

SECTION 083343 SMOKE & DRAFT RATED CURTAINS WITH EGRESS DOOR

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

- A. Work of this Section, as shown or specified, shall be in accordance with the requirements of the Contract Documents.

1.2 SECTION INCLUDES

- 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.

1.3 RELATED SECTIONS

- A. Miscellaneous Metals - Section 055000.
- B. Carpentry - Section 062000.
- C. Access Doors - Section 083113.
- D. Painting and Finishing - Section 099000.
- E. Electrical - Division 26.

1.4 QUALITY ASSURANCE

- A. Smoke & Draft Rated Assemblies: Provide all curtains with 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 UL 1784. Provide testing laboratory label permanently affixed to each fire curtain bottom bar assembly as evidence of product compliance in accordance with the requirements outlined under NFPA 80.
- 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 affixed to each smoke and draft curtain bottom bar 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 a UL or Intertek field inspector.
- C. Electric Motor Drives and Control Equipment: Tested, listed and labeled under standards UL 325 and UL 864. Provide testing laboratory label permanently affixed to each fire curtain control panel as evidence of product compliance.
- D. Regulatory Requirements: Comply with applicable requirements of the laws, codes, ordinances and regulations of federal, state and municipal authorities having jurisdiction.

1.5 SUBMITTALS

- 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 smoke and draft 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 smoke and draft 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 smoke rated curtains have been tested and approved to UL 1784 Smoke & Draft rating without the use of an artificial bottom seal.

1.6 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.

1.7 WARRANTY

- A. Smoke & Draft Rated Curtain Warranty: Provide Two (2) Year 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

2.1 MANUFACTURER

- A. Provide Some & Draft Rated Curtain with Egress Door manufactured by Cornell Cookson, McKeon, Overhead Door Corp., Atlas Overhead Doors, or approved equal meeting these specifications.
- B. Basis of Design: Smoke and draft rated curtains shall be the SmokeFighter® Series model D150E as manufactured by McKEON.

2.2 SMOKE & DRAFT RATED CURTAINS WITH EGRESS DOOR MATERIALS AND CONSTRUCTION

- A. Assembly Design: Shall be designed requiring a single motor power drive to operate the curtain assembly and all of its overlapping curtain sections. Smoke and draft curtain assemblies requiring more than one motor drive unit to operate the curtain assembly and its overlapping curtain sections are not acceptable.

- B. **Curtain:** Shall be manufactured from (1) hour fire rated fabric, consisting of E-Glass polyurethane coated fabric with an integral reinforced weave. Curtain shall be at minimum no less than .040 mm thick.
- C. **Egress Door:** Shall be an integral smoke rated manually operable soft surface swinging type egress door. The swinging egress door shall be readily operable by pushing it from the egress side without special knowledge or effort and shall comply with opening force requirements as outlined under the International Building Code (IBC).
- D. **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 during self-closing while preventing any deflection caused by the building's air pressure currents.
- E. **Guide Assemblies:** Each guide assembly shall be fabricated of a steel mounting adjustment angle and with integral pressure retaining side guides. The side guides are to be designed with an overall viewable exposed profile of no greater than 1/2" in width.
- F. **Endplates:** Fabricated of minimum 14 gauge steel plates, brackets shall be provided to house and support ends of the barrel assembly.
- G. **Hood:** Shall be provided to entirely enclose curtain and barrel assembly. Hood shall be fabricated of minimum 22 gauge G90 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.
- H. **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 smoke and draft rated curtain assembly.
- I. **Single Motor Drive Unit:** Smoke and draft rated curtain shall be powered by a single motor drive design including gearbox assembly, electromechanical distance travel limit switches all linked to an internal electromagnetic brake which allows the draft curtain to operate under normal and fire ready conditions. Motor drive units shall be listed and labeled to test standards UL 325 and UL 864.
- J. **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 smoke and draft curtain shall automatically self-close. In the event of power failure a time delay shall prevent the smoke and draft curtain from closing for a period of 30 minutes, unless there is an alarm condition at which point the smoke and draft curtain shall immediately self-close. Once power has been restored and the alarm condition has been cleared, the release mechanism shall automatically reset and the smoke and draft curtain shall immediately be restored to the normal operating condition.
- K. **True Test Panel:** Smoke and draft curtains shall be provided with a True Test panel. A single True Test panel shall activate and automatically reset all the smoke and draft curtains on the project. When activated to close via the True Test panel, the smoke and draft curtains shall self-close under gravity, not power, in accordance with the requirements outlined under NFPA 80 Standard for Fire Doors and Other Opening Protectives.

- L. Finish: After completion of fabrication, clean all metal surfaces to remove dirt and chemically treat to provide for paint adhesion. Hood, guides and bottom bar shall be of McKEON Sterling Gray finish.

PART 3 - EXECUTION

3.1 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.

3.2 INSTALLATION

- A. Perform installation using only factory approved and certified representatives of the smoke and draft curtain manufacturer.
- B. Install smoke and draft curtain assemblies at locations shown in perfect alignment and elevation, plumb, level, straight and true.
- C. Adjust smoke and draft 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 smoke and draft curtain closing sequence when activated by the building's fire and smoke alarm system. Reset smoke and draft curtain after successful test.

3.3 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.

END OF SECTION 083343