

SECTION 11 52 13

ELECTRICALLY OPERATED PROJECTION SCREENS

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes: This Section specifies electrically operated front projection screens and accessories.

1.02 RELATED SECTIONS

- A. Section 26 05 11 - Requirements for electrical installations.

1.03 DEFINITIONS

- A. Gain: Indication of screen's luminance or brightness, measured perpendicular to screen center and relative to magnesium carbonate block, which serves as standard for 1.0 gain. Higher numbers indicate greater brightness.
- B. Viewing Angle: Horizontal angle from perpendicular center of screen at which gain or brightness decreases by 50%.
- C. Format: Proportion of projection screen viewing area expressed as a ratio of width/height.
 - 1. NTSC or Video Format: 1.33:1.
 - 2. HDTV Format: 1.78:1.
 - 3. 16:10 Wide: 1.60:1.
 - 4. Cinemascope: 2.35:1.
 - 5. Letterbox: 1:85:1.
 - 6. Square: 1:1.

1.04 REFERENCES

- A. International Code Council (ICC):
 - 1. International Building Code. 2012
- B. Society of Motion Picture and Television Engineers (SMPTE):
 - 1. SMPTE RP 94-2000, Gain Determination of Front Projection Screens.
- C. Underwriters Laboratories Inc. (UL).
- D. Underwriters' Laboratories of Canada (ULC).

1.05 SUBMITTALS

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Product Data: Submit product data, including manufacturer's technical

product data sheet, for specified products.

1. Material Safety Data Sheets (MSDS).
- C. Shop Drawings: Indicate dimensions, fabrication and installation details.
1. Include electric wiring diagrams.
- D. Samples: Submit [2] samples of screen finish material having dimensions of [6 inches × 6 inches (152 × 152 mm)].

1.06 INFORMATION SUBMITTALS

- A. Quality Assurance:
1. Test Reports: Certified test reports showing compliance with specified performance characteristics and physical properties.
 2. Certificates: Product certificates signed by manufacturer certifying that materials comply with specified performance characteristics, criteria and physical requirements.
 3. Manufacturer's installation instructions.

1.07 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: Submit for products in accordance with Section [01 78 00 - Closeout Submittals]. Include:
1. Manufacturer's instructions detailing maintenance requirements.
 2. Parts catalog that includes complete list of repair and replacement parts, with cuts and identifying numbers.

1.08 QUALITY ASSURANCE

- A. Qualifications:
1. Worker experienced in performing work of this section who has specialized in work similar to that required of this project.
- B. Regulatory Requirements:
1. Comply with International Building Code IBC 2012.

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1.09 DELIVERY, STORAGE & HANDLING

A. Storage and Protection:

1. Store electric projection screens in a dry, ventilated area, protected from exposure to harmful weather conditions, at a temperature less than 80 degrees F (27 degrees C).

B. Handling: Handle electrically operated projection screen materials with care in order to prevent damage.

C. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.

1.010 PROJECT AMBIENT CONDITIONS

A. Project Location: Perform electrically operated projection screen work when temperatures are greater than 40 degrees F (4 degrees C).

1.011 SEQUENCING

A. Sequence With Other Work: Comply with projection screen manufacturer's written recommendations for sequencing construction operations.

1.012 WARRANTY

A. Project Warranty: Refer to Contract Conditions for project warranty provisions.

B. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and does not limit, other rights Owner may have under Contract Documents.

1.013 MAINTENANCE MATERIALS

A. Use standard product line parts produced by manufacturer of electrically operated projection screens.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Ensure manufacturer has minimum [5] years experience manufacturing

components similar to or exceeding project requirements.

