PART 1 - GENERAL

1.1 WORK INCLUDES

A. Base Bid: Unless noted otherwise, the General Prime Contractor shall provide all labor and materials for the complete installation of work as specified in this section.

1. Manually operated, front-projection screens.
2. Electrically operated, front-projection screens and controls.

1.2 RELATED DOCUMENTS

A. Division 06 Section “Rough Carpentry” for wood blocking for screen installation.
B. Division 26 Sections for electrical service and connections including device boxes for switches

1.3 SUBMITTALS

A. Product Data: For each type of product indicated.
B. Shop Drawings: For projection screens. Show layouts and types of projection screens. Include the following:

1. For electrically operated projection screens and controls:
   a. Location of screen centerline relative to ends of screen case.
   b. Location of wiring connections.
   c. Location of seams in viewing surfaces.
   d. Anchorage details.
   e. Wiring diagrams.

PART 2 - PRODUCTS

2.1 MANUALLY OPERATED PROJECTION SCREENS FOR CLASSROOMS

A. General: Manufacturer's standard spring-roller-operated units, consisting of case, screen, mounting accessories, and other components necessary for a complete installation.

B. Suspended, Metal-Encased, Manually Operated Screens: Units designed and fabricated for mounting below ceiling, fabricated from formed-steel sheet or from aluminum extrusions; with flat back design and vinyl covering or baked-enamel finish.

1. Products: Subject to compliance with requirements, provide one of the following:
a. Da-Lite Screen Company; Model C with CSR
b. Draper Inc.; Luma 2.
c. Elite Screens, Manual Series.

2. Provide Manufacturer’s standard ceiling trim kit for installation below ACT ceilings.

### 2.2 ELECTRICALLY OPERATED PROJECTION SCREENS FOR FLEX SPACE 1

**A. General:** Manufacturer's standard units consisting of case, screen, motor, controls, mounting accessories, and other components necessary for a complete installation.

1. **Controls:** Remote, key-operated, three-position control switch.
   
   a. Provide locking cover plates for switches.
   b. Provide key-operated, power-supply switch.
   c. Provide infrared remote control.

2. **Motor in Roller:** Instant-reversing motor with permanently lubricated ball bearings, automatic thermal-overload protection, preset limit switches, and positive-stop action to prevent coasting.

3. **Tab Tensioning:** Provide units that have a durable low-stretch cord, such as braided polyester, on each side of screen connected to edge of screen by tabs to pull screen flat horizontally.

**B. Surface-Mounted, Metal-Encased, Electrically Operated Screens:** Motor-in-roller units designed and fabricated for surface mounting on wall or ceiling, fabricated from formed-steel sheet or from aluminum extrusions; with flat back design and vinyl covering or baked-enamel finish.

1. **Products:** Subject to compliance with requirements, provide one of the following:
   
   a. **Motor in Roller:**
      1) Da-Lite Screen Company; Tensioned Cosmopolitan Electrol.
      2) Draper Inc.; Premier.
      3) Elite Screens; Saker Series

### 2.3 FRONT-PROJECTION SCREEN MATERIAL

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

1. **Products:** Subject to compliance with requirements, provide one of the following:
   
   a. Da-Lite Screen Company; Matte White.
   b. Draper Inc.; Fiberglass Matte White.
   c. Elite Screens; Matte White.

**B. Seamless Construction:** Provide screens, in sizes indicated, without seams.

**C. Edge Treatment:** Black masking borders.
D. Size of Viewing Surface at classrooms: 54 by 96 inches. (Sizes may vary per manufacturer, review with Architect).

E. Size of Viewing Surface at multi-purpose rooms: 65 by 116 inches (Sizes may vary per manufacturer, review with Architect).

2.4 FRONT-PROJECTION SCREEN MATERIAL

A. Material: Fabricated in one piece from 22 gauge steel with heavy gauge steel end caps.

B. Finish: Powder coated white.

PART 3 - EXECUTION

3.1 FRONT-PROJECTION SCREEN INSTALLATION

A. Install front-projection screens at locations indicated to comply with screen manufacturer's written instructions.

B. 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.

1. Install low-voltage controls according to NFPA 70 and complying with 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 in environmental air spaces, including plenum ceilings. Conceal raceway and cables except in unfinished spaces.

2. Test electrically operated units to verify that screen controls, limit switches, closures, and other operating components are in optimum functioning condition.

END OF SECTION 11 52 13