

SECTION 11060

Stage/Theatrical Equipment

I. GENERAL

1.1 Intent

- A. The intent of the specification is to provide the owner with a complete working curtain system. To have the design integrity of equipment and features meet the owners decided use, and provide equipment that has a proven long-term reliability record.

1.2 Scope

- A. All materials, components and services necessary to provide a complete working system indicated in this section, as specified herein and shown on related drawings including, but not limited to:
 1. Dimensional drawings and schedules for specified curtains, track and appropriate hardware.
 2. Shipment of equipment and supplies to the job site.
 3. Installation in accordance with these specifications, related drawings, the equipment manufactures' recommendations, established trade criteria, and all applicable code requirements.
 4. Inspection and demonstration of completed installation with the general contractor's engineering personnel and any necessary adjustments needed to comply with these specifications, related drawings, equipment manufactures' recommendations, established trade criteria, applicable code requirements, or proper operation.

1.3 Work Included

- A. Base Bid:
 1. Theatre Curtains
 2. Curtain Track, Electric Pipes and Hardware
- B. The above list is for reference only and is not intended to define limits of the work for a complete installation. Carefully follow all written specifications and drawings and provide such work for a complete and operable system.

1.4 Work Not Included

- A. Principal structural steel work, except as herein indicated.

1.5 Qualifications

- A. All equipment and installation shall be the responsibility of a single contractor, or subcontractor, who shall own and operate his own full time shop for the installation and assembly of stage equipment. **Preapproved contractors are: Illinois Window Shade Company, 6250 N. Broadway Chicago, IL 60660/ (773)743-6025 Office #, (773)743-1749 Fax #, www.illinoisshade.com.**

- B. Bid submissions must identify any such subcontractors.
- C. The contractor or subcontractor shall have at least 5 years experience in the installation of similar stage equipment and systems. If requested, the contractor or subcontractor shall submit a representative list of installations during the above period.

1.6 Submittals

A. Samples:

1. Within thirty (30) days of contract award, the contractor shall submit to the architect for approval, prior to fabrication:
 - a) Samples and color lines for all curtain fabrics.
 - b) Samples of any equipment component requested by the architect.

1.7 Standards

- A. All equipment, where applicable standards have been established, shall be built to the standards of Underwriters Laboratories, Inc., the National Electric Code, and the United States Institute for Theatre Technology. Approved equipment shall be so labeled on delivery to the job site.

1.8 General Requirements

- A. General Conditions of the project contract, work schedules, and site regulations apply to this work.
- B. This work shall comply with all applicable local, state, and national codes.
- C. All equipment shall be fully insured against loss or damage during shipment, installation and testing. Certification of such coverage shall be furnished to the architect.
- D. The contractor shall warrant all equipment provided under this section to be free from defects in materials and workmanship for a period of at least twelve (12) months from the date of final acceptance of all work in this section.
- E. All repairs and service during the warranty period shall be at the job site and include all necessary labor, materials and transportation of replacement materials and parts.
- F. This warranty shall cover any manufacturer defects of equipment and unusual wear and tear caused by improper installation. Normal wear and tear and abuse of equipment are exempted.

1.9 Curtains

A. Fabrics:

1. Front Setting: Velour shall be 100% Polyester, 26 ounce 54" wide Charisma fabric manufactured by KM Fabrics. Fabric shall be Inherently Flame Retardant. Submit certificates showing dye lot and flame test. Architect to select color
2. Rear Setting: Velour shall be 100% Polyester; 22 ounce 64" wide Encore fabric manufactured by Milliken & Co. Fabric shall be Inherently Flame Retardant. Submit certificates showing dye lot and flame test. Architect to select color.

3. Cycloramas: Shall be Poly Muslin manufactured from 100% Avora polyester as provided by Rosebrand. Fabric shall be Inherently Flame Retardant. Submit certificates showing dye lot and flame test. Architect to select color.

