

## SECTION 11132 - PROJECTION SCREENS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SECTION INCLUDES

- A. Electrically operated front projection ceiling recessed screens and accessories in locations indicated on the drawings. Coordinate the work of this Section with the Owner's IT Consultant.
- B. Related Sections include, but are not limited to:
  - 1. Section 05500 - Metal Fabrications.
  - 2. Section 06100 - Rough Carpentry.
  - 3. Section 06200 - Finish Carpentry.
  - 4. Section 09250 - Gypsum Wall Systems.
  - 5. Refer to MEP Drawings for Electrical.

#### 1.3 DEFINITIONS

- A. Gain: Indication of screen's luminance or brightness measured perpendicular of screen center and measured relative to a block of magnesium carbonate which serves as the standard for 1.0 gain. Higher numbers indicate greater brightness. Gain shall be determined in accordance with SMPTE RP 94-2000.
- B. Viewing angle: Angle from perpendicular center of screen at which the gain or brightness is decreased by 50 percent.
- C. Keystone: Distortion of projected image when screen is not perpendicular to center line of projected image.

#### 1.4 SUBMITTALS

- A. Product Data: For each item of screen specified. Include manufacturer's standard details and installation and maintenance instructions.
- B. Shop Drawings: Show layout and types of projection screens. Include the following:
  - 1. Location of screen centerline relative to ends of screen case.
  - 2. Anchorage Details.
  - 3. Details of juncture of exposed surfaces with adjacent finishes.
  - 4. Frame details.
- C. Samples: 6' x 6' minimum sample of projection screen viewing surface

- D. Maintenance Data: For projection screen components to include in the maintenance manuals specified in Division 1.
- E. Copy of Special warranty specified herein.

## **1.5 QUALITY ASSURANCE**

- A. Manufacturer Qualifications: Work of this section to be executed by manufacturer specializing in the design, fabrication, and installation of projection screens having a minimum of five (5) years documented experience.
- B. Comply with Society of Motion Picture and Television Engineers (SMPTE): SMPTE RP 94-2000 - Gain Determination of Front Projection Screens.
- C. Installer Qualifications: Engage an experienced installer who is an authorized representative of the projection screens manufacturer for both installation and maintenance of the type of units required for this Project, and whose installations have resulted in construction with a record of successful in-service performance.

## **1.6 DELIVERY, STORAGE, AND HANDLING**

- A. Do not deliver projection screens until building is enclosed, other construction within spaces where screens will be installed is substantially complete, and installation of screens is ready to begin.
- B. Protect screens from damage during delivery, handling, storage, and installation.

## **1.7 COORDINATION**

- A. Coordination of Work: Coordinate layout and installation of projection screens with other construction supported by, or penetrating through, ceilings, including light fixtures, HVAC equipment, fire-suppression system, and partitions.
- B. Coordinate requirements for blocking, construction of recesses, and auxiliary structural supports to ensure adequate means for installation of screens.
- C. Coordinate installation of recessed mounted screens with construction of suspended acoustical panel ceilings specified in Section 09511.

## **1.8 WARRANTY**

- A. General Warranty: The special warranty specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.
- B. Warranty: Submit written warranties executed by the manufacturer of projection screens agreeing to repair or replace defective parts or components that fail in materials or workmanship. Warranty

shall be in effect for a minimum of three (3) years after the date of Substantial Completion and Owner Final Acceptance.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering projection screens that may be incorporated into the Work include, the following:

1. Da-Lite Screen Co., Inc., (800) 622-3737 [www.da-lite.com](http://www.da-lite.com) .
2. Draper, Inc. (765) 987-7999 [www.draperinc.com](http://www.draperinc.com) .

### 2.2 MANUAL OPERATED WALL PROJECTION SCREEN

- A. General: Provide manufacturer's standard UL-listed and UL-marked units consisting of case, screen, motor, controls, mounting accessories, and other components required for a complete installation and to comply with requirements indicated for screen surface and controls and for case, motor, and screen under description of operation and type.
- B. Provide wall or ceiling-mounted projection screen. Screen to have steel case with flat back and baked enamel finish and fitted with power-coated steel end caps concealing roller ends with integral bearing surface to support roller. Mounting brackets to have power-coated finish.
- C. Screen: Fabric shall be formed into a pocket holding tubular metal slat. Unit to be furnished with pull cord, metal bumper stops, padded with sponge rubber, and shall be built into case to prevent slat wedging inside case.
- D. Screen Case: Extruded aluminum housing with white paint finish and stamped steel end caps. Bottom closure panel to form slot for passage of viewing surface and is to be removable for access to operating mechanism and viewing surface.
1. Refer to Drawings for mounting conditions.
- E. Material: Fiberglass, Matt White, fire-retardant, and mildew resistant.
- F. Screen: Nominal screen size 96-inches by 120-inches. Provide roller operated screens in sizes indicated without seams.
- G. Approved Products:
1. Da-Lite Screen Company Model:
  2. Draper, Inc. Model:

### 2.3 ACCESSORIES

- A. Installation hardware: Provide attachment hardware, fasteners, and other components of type, size, and spacing recommended by manufacturer for complete, functional, secure installation of

electrically operated screens.

