

**SECTION 08 30 00**  
**FIRE AND SMOKE RATED CURTAINS WITH EGRESS**

**PART 1 - GENERAL**

**1.01 GENERAL REQUIREMENTS**

- A. Provide all materials, labor, equipment and services necessary to furnish, deliver and install all work under this section as shown on the contract documents, specified herein, and as specified by the job conditions.

**1.02 RELATED WORK**

- A. Support for wall and ceiling mounted items: Section 05 50 00, METAL FABRICATIONS.
- B. Rough Carpentry: Section 06 10 00 ROUGH CARPENTRY.
- C. Access Panels & Doors: Section 08 31 13, ACCESS DOORS AND FRAMES.
- D. Field Painting: Section 09 91 00, PAINTING.
- E. Electrical: Division 26.
- F. Support for wall and ceiling mounted items: Section 05 50 00, METAL FABRICATIONS.
- G. Sustainability and LEED requirements: Section 01 81 11, SUSTAINABLE DESIGN REQUIREMENTS.

**1.03 SUBMITTAL**

- A. Procedures: Furnish submittals in accordance with the general requirements specified.
- B. Shop Drawing: Furnish shop drawings for architect's approval. Include elevations, sections, and details indicating dimensions, materials, finishes, conditions for anchorage and support of each fire and smoke rated curtain.
- C. Product Literature: Submit manufacturer's technical literature describing the product to be used under this section.
- D. Maintenance and Operating Manuals: Furnish complete manuals describing the materials, devices and procedures to be followed in operating and maintaining all of the fire and smoke rated curtains under this section. Include manufacturer's brochures and parts lists describing the actual materials used in the product.
- E. Product Approval Reports: Submit copy of manufacturer's Listing Report and Authorization To Mark clearly detailing the description of product, fire endurance test method, test results and test conclusions of the test

criteria as conducted and witnessed by a United States accredited testing laboratory such as Underwriters Laboratories (UL) or Intertek-Warnock Hersey (Intertek). Testing agency's Listing Report shall clearly state that the fire and smoke rated curtains have been tested and approved to the standards and criteria of UL 10B, UL 10C, UL 10D and UL 1784 Smoke & Draft rating. Curtains located in designated 1 hour fire barriers shall have a D-H-60 or D-H-W-60 rating. Curtains located in smoke barriers shall have a D-20 or D-W-20 rating.

#### 1.04 QUALITY ASSURANCE

- A. Fire & Smoke Rated Assemblies: Provide all curtains with fire and smoke resistance rating required to comply with governing regulations which are inspected, tested, listed and labeled by UL or Intertek and complying with NFPA 80 for class of opening. Provide units tested, approved and labeled under the UL 10B, UL 10C, UL 10D and UL 1784 standards. Provide testing agency label permanently fastened to each fire curtain assembly as evidence of product compliance.
- B. Oversize Assemblies: Where units exceed the testing laboratory's label size, an Oversize Certificate label issued by either UL or Intertek shall be provided and permanently fastened to each fire curtain assembly as evidence of product compliance. Oversize assemblies requiring the joining of curtain sections together on site by the installer must require documented field certification by UL or Intertek.
- C. Regulatory Requirements: Comply with applicable requirements of the laws, codes, ordinances and regulations of federal, state and municipal authorities having jurisdiction.

#### 1.05 DELIVERY, STORAGE AND HANDLING

- A. General: Deliver and store materials in manufacturer's original packaging, labeled to show name, brand and type. Store materials in a protected dry location off the ground in accordance with manufacturer's instructions.

#### 1.06 WARRANTY

- A. Fire & Smoke Rated Curtain Warranty: Furnish two (2) year written warranty signed by the manufacturer and installer agreeing to repair or replace work which has failed as a result of defects in materials or workmanship. Upon notification within the warranty period, such defects shall be repaired at no cost to the owner.

