

SECTION 11063

STAGE CURTAINS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes stage curtain rigging and the following types of stage curtains:
1. Front-setting curtains including front curtain, valance, and tormentors.

1.2 SUBMITTALS

- A. Product Data: Include types, styles, materials, operating instructions, and maintenance recommendations.
1. Setting Drawings, and templates for built-in or embedded anchor devices.
- B. Shop Drawings: Include plans, elevations, and detail sections of typical track and rigging elements. Show anchors, hardware, operating equipment, and other components not included in manufacturer's Product Data. Include the following:
1. Locations for blocking to be provided by others.
 2. Extent of required operating clearances.
 3. Calculations: Calculate requirements for supporting curtains, track, and equipment and verify capacity of each curtain, track, and rigging component to support loads.
 4. Locations of equipment components, switches, and controls.
 5. Wiring Diagrams: Detail wiring for power, signal, and control systems and differentiate between manufacturer-installed and field-installed wiring.
- C. Samples for Initial Selection: Manufacturer's color charts showing the full range of colors, textures, and patterns available, together with 12-inch- square sample (any color) of each type fabric.
- D. Samples for Verification: Not less than 36 inches square of each fabric from dye lot to be used for the Work, with specified treatments applied, and showing complete pattern repeat, if any. Mark top and face of fabric.
- E. Product Certificates: Signed by manufacturers of stage curtains certifying that products furnished comply with requirements. Give name of flame-retardant chemical used, identification of applicator, treatment method, application date, allowable life span for treatment, and details of any restrictions and limitations.
- F. Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
- G. LEED Submittal:
1. Credit MR 2.1 and 2.2: Comply with Division 1 Section "Construction Waste Management."

2. Credit MR 5.1: Product Data indicating location of material manufacturer for regionally manufactured materials.
 - a. Include statement indicating cost and distance from manufacturer to Project for each regionally manufactured material.

1.3 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer who has completed installation of stage curtains similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
- B. Fire-Test-Response Characteristics: Provide stage curtains with the fire-test-response characteristics indicated, as determined by testing identical products per test method indicated below by UL or a testing and inspecting agency acceptable to authorities having jurisdiction. Permanently attach label to each fabric of curtain assembly indicating whether fabric is inherently and permanently flame resistant, or treated with flame-retardant chemicals, and whether it will require retreatment after designated time period or cleaning.
 1. Flame-Resistance Ratings: Passes NFPA 701.

1.4 PROJECT CONDITIONS

- A. Field Measurements: Verify stage curtain openings and dimensions of other construction by field measurements before fabrication and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
 1. Established Dimensions: Where field measurements cannot be made without delaying the Work, establish opening and construction dimensions and proceed with fabricating stage curtains without field measurements. Coordinate construction to ensure that actual opening and construction dimensions correspond to established dimensions.

PART 2 - PRODUCTS

2.1 CURTAIN FABRICS

- A. General: Provide fabrics inherently and permanently flame resistant to comply with requirements indicated. Provide fabrics from the same dye lot.
- B. Colors, Textures, and Patterns: As selected by Architect from manufacturer's full range for these characteristics.
- C. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
 1. Woven Cotton Velour:
 - a. #2703 Overture; JB Martin Ltd.
 - b. #31010 Metro; J. L. de Ball America, Inc.
 - c. Memorable; KM Fabrics, Inc.
 - d. #2603 Concertino; JB Martin Ltd.
 - e. # 31138 Sydney; J. L. de Ball America, Inc.
 - f. Marvel; KM Fabrics, Inc.

- g. #13253 Roussillon; JB Martin Ltd.
- h. Princess; KM Fabrics, Inc.

2.2 FRONT-SETTING CURTAIN FABRIC

- A. Woven Cotton Velour: Napped fabric of 100 percent cotton; 54-inch minimum width; and other characteristics as follows:
 - 1. Medium Weight: Fabric weighing not less than 20 oz./ linear yard before flame-retardant treatment, with pile height not less than 75 mils.
- B. Lining: Yarn-dyed denim cloth of 100 percent cotton; woven in a warp-faced twill; 54-inch minimum width.

