

SECTION 08 33 43
SMOKE & DRAFT RATED PERIMETER CURTAINS

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 DESCRIPTION

- A. Related work specified elsewhere:
 - 1. Metal Fabrication. Section 05 50 00
 - 2. Rough Carpentry. Section 06 10 00
 - 3. Access Panels & Doors: Section 08 31 00
 - 4. Painting: Section 09 91 00
 - 5. Electrical: Division 26

1.03 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 perimeter curtain.
- C. Certifications:
 - 1. Submit manufacturer's Underwriters Laboratories or Intertek laboratory testing listing report verifying product compliance in accordance with the required fire and smoke ratings.
 - 2. Submit manufacturer's Code Compliance Research Report published by an independent third-party testing agency that is certified by the International Accreditation Service confirming compliance of the fire and smoke curtain assembly in accordance with the International Building Code.
 - 3. Provide assemblies that have been tested, certified and labeled for Smoke & Draft compliance to UL 1784 without the use of an artificial bottom seal.
- D. Product Literature: Submit manufacturer's technical literature describing the product to be used under this section.
- E. 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.
- F. 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 UL or 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.

1.04 QUALITY ASSURANCE

- A. Rated Assemblies: Provide all curtains with smoke and draft resistance rating required to comply with governing regulations which are inspected, tested, listed and labeled by UL or Intertek and complying with NFPA 105 for class of opening. Provide units tested, approved and labeled under UL 1784. Provide testing laboratory label permanently affixed to each smoke and draft rated perimeter curtain bottom bar assembly as evidence of product compliance in accordance with the requirements outlined under NFPA

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105.

- 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.
- E. Product Labeling: Provide a smoke and draft rating label from an accredited independent testing laboratory, such as UL or Intertek in accordance NFPA 105, Listed and Labeled Products. The label shall be permanently affixed to the bottom bar of the product so that it is readily visible and convenient for identification by the AHJ after installation of the assembly. At a minimum the smoke and draft rating label shall indicate product compliance with all of the appropriate test standards and performance requirements as indicated in NFPA 105.

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. Smoke & Draft Rated Perimeter Curtain Warranty: Provide Two (2) Year Warranty, effective as of the date of shipment, 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 SMOKE & DRAFT RATED PERIIMETER CURTAINS

- A. Manufacturer: Smoke and draft rated perimeter curtains shall be the SmokeFighter® Series model D500S-SS as manufactured by McKEON.

2.02 MATERIALS

- A. Assembly Design: Shall be designed requiring a single motor power drive to operate all of the curtain assemblies required to enclose the entire required perimeter. Smoke and draft rated perimeter 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 of a three (3) hour fire rated textile, consisting of an E-Glass polyurethane coated fabric with integral stainless steel reinforced structural wire mesh weave. Curtain shall be at minimum no less than .7 mm thick.

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- C. Bottom Bar Assembly: Shall consist of a stainless steel tubular shaped member formed to fit curtain, provide stiffness, limit deflection, allow for a tight-fitting closure to provide for a flat ceiling reveal. Bottom bar assembly 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.
- D. Guide Assemblies: Each guide assembly, if required, shall be fabricated of a steel mounting adjustment angle with stainless steel 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.
- E. Support 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 collector assembly. Hood shall be fabricated of minimum 22 gauge stainless steel formed to match support brackets. Top and bottom shall be bent and reinforced for stiffness.
- G. Barrel Collector Assembly: Fabricated of structural quality seamless carbon steel of sufficient size and diameter to house optional operating motor drive, support curtain assembly and limit horizontal deflection of the smoke and draft rated perimeter curtain assembly.
- H. Single Motor Drive Unit: Smoke and draft rated perimeter 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 smoke and draft perimeter curtain to operate under normal and emergency ready conditions. Motor drive units shall be listed and labeled to test standards UL 325 and UL 864.
- 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 smoke and draft curtain shall automatically self-close. In the event of power failure a time delay shall prevent the smoke and draft rated perimeter curtain from closing for a period of 30 minutes, unless there is an alarm condition at which point the smoke and draft rated perimeter 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 rated perimeter curtain shall immediately be restored to the normal operating condition.
- J. True Test Panel: Smoke and draft rated perimeter curtains shall be provided with a True Test panel. A single True Test panel shall activate and automatically reset all the smoke and draft rated perimeter curtains on the entire project. When activated to close via the True Test panel, the smoke and draft rated perimeter curtains shall self-close under gravity, not power, in accordance with the requirements outlined under NFPA 105 Standard for Fire Doors and Other Opening Protectives.
- K. Finish: After completion of fabrication, clean all metal surfaces to remove dirt. All steel components shall receive two coats of rust inhibitive primer. All exposed stainless steel components shall be of type 304 with number 4 polish finish.

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.

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- 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 smoke and draft rated perimeter curtain manufacturer.
- B. Install smoke and draft rated perimeter curtain assemblies at locations shown in perfect alignment and elevation, plumb, level, straight and true.
- C. Adjust smoke and draft rated perimeter 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 rated perimeter curtain closing sequence when activated by the building's fire and smoke alarm system. Reset smoke and draft rated perimeter 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.