**PART 2 - PRODUCTS****2.01 MATERIALS**

- A. Curtain: Shall be a reinforced fabric curtain, consisting of a satin fiberglass fabric with integral stainless steel wire weave and 90 minute fire retardant polyurethane coating. Curtain shall be at minimum no less than .054 cm thick.
- B. Egress Door: Shall be an integral fire and smoke rated, 60 minute rated, manually operable soft surface swinging type egress door. The swinging egress door shall be readily operable from the egress side without the use of a key or special knowledge or effort and shall comply with opening force requirements as outlined under the International Building Code (IBC).
- C. Bottom Bar: Shall consist of a tubular member formed to fit curtain, provide stiffness, limit deflection and allow for a tight fitting closure. Bottom bar shall be designed of adequate size and weight to keep the curtain fully extended, taut and level when the unit is activated to the self-closing position while preventing any deflection caused by the building's air pressure currents.
- D. Guide Assemblies: Each guide assembly shall be fabricated of a steel mounting adjustment angle or channel with an integral pressure retaining side guide with a minimum 3-1/2" depth. Each pressure retaining guide shall be fitted with UL approved and classified smoke seals.
- E. Mounting Brackets: Fabricated of minimum 14 gauge steel plates, brackets shall be provided to house and support ends of the barrel assembly.
- F. Hood: Shall be provided to entirely enclose curtain and barrel assembly. Hood shall be fabricated of minimum 18 gauge galvanized steel formed to match brackets. Top and bottom shall be bent and reinforced for stiffness. Hood shall be fitted with UL approved and classified smoke seals.
- G. Barrel Assembly: Fabricated of structural quality carbon steel seamless pipe of sufficient size and diameter to house operating motor drive, support curtain assembly and limit horizontal deflection of the fire and smoke curtain assembly.
- H. Motor Drive Unit: Fire and smoke curtain shall be powered by an inboard 24 volt DC motor including gearbox assembly, electromechanical distance travel limit switches all linked to an internal 24 volt DC electromagnetic brake which allows the fire and smoke curtain to remain operational even during the loss of power to the motor drive unit.

- I. Fail-Safe Release Device: A fail-safe release device shall be built into the motor drive unit as an integral part of the release mechanism. When power is interrupted to the release mechanism by an alarm condition, the fire and smoke curtain shall automatically self-close. In the event of power failure the time delay shall prevent the fire and smoke curtain from closing for a predetermined programmable period of 30 minutes, unless there is an alarm condition at which point the fire and smoke curtain shall immediately self-close. Once the predetermined programmable period of 30 minutes has lapsed, the fire and smoke curtain shall self-close. Once power has been restored and the alarm condition has been cleared, the release mechanism shall automatically reset and the fire and smoke curtain shall immediately become operable.
- J. Easy Trip Test Feature: The fire and smoke curtain shall be designed so that it may be trip tested simply by activating the True-Test switch. By turning the True-Test switch to the "off" position, the draft curtain shall automatically self-close. Once the draft curtain assembly has satisfactorily closed, it shall be reset simply by turning the True-Test switch back to the "on" position. No ladders, tools or special equipment shall be required to test or reset the fire and smoke curtain.
- K. Finish: After completion of fabrication, clean all metal surfaces to remove dirt and chemically treat to provide for paint adhesion. Hood, bottom bar and guide assemblies shall be of a powder coat finish, to match adjacent wall in color.

### **PART 3 - EXECUTION**

#### **3.01 EXAMINATION**

- A. Examine surfaces and field conditions to which this work is to be performed and notify architect if conditions of surfaces exist which are detrimental to proper installation and timely completion of work.
- B. Verify all dimensions taken at job site affecting the work. Notify the architect in any instance where dimensions vary.
- C. Coordinate and schedule work under this section with work of other sections so as not to delay job progress.

#### **3.02 INSTALLATION**

- A. Perform installation using only factory approved and certified representatives of the fire and smoke curtain manufacturer.

- B. Install fire and smoke curtain assemblies at locations shown in perfect alignment and elevation, plumb, level, straight and true.
- C. Adjust fire and smoke curtain installation to provide uniform clearances and smooth non-binding operation.
- D. Install wiring in accordance with applicable local codes and the National Electrical Code Standard. Materials shall be UL listed.
- E. Test fire and smoke curtain closing sequence when activated by the building's fire alarm system. Reset fire and smoke curtain after successful test.

**3.03 PROTECTION AND CLEANING**

- A. Protect installed work using adequate and suitable means during and after installation until accepted by owner.
- B. Remove, repair or replace materials which have been damaged in any way.
- C. Clean surfaces of grime and dirt using acceptable and recommended means and methods.

- - - E N D - - -