### **PART 3 - EXECUTION**

#### **3.1 EXAMINATION**

- A. Before installation, examine areas to receive projection screens. Verify that critical dimensions are correct and conditions are acceptable.
  - 1. Proceed with installation only after unsatisfactory conditions have been corrected.

#### **3.2 INSTALLATION**

- A. General: Install projection screens at locations indicated to comply with screen manufacturer's written instructions.
- B. Install projection screens at locations and heights indicated on Drawings. Verify locations in field with Architect. 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.
- C. Install front projection screens within ceiling alcove, with screen cases in position and relationship to adjoining construction as indicated, securely anchored to supporting substrate, and in manner that produces a smoothly operating screen with plumb and straight vertical edges and plumb and flat viewing surfaces when screen is lowered.
- D. Test electrically-operated units to verify that screen, controls, limit switches; closure and other operating components are in optimum functioning condition.

#### **3.3 DEMONSTRATION AND TESTING**

- A. Operate each screen three times minimum. Ensure screens properly extend and retract and that screen is level and viewing surface plumb when extended. Adjust to correct deficiencies.

#### **3.4 CLEANING AND PROTECTING**

- A. Protect projection screens after installation 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.
  - 1. Provide temporary covering of projection screens until time of Substantial Completion. Use type of covering approved by screen manufacturer that will effectively protect screen from abrasion, breakage, or other damage.

END OF SECTION 11132

## SECTION 11450 - RESIDENTIAL EQUIPMENT

### PART 1 GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SECTION INCLUDES

- A. All residential and laundry equipment to be provided by Owner and installed by contractor.
- B. Related Sections include, but are not limited to:
  - 1. Section 06410 - Custom Casework.
  - 2. Section 12371 - Manufactured Casework.
  - 3. Refer to MEP Drawings for Plumbing and Electrical specifications.

#### 1.3 SUBMITTALS

- A. Owner shall provide installation instructions from manufacturers of equipment.

#### 1.4 QUALITY ASSURANCE

- A. Energy Ratings: Provide residential appliances that carry labels indicating energy cost analysis (estimated annual operating costs) and efficiency information as required by Federal Trade Commission (FTC).
- B. UL and NEMA Compliance: Provide electrical components required as part of residential appliances that are currently listed, approved, and labeled by UL and comply with applicable NEMA standards.
  - 1. All equipment in this section must be UL Approved, Labeled, & Currently UL Listed.
- C. AHAM Standards: Provide appliances that comply with the following AHAM standards:
  - 1. Dishwashers: AHAM DW-DW1.
  - 2. Electric Ranges: AHAM ER-1.
  - 3. Clothes Dryers: AHAM HLD-1.
  - 4. Household Refrigerators: AHAM HRF-1.
  - 5. Household Freezers: AHAM HRF-1.
- D. Single-Source Responsibility: Provide installation products from the same manufacturer for each type of appliance installed.

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Prior to delivery, verify all Residential Equipment Model Numbers with Owner's Representative.
- B. Deliver appliances only after utility rough-in is complete and construction in the spaces to receive appliances is substantially complete and ready for installation.
- C. All items shall arrive at job site in manufacturer's original crates. Examine items for shipping damage in presence of Owner's Representative. Report any damages to Architect.
- D. General Contractor shall be responsible for unloading, inspecting and providing adequate storage for all equipment.

## **1.6 COORDINATION**

- A. Provide all required pigtail/rated pigtails and male plugs required to activate equipment.

## **PART 2 PRODUCTS**

### **2.1 MANUFACTURERS AND MODEL NUMBERS**

- A. All appliances are provided by Owner.

### **2.2 FINISHES**

- A. Protect Appliance finishes from construction debris and dust prior to installation. Provide protective materials that will not harm manufacturer finishes if none provided.

## **PART 3 EXECUTION**

### **3.1 EXAMINATION AND PREPARATION**

- A. Color and finish to be selected by Architect/Owner.
- B. Verify that openings and utility services are ready to receive work and opening dimensions are as indicated on manufacturer's approved product data.
- C. Coordinate with other trades as necessary for proper mechanical and electrical service connections.

### **3.2 INSTALLATION**

- A. Install equipment in accordance with manufacturer's instructions.
- B. Set and adjust units level and plumb.
- C. Activate units to confirm correct operation.
- D. Built-In Equipment: Securely anchor units to supporting cabinetry or countertops with concealed fasteners. Verify that clearances are adequate for proper functioning.

- E. Turn refrigerators on to moderate temperature setting and flush water line.
- F. Connect to utilities and any venting required to make units operational.
- G. Freestanding Equipment: Place units in final locations after finishes have been completed in each area. Verify that clearances are adequate for proper operation of equipment. Adjust legs to insure that equipment is level.

**3.3 ADJUST AND CLEAN**

- A. Test each item of residential equipment to verify proper operation. Make necessary adjustments.
- B. Verify that accessory items required have been furnished.
- C. Cleaning: Remove packing material from residential equipment items and leave units in clean condition, ready for operation.
- D. Repair or replace damaged parts, dents, buckles, abrasions, and other defects affecting appearance or serviceability so that kitchen and laundry equipment are in acceptable condition at time of Substantial Completion and Owner Final Acceptance.
- E. Turn over equipment manuals to Owner at time of installation. Mark each manual with Unit Number and equipment serial number and place in plastic sleeves for turnover to Owner's representative.

END OF SECTION 11450