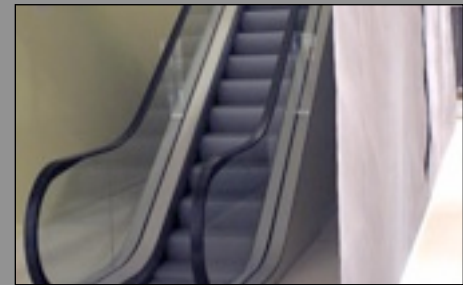
The depth of the reservoir is also based upon either how much smoke can be removed from the area using the extraction system or how long the smoke layer will remain buoyant. The drop height of the curtains does not prevent escape from area.

Smoke curtains are often used as channelling screens. The hot smoke will be prevented from moving laterally around the atrium.

Instead the smoke will be forced to move up into the ceiling area where it can be safely extracted.

Escalators can form a direct means for hot smoke to enter floors above. For the project shown on the right, automatic smoke curtains were installed on the three open sides to the escalator.

Upon receipt of a fire signal, the curtain along the length of the opening will drop to full height, the two end curtains will descend part way until a brake is energized in the motor. The partial drop will prevent the hot smoke entering the floor above and also allow egress from the escalator.



**LEED CREDIT-Core & Shell**

**INDOOR ENVIRONMENTAL QUALITY**

- Credit 2: Increased Ventilation
- Credit 4.2: Low Emitting Material
- Credit 5: Indoor Chemical & Pollutant Source Control
- Credit 8: Daylight and Views

**INNOVATION IN DESIGN**

**MECHANICAL CONFIGURATION**

- End-View Shown
- Uni-Strut Mount (typical)
- Head Box contains curtain, roller and motor
- Side Guides
- Bottom Bar

**The housing for the roller is available in 3 configurations to meet your design needs:**

**A**

**B**

**C**

**Head Box Specification:**  
 Material: 18 gauge galvanized steel  
 Finish: Optional powder coating  
 Optional stainless steel  
 Access: Removable cover plate  
 Dimensions: (Up to 10 ft drop)  
 Type A: 6 in x 6 in  
 Type B: 10 in wide x 6 in high  
 Type C: 6 in wide x 10 in high