2.02 PROJECTION SCREEN SYSTEMS

A. Ceiling Recessed Electrically Operated Projection Screens.

1. Screen Operation: Electrically operated, UL and ULC listed, retractable, with 1 rigid metal roller.
2. Motor: Housed inside metal roller and including automatic thermal overload protection, integral gears, capacitor and electric brake to prevent coasting.
 - a. Type: 3-wire with ground, permanently lubricated, quick reversal type designed for mounting inside roller.
 - b. Quantity: 1.
 - c. Voltage, Frequency: 115 V, 60 Hz.
 - d. Amperage: 2.4 amps maximum.
 - e. Include preset, adjustable limit switches to automatically stop fabric door and viewing surface in UP or DOWN position.
3. Electric Controls: Wall-mounted switch.
 - a. Voltage, Frequency: 115 V, 60 Hz.
 - b. Switch: 3 position type with cover plate for UP, DOWN and STOP functions.
 - c. Junction Box: Internally attached to screen case.
4. Screen Mounting: Ceiling recessed type.
 - a. Mounting Hardware: Include mounting hardware.
5. Screen Case: Designed to receive mounting hardware and sized to suit projection screen.
 - a. Type: Wood with metal-lined wiring compartment.
 - 1) Finish Type: White primer coat.
 - 2) Case Bottom: Equipped with removable hinged door for manual access and hinged automatic door for raising and lowering viewing surface.
 - a) Finish: White.

6. Screen Size:
 - a. Viewing Area: H 72 inches × W 96 inches (H 183 × W 244 cm).
7. Acceptable Material:
 - a. Non-Tensioned Screen Material:
 - 1) Front projection, flame retardant, mildew resistant fiberglass, black backing with standard black borders, easily cleaned with mild soap and water solution.
 - 2) Bottom of fabric to form a pocket holding a metal rod.
 - 3) Seams: Seamless in all standard sizes when both screen dimensions do not exceed 6 feet (1.8 m)] 8 feet (2.4 m).
 - b. Gain: To SMPTE RP 94-2000.
 - c. Viewing Angle: 60.
 - d. Format: NTSC or Video - 1.33:
 - e. Acceptable Viewing Surface:
 - 1) Matte White.

2.03 ACCESSORIES

- A. Low Voltage Control (LVC) System:
 1. Single Motor Low Voltage Control (LVC) System: External.
 - a. Wireless Remote Control for LVC: Infrared 3-button handheld remote control for UP, DOWN and STOP functions with single motor, low voltage control unit.
- B. Video Projector Interface Control: External, DC controls and Low Voltage 3-button switch with cover plate for wall switch operation.

PART 3 EXECUTION

3.01 INSTALLERS

- A. Provide experienced and qualified technicians to install electrically operated projection screens.

3.02 MANUFACTURER'S INSTRUCTIONS

- A. Compliance: Comply with manufacturer's written data, including product technical bulletins, product catalog installation instructions, product carton installation instructions and, technical data sheets.

3.03 EXAMINATION

- A. Site Verification of Conditions:
 - 1. Verify that conditions of substrates previously installed under other sections or contracts are acceptable with electrically operated projection screen installation.
 - 2. Ensure electrical power supply is installed to meet electric projection screen requirements in accordance with Section [26 05 00 - Common Work Results for Electrical].
 - a. Verify type and location of power supply.
 - 3. Inform Owner of unacceptable conditions immediately upon discovery.
 - 4. Proceed with installation only after unacceptable conditions have been corrected.

3.04 COORDINATION

- A. Coordinate electric projection screen placement with placement of other ceiling and wall mounted components.

3.05 INSTALLATION

- A. Install electric projection screens in accordance with reviewed shop drawings at locations and heights indicated.
- B. Install screen housing and make electrical connections [prior to] [in conjunction with] installation of ceiling system.
 - 1. Verify locations with Owner and Architect prior to installation.
- C. Install viewing surface and drive assembly in housing only after interior construction is substantially complete.
- D. Securely install screens plumb and level to supporting substrate.

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3.06 FIELD QUALITY CONTROL

- A. Testing and Inspection: Operate each screen [3] times to ensure viewing surfaces extend and retract through full range of motion.
 - 1. Verify controls, limit switches, [automatic doors] and other components function as designed and meet project requirements.
 - 2. Ensure viewing surface raising operation fully engages and lifts screen closure door into closed position.
 - 3. Adjust motors, controls and components to allow for smooth, unobstructed screen operation.

3.07 FINAL CLEANING

- A. Perform cleanup in accordance with manufacturer's recommendations.
- B. Upon completion, remove surplus materials, rubbish, tools and equipment.

3.08 PROTECTION

- A. Protect electrically operated projection screens from damage during construction. Repair damage to adjacent materials caused by electrically operated projection screen work.

END OF SECTION

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