SECTION 08 33 44

STEEL-TEX® FIRE SHUTTER

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes:

1. Division 5 Section "Metal Fabrications" for supplementary metal members supporting smoke curtain systems to structure.
2. Division 26 Sections for electrical wiring and connections and for smoke curtain machines.
3. Division 28 Section “Fire Alarm” for connections of smoke and fire curtain machines to fire alarm per UL 864 label.

B. Products Furnished Under This Section:

1. This Section includes Steel-Tex Fire Shutter (SFS)
2. Model Number- Hose Stream 120® First Responder manufactured by US Smoke & Fire® Corp
3. Installers- U.S. Smoke & Fire® Corp

C. Build America, Buy America Act: BABA

1. All materials must be manufactured in the continental United States only. The manufacturing location shall be inspected by testing agency in the continental United States only.
2. No imported product accepted. All imported products disqualified.
3. Product Certification agency must have all factory inspections in the continental United States only.
4. Hose Stream 120® First Responder designated as a High Priority Opening.

D. Related Requirements:

1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 REQUIRED TEST REPORTS FOR Fire Curtain Shutter and Frame– Guardian Fire Testing Laboratories Product listing and Labeling Requirement per ISO 17065 by ANSI Accreditation for Fabric Fire Shutter. Testing Laboratory to be IAS Accredited, ISO 17025 Compliant.

A. Required Certifications, Label Requirements, and Minimum Performance Standards Tested to:

1. **UL 10B and ASTM E2226** (Hose Stream Test)- Fire test of Fire Door Assemblies listed and labeled for a **two-hour fire wall or fire barrier per IBC 715.3. Guardian Certification Directory**
2. **UL 1784 Intertek Certification Directory**

1.03 SUBMITTALS

A. Product Data:
   1. For each type of product indicated.

B. Shop Drawings:
   1. Show fabrication and installation details for fire curtain shutter. Include plans, sections, details, attachments to other work, and the following:
      a. Operating clearances.
      b. Requirements for supporting automatic fire curtain shutter, track, and equipment. Verify capacity of each track and rigging component to support loads.

c. Locations of equipment components, switches, motors and controls. Differentiate between manufacturer-installed and field-installed wiring.

B. Samples:

1. For each type of steel-textile from dye lot to be used for the Work, with specified treatments applied, and showing complete pattern and texture repeat, if any. Mark top and face of fabric.

C. Testing Laboratory Label and Accreditation:

1. For each type of product provide Guardian label affixed to Assembly.
2. The test is accredited and meets the requirements of ISO/IEC 17025 as verified by ANAB per Report AT1247.

E. U.S. Green Building Council (USGBC)- LEED- local and regional materials. Manufacturing in the continental United States required. **No import of comparable product by a United States based company manufactured for the US company from China, India or Middle East.**

1.04 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data:

1. Steel-Tex® fire shutters included in maintenance manuals.

B. Warranty Documentation:

1. Special warranties specified in this Section.

1.05 QUALITY ASSURANCE

A. Overall Standards:

1. Manufacturer shall maintain a quality control program for follow up service in accordance with ISO 1720.

B. Qualifications:

1. Installer:

a. A firm or individual in the United States with no less than five years on-site installation experience in the United States, experienced in installing fire shutters similar in material, design, and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance.

b. Conduct conference to comply with requirements in Division 01 Section "Project Management and Coordination."

1.06 FIELD CONDITIONS

A. Existing Conditions:

1. Verify rough and clear openings and the dimensions of other construction utilizing field measurements or hold to dimensions before fabrication and indicate measurements on shop drawings.

1.07 WARRANTY

A. Manufacturer Warranty:

1. Manufacturer’s Warranty one year from date of Substantial Completion.

PART 2 - PRODUCTS

2.01 STEEL- TEX® FIRE SHUTTER

A. Manufacturer:

Basis of Design Manufacturer: Hose Stream 120® First Responder by US Smoke & Fire® Corp.

B. Installers:

1. Installer- U.S. Smoke & Fire 888.917.8777 Ext 102, www.ussmokeandfire.com

B. Basis of Design Manufacturer: Hose Stream 120® First Responder.

A. Description:

1. Provide Hose Stream 120® First Responder
2. There are no substitutions of materials specified allowed during the bidding process. If, for any reason a deviation from materials specified by the designers is desired or warranted, a cover letter and a request for deviation. Transmittal form must be submitted to construction manager (CM). If the proposed deviation is rejected by the CM or the Designers, it is this subcontractor's responsibility to obtain the original items and maintain the original construction schedule. The Designer has the right to require the originally specified material or item and his decision on the matter is final.

