

**CONSTRUCTION STANDARD SPECIFICATION**

**SECTION 11132**

**PROJECTION SCREENS**

**PART 1 - GENERAL**

**SUMMARY**

- A. Section Includes:
  - 1. Front-projection screens.
- B. Products Furnished but not Installed Under this Section: Refer to the following sections for related work: Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
  - 1. Division 6 Section "Rough Carpentry" for wood backing for recessed screen installation.
  - 2. Division 6 Section "Interior Architectural Woodwork" for wood trim for recessed screen installation.
  - 3. Division 16 Sections for electrical service and connections including metal device boxes for switches and conduit, where required, for low-voltage control wiring.

**1.01 REFERENCES**

- A. American Society of Testing and Materials (ASTM)
  - A6 Specification for General Requirements for Delivery of Rolled Steel Plates, Shapes, Sheet Piling and Bars for Structural Use
- B. American Welding Society (AWS)
  - D1.1 Structural Welding Code – Steel

## 1.02 DEFINITIONS

- A. Gain of Front-Projection Screens: Ratio of light reflected from screen material to that reflected perpendicularly from a magnesium carbonate surface as determined per SMPTE RP 9

## 1.03 SUBMITTALS

- A. Product Data: For each type of screen indicated
- B. Shop Drawings:
  - 1. Location of screen centerline relative to ends of screen case.
  - 2. Location of wiring connections.
  - 3. Drop length.
  - 4. Connections to supporting structure for pendant- and recess-mounted screens.
  - 5. Anchorage details.
  - 6. Wiring Diagrams: For electrically operated units.
- C. Maintenance Data:

## 1.04 QUALITY ASSURANCE

- A. Source Limitations: Obtain projection screens through one source from a single manufacturer. Obtain each screen as a complete unit, including necessary mounting hardware and accessories. Retain paragraph below if electrically operated projection screens are used.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a nationally recognized testing agency acceptable to the authority having jurisdiction, and marked for intended use.

## 1.05 DELIVERY, STORAGE, AND HANDLING

- A. Do not deliver projection screens until building is enclosed and other construction within spaces where screens will be installed is substantially complete and ready for screen installation.

## 1.06 WARRANTY

- A. Manufacturer standard form which the manufacturer agrees to repair or replace any part that fails to perform for a period of five (5) years.

## PART 2 - PRODUCTS

### 2.01 MANUFACTURERS

Subject to compliance with requirements, manufacturers offering products that may be incorporated in the work include but are not limited to the following:

- B. Manually Operated Screens, General: Manufacturer's standard spring-roller-operated units, consisting of case, screen, mounting accessories, and other components necessary for a complete installation.
  - 1. Screen Mounting: Top edge securely anchored to a 3-inch- (75-mm-) diameter, rigid steel roller; bottom edge formed into a pocket holding a tubular metal slat, with ends of slat protected by plastic caps, and with a saddle and pull attached to slat by screws.
  
- C. Electrically Operated Screens, General: Manufacturer's standard units consisting of case, screen, motor, controls, mounting accessories, and other components necessary for a complete installation. Provide units that are listed and labeled as an assembly by UL or another testing and inspecting agency acceptable to authorities having jurisdiction.
  - 1. Line Voltage Control: Remote, 3-position control switch installed in recessed metal device box with flush cover plate.
  - 2. End-Mounted Motor: Instant-reversing, gear-drive motor of size and capacity recommended by screen manufacturer; with permanently lubricated ball bearings, automatic thermal-overload protection, preset limit switches to automatically stop screen in up and down positions, and positive-stop action to prevent coasting. Locate motor in its own compartment as follows:
    - a. Screen Mounting: Top edge securely anchored to rigid metal roller and bottom edge formed into a pocket holding a 3/8-inch- (9.5-mm-) diameter metal rod with ends of rod protected by plastic caps.
    - b. Roller for end-mounted motor supported by self-aligning bearings in brackets.
  
- D. Recessed, Electrically Operated Screens without Ceiling Closure: End-mounted motor units with bottom of case entirely or partially open under screen compartment.
  - 1. Screens below have end-mounted motor.
    - a. Da-Lite Screen Co., Inc.; Senior Electrol.
    - b. Draper Inc.; Rolleramic.
    - c. Da-Lite Screen Co., Inc.; Advantage

2. Provide metal or metal-lined motor enclosure on units with end-mounted motor.
3. Provide metal or metal-lined wiring compartment on units with motor in roller.
  - a. Screen Case: Made from metal and fire-retardant materials.
  - b. Provide screen case constructed to be installed with underside flush with ceiling.
  - c. Prime paint surfaces of screen case that will be exposed to view in the finished work.

## 2.02 MATERIALS

### E. Screen Material and Viewing Surface:

1. Matte-White Viewing Surface: Peak gain of 0.9 to 1.0, and gain of not less than 0.8 at an angle of 50 degrees from the axis of the screen surface.

- a. Products: Da-Lite Screen Co., Inc.; Matte White.
  - b. Draper Inc. Fiberglass Matte White.
2. Material: Vinyl-coated glass-fiber fabric.
  3. Mildew Resistance: Rating of 0 or 1 when tested according to ASTM G 21.
  4. Flame Resistance: Passes NFPA 701.
  5. Flame-Spread Index: Not greater than 75 when tested according to ASTM E 84.
  6. Seamless Construction: Provide screens, in sizes indicated, without seams.
  7. Edge Treatment: Black masking borders
  8. Provide extra drop length of dimension indicated to comply with the following requirements for fabric color and location of drop length:
    - a. Color: Black.
    - b. Location: At top of screen.
  9. Size. (3x4 format, not square)
    - a. Minimum Standard: 5' x 7' nominal.
    - b. Maximum Standard: 8' x 10' nominal
    - c. Other sizes as required by size of the conference room or auditorium.

## PART 3 - EXECUTION

### 3.01 INSTALLATION

- F. General: Install projection screens at locations indicated to comply with screen manufacturer's written instructions.
1. Install front-projection screens with screen cases in position and in relation to adjoining construction indicated. Securely anchor to supporting substrate in a manner that produces a smoothly operating screen with vertical edges plumb and viewing surface flat when screen is lowered.
  2. Install low-voltage controls according to NFPA 70 and manufacturer's written instructions.
    - a. Wiring Method: Install wiring in raceway except in accessible ceiling spaces and in gypsum board partitions where unenclosed wiring method may be used. Use UL-listed plenum cable or MC cable in environmental air spaces, including plenum ceilings. Conceal raceway and cables except in unfinished spaces.
    - b. Test electrically operated units to verify that screen controls, limit switches, closure, and other operating components are in optimum functioning condition.
    - c. Test manually operated units to verify that screen operating components are in optimum functioning condition.
    - d. At top edge and allow for expansion and contraction of plastic glazing material by providing frame with adequate bite and edge clearances.

### 3.02 PROTECTING AND CLEANING

1. After installation, protect projection screens from damage during construction. If damage occurs despite such protection, remove and replace damaged components or entire unit as required to provide units in their original, undamaged condition.

END OF SECTION