B. Fabrication:

1. All pile fabrics shall be constructed with pile running down.
2. All seams shall be vertical with each width running the full height - no horizontal splices.
3. Thread colors shall match face of fabric.
4. A label shall be attached 6 feet from the bottom of every curtain showing height, width, and date of flame proofing.
5. Sizes and quantities per drawings and schedules.
6. Draw Curtains: Top hem shall be turned and reinforced with continuous 3 ½" heavy jute webbing. 50% fullness shall be sewn in with box pleats approximately 12" on center. A #3 brass anodized black grommet shall be inserted on every pleat and at ends. Bit snaps or ADC model CC-2 snaps shall be provided for attachment to carriers at each pleat and ends of curtain. Bottom hem shall be 5" and contain a continuous No. 8 jack chain held in a muslin pocket sewn securely to be held 1" above the bottom of the hem. Jack chain shall be secured to muslin pocket every 36". Side hems shall be a minimum of 8" on the leading edge and 3" on the offstage edge. Vertical seams with salvages shall be sniped every 36" for proper hanging.
7. Border Curtains: Top hem shall be turned and reinforced with continuous 3 ½" heavy jute webbing. 50% fullness shall be sewn in with box pleats approximately 12" on center. A #3 brass anodized black grommet shall be inserted on every pleat and at ends and contain a 30" piece of #4 black tie line for tying curtain to pipe. Bottom hem shall be 5". Side hems shall be a minimum of 3". Vertical seams with salvages shall be sniped every 36" for proper hanging.
8. Leg Curtains: Top hem shall be turned and reinforced with continuous 3 ½" heavy jute webbing. 50% fullness shall be sewn in with box pleats approximately 12" on center. A #3 brass anodized black grommet shall be inserted on every pleat and at ends. For Track installation insert bit snaps or ADC model CC-2 snaps into each grommet for attachment to carriers at each pleat and ends of curtain. For Pipe installations a 30" piece of #4 black tie line shall be provided in each grommet for tying curtain to pipe. Bottom hem shall be 5" and contain a continuous No. 8 jack chain held in a muslin pocket sewn securely to be held 1" above the bottom of the hem. Jack chain shall be secured to muslin pocket every 36". Side hems shall be a minimum of 3". Vertical seams with salvages shall be sniped every 36" for proper hanging.
9. Cycloramas: Top hem shall be turned and sewn flat with continuous 3 ½" heavy jute webbing reinforcement. A #3 brass anodized black grommet shall be inserted every 12" and at ends. For Track installation insert bit snaps or ADC model CC-2 snaps into each grommet. For Pipe installation insert a 30" piece of #4 black tie line into each grommet for tying curtain to pipe. Track mounted cycloramas shall have a 5" bottom hem and contain a continuous No. 8 jack chain held in a muslin pocket sewn securely to be held 1" above the bottom of the hem. Jack chain shall be secured to muslin pocket every 36". Pipe mounted cycloramas shall contain a 5" pipe pocket reinforced with muslin.

- C. Fabricate and install as directed.

1.10 *Curtain Track and Hardware*

A. Draw Curtains

1. Curtains over 18' tall shall utilize H&H Specialties 400 series track and components or pre approved equal.
2. Curtains under 18' tall shall utilize H&H Specialties 200 series track and components or pre approved equal.
3. Lightweight curtains shall utilize H&H Specialties 116 series track and components or pre approved equal.
4. Curved curtains shall utilize H&H Specialties 300 series track and components or pre approved equal.

B. Hardware:

1. All pipes and track for curtains shall be suspended with 1/8" 7x19 Galvanized Aircraft Cable, Anodized Black, secure loop ends with copper oval sleeves. Attach to track clamp hanger or pipes clamp using rated gliders. Eye gliders connect with 3/16" domestic shackles, or direct connect with glider pin device. All pipes for lighting shall be suspended with 1/4 proof coil chain zinc plated or galvanized. Attach chain to pipe utilizing rated pipe clamps and 1/4" domestic shackles.
2. Appropriate clamping devices or eyebolts shall be used to make connection to support steel or ceiling. Chain is not to be wrapped around support members.
3. 3/4" I.D. Schedule 40 black iron pipe shall be used for dead hung borders and legs. 1 1/2" I.D. Schedule 40 black iron pipe shall be used for electric pipes.

1.11 *Execution*

A. Field Quality Control

1. All equipment shall be installed under the direct supervision of an experienced representative of the rigging contractor.
2. All work shall be performed in strict accordance with approved shop and installation drawings.

1.12 *BIDS*

A. Base Bid

1. Provide curtains, track, pipe, hardware and installation of all items.