B. Performance/Design Criteria:

1. Head Box- The head box shall be manufactured from 18-gauge galvanized steel. The enclosure shall be rated at the same temperature as the complete assembly.
2. Cover Plates- Removable cover plates shall be incorporated to allow access to the steel rollers.
3. Sizes- Standard head box sizes shall be 12 inches x 12 inches up to ten feet clear opening widths and 9 inches x 15 inches for larger widths. Larger head boxes may be required where the shutter drop is in excess of 10 feet drop height.
4. First Responder Bottom Bar- A weighted bottom bar shall be provided

to prevent deflection and ensure correct operation. Swings away and leaves a metal threshold approximately 3/8 inch in height which is beveled with a slope not greater than 50 percent. There is no latch. There is no continuous fastener. There is no partial fastener.

5. Roller Assembly System -The roller system shall be constructed from a round tubes, which will incorporate Motor and gearbox and a sealed heavy-duty ball bearing assembly.
6. Motor Controllers- Motor controllers housed in a steel enclosure shall be mounted onto the motor end of the head box.

7. Steel-Tex®— The steel textile shall be manufactured from wire inserted woven glass fiber with vermiculite coating. The woven wire reinforced high performance multi-layer fiber textile with vermiculite coating shall be tested to the standard of UL 10B with hose stream performance (ASTM E2226) for an opening in a two-hour fire wall per IBC 715.3.
8. Side Guide Assemblies- Each guide assembly shall be fabricated of a steel channel with integral pressure retaining tabs.
9. Finish- Factory galvanized steel enclosure. Clean all metal surfaces for paint adhesion.
10. The First Responder steel- textile door integrated into the curtain system.

C.Operation

1. The SFS shall deploy upon a signal from the fire alarm system in an emergency situation.
2. Under normal operating conditions the fabric fire shutter would be held in the retracted position via the motors operating a voltage.
3. Upon activation of the fire alarm, the controller will remove the supply voltage and the SFS shall descend in a controlled manner. A dynamic

braking system housed in the motor control circuit shall control the speed of the descent of the curtain. To retract the SFS the control panel shall supply voltage to the motor controller and motors will drive the Steel-Tex fire shutter to the upper position. As the bottom bar or stopping bar hits the shutter housing a current limiting circuit will step back the voltage and current and hold the bottom bar in the retracted position.

4. Limit switches are not to be used to control the upper position of the curtain.
5. Power fail to the group control panel, the supply is automatically switched to the integral standby battery. The curtain remains in the
6. Control Panel: Provide Control Panel (CP). During normal operation, the CP will provide an AC supply to the fabric fire shutter motor holding them in the retracted position. Should smoke be detected, the fire alarm contact in the CP will be opened by the fire alarm control system, the CP will control the descent of the motors and it will descend in a controlled manner.
7. Open on fire- signal, close on normal mode
8. The First Responder door will open upon a push force of less than five pounds without pinching, grasping, or twisting to pass through; and a pull force of less than five pounds of a grab strap on the non-egress side.

PART 3 – EXECUTION

3.01 EXAMINATION

A. Verification of Conditions:

1. Examine areas and conditions, with Installer present, for compliance with requirements for supporting members, blocking, installation toler-

ances, clearances, and other conditions affecting performance of automatic smoke-curtain work. Proceed with installation only after unsatisfactory conditions have been corrected.

2. Examine inserts, clips, blocking, or other supports required to be installed by others to support boxes. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION

A. Install fabric fire shutter according to manufacturer's written instructions.

B. Interface with Other Work:

1. Notification of deployment- sensors may be installed by others

3.03 FIELD QUALITY CONTROL

A. Field Tests and Preventative Maintenance Service

1. Fire alarm testing- the SFS is required to deploy upon a signal from the fire alarm in an emergency situation. Drop test and commissioning per NFPA 80.

3.04 CLOSEOUT ACTIVITIES

A. Demonstration:

1. Engage a factory-authorized service representative to demonstrate system.

B. Training:

1. Engage a factory-authorized service representative to provide End User training per NFPA 3.

3.05 ANNUAL REQUIRED PREVENTIVE MAINTENANCE REQUIREMENT

A. This is a high-performance Steel- Tex® fire shutter system that requires annual adjustment, maintenance and preventative maintenance service. Engage U.S. Care® factory certified technician to maintain system once per annum per manufacturers operation and maintenance manual for the preventative maintenance service.

B. No contractor nor end user shall attempt any service of the system. Such action shall void the warranty on the assembly. After warranty period, all maintenance by a US Care® factory certified technician.

END OF SECTION 08 33 44