2.3 METAL

- A. Steel Pipe: ASTM A 53, Grade A, standard weight (Schedule 40), black, 1-1/2-inch nominal diameter, unless otherwise indicated.
- B. Galvanized Steel Sheet: Commercial-quality, zinc-coated, carbon-steel sheet; complying with ASTM A 653/A 653M, G60 coating designation.
- C. Aluminum: Alloy and temper recommended by manufacturer for strength and corrosion resistance; mill finish; ASTM B 221 for extrusions.
- D. Supports, Clamps, and Anchors: Sheet steel in manufacturer's standard thicknesses, galvanized after fabrication according to ASTM A 153/A 153M, Class B.
- E. Trim and Support Cable: 1/4-inch- diameter, 7x19 galvanized steel aircraft cable with a breaking strength of 7000 lb. Provide fittings complying with cable manufacturer's written recommendations for size, number, and method of installation, including a drop-forged galvanized turnbuckle to allow for leveling.
- F. Inserts, Bolts, Rivets, and Fasteners: Manufacturer's standard corrosion-resistant units.

2.4 CURTAIN FABRICATION

- A. General: Affix permanent label, stating compliance with requirements of authorities having jurisdiction, in accessible location on curtain not visible to audience. Provide vertical seams, unless otherwise indicated. Arrange vertical seams so they do not fall on faces of pleats. Do not use fabric cuts less than half width.
 - 1. Vertical Hems: Provide vertical hems not less than 2 inches wide, with not less than a 1-inch tuck, and machine-sewn with no selvage material visible from front of curtain. Sew open ends of hems closed.
 - 2. Leading Edge Turnbacks: Provide turnbacks formed by folding not less than 12 inches of face fabric back, with not less than a 1-inch tuck, and secured by sewing turnback vertically.
 - 3. Top Hems: Reinforce top hems by double-stitching 3-1/2-inch- wide, heavy jute webbing to top edge with not less than 2 inches of face fabric turned under.

4. Pleats: Provide 50 percent fullness in curtains, exclusive of turnbacks and hems, by sewing additional material into 3-inch double-stitched box pleats spaced at 12 inches o.c. along top hem reinforcement.
 5. Pleats: Provide 100 percent fullness in curtains, exclusive of turnbacks and hems, by sewing additional material into 6-inch double-stitched box pleats spaced at 12 inches o.c. along top hem reinforcement.
 6. Grommets: Brass, centered on box pleats and 1 inch from corner of curtain, for snaps or S-hooks.
 - a. Provide not less than No. 2 grommets except, for velour curtains, provide not less than No. 3 grommets.
 - b. For black curtains, provide brass or aluminum grommets with a black finish.
 7. Bottom Hems: For curtains that do not hang to the floor, provide hems not less than 3 inches deep with 3/4-inch weight tape. For floor-length curtains, provide hems not less than 6 inches deep with 1-inch weight tape. Sew open ends of hems closed.
 8. Bottom Hems: For curtains that do not hang to the floor, provide hems not less than 3 inches deep with 3/4-inch weight tape. For floor-length curtains, provide hems not less than 6 inches deep with separate, interior, 100 percent cotton, heavy canvas chain pocket equipped with No. 8 plated jack chain. Stitch chain pockets so chain will ride 2 inches above finished bottom edge of curtain.
 9. Velour Curtains: Fabricate with the fabric nap down.
 10. Lining: Provide lining for each curtain in same fullness as face fabric, and finished 2 inches shorter than face fabric. Attach lining to face fabric along bottom and side seams with 4-inch- long strips of heavy woven cotton tape.
- B. S-Hooks: Track manufacturer's heavy-duty plated wire hooks.
- C. Snap Hooks: Track manufacturer's heavy-duty hooks.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and conditions, with Installer present, for compliance with requirements for supporting members, blocking, installation tolerances, clearances, and other conditions affecting performance of stage curtain work. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Examine inserts, clips, blocking, or other supports required to be installed by others to support tracks and battens. Proceed with installation only after unsatisfactory conditions have been corrected.

3.3 INSTALLATION, GENERAL

- A. Install stage curtain system according to track manufacturer's and curtain fabricator's written instructions.

3.4 TRACK INSTALLATION

- A. Ceiling-Mounted Tracks: Drill track at intervals not greater than manufacturer's written instructions for spacing, and fasten directly to structure.
- B. Wall-Mounted Tracks: Install tracks by suspending from manufacturer's special bracket clamps securely mounted to wall construction at spacing, according to manufacturer's written instructions.

3.5 CURTAIN INSTALLATION

- A. Track Hung: Secure curtains to track carriers with track manufacturer's special heavy-duty S-hooks or snap hooks.

END OF SECTION