Chapter 4-12: Furnishings

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4-12.01 General

This chapter includes guidance for the following contractor-procured furnishings: horizontal blinds, audio-visual Venetian blinds, roller shades, and solar control film.

Review any Standard Special Provisions (SSPs) from Section 99[1], *Building Construction,* Division 12*, Furnishings,* that have been included in the project *Special Provisions*, since much of the information therein typically will not be repeated in the following sections of this chapter.

For all blinds and shades, verify that the blocking for anchoring those items is included as part of the framing before drywall is placed; it is advisable to create an as-built sketch of the wall framing to display the location of the mounting blocks, for future reference.

Movable furnishings such as desks and chairs are provided and installed by the end user of the facility; procurement of these items is not the Contractor's responsibility under Division 12. However, review the project *Special Provisions* to verify whether the Contractor is responsible for coordinating with the facility's end user during building construction with regard to their planned furniture layout: all required blocking, power, data, utility rough-ins, etc. must be correctly located and installed. The Contractor must also maintain required clearances, participate in field coordination as needed, and protect finished building surfaces during delivery and installation of owner-furnished items.

4-12.02 Horizontal Blinds

Horizontal blinds are standard, factory-manufactured assemblies suitable for use on exterior wall windows. An example of horizontal blinds is shown in Figure 4-12.1 below.

Horizontal blinds must be comprised of aluminum alloy horizontal slats supported by braided polyester ladders. Slat tilt must be adjustable by a transparent wand. The blinds must be adjustable over the full height of the window: lift cords are used for this purpose. Hardware must be enclosed in a metal head, and the opening hardware must be clinched to the head. All metal parts must have a corrosion-resistant coating.

[1] Caltrans internal use only



Figure 4-12.1. Horizontal Blinds

The Contractor is required to submit product data for horizontal blinds. The submittal must consist of manufacturer's descriptive data, color chips, and installation instructions. Verify that the Contractor installs horizontal blinds in accordance with the manufacturer's instructions.

4-12.03 Roller Shades

Roller shades are manually operated, roll-up fabric interior window shades with single rollers, including mounting and operating hardware. See Figure 4-12.2 below for an example. Roller shades must be able to pass a flame test in accordance with National Fire Protection Association (NFPA) 701, *Standard Methods of Fire Tests for Flame Propagation of Textiles and Films*.



Figure 4-12.2. Roller Shades Installed in Conference Room Windows

Various submittals are required for roller shades, as described in the *Special Provisions*. These include manufacturer's product data, shop drawings, window treatment schedules, and color samples. Following installation of the roller shades, the Contractor must submit an operating instruction and maintenance manual.

Verify that roller shades are stored in the manufacturer's unopened packaging until they are ready for installation. Installation must not begin until substrates have been properly prepared.

Verify that roller shades are installed in accordance with the manufacturer’s instructions. Once installed, roller shades must be level, plumb, square, and properly aligned with adjacent units. Closure panels must be installed to conceal roller and operating mechanisms, and fasteners must not be exposed.

Verify that the chain and clutch operating mechanism, fabric retainer, and other operating components operate smoothly, easily, safely, and free from binding or malfunction throughout the entire operational range of the roller shades. The Contractor must adjust the roller shades as necessary.

4-12.04 Audio-Visual Venetian Blinds

Audio-visual Venetian blinds are factory-manufactured assemblies suitable for use on exterior wall windows in audio-visual type meeting rooms. Audio-visual Venetian blinds enhance media rooms by providing solar control, privacy, and noise reduction through motorized, high-quality materials. These systems optimize viewing environments by eliminating glare and reducing screen reflection. See Figure 4-12.3 for an illustration of Venetian blinds.

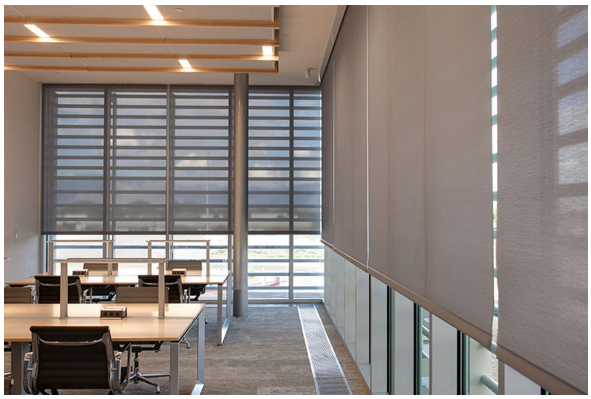


Figure 4-12.3. Blinds for Audio-Visual Room

The Contractor is required to submit product data for audio-visual Venetian blinds. The submittal must consist of manufacturer's descriptive data and installation instructions.

Verify that the Contractor installs audio-visual Venetian blinds in accordance with the manufacturer’s instructions.

Once installation is complete, verify that light is shielded and that there are no excessive light leaks. There is no lumen requirement for this; a light leak would be considered excessive by visual inspection and engineering judgment.

4-12.05 Solar Control Film

Solar control film is a form of tinting; see Figure 4-12.4 below for an illustration. Solar control film must be commercial-quality reflective film suitable for installation on the interior surfaces of the glass openings in exterior wall windows and must be capable of reducing the effects of heat and sun as described in the *Special Provisions*.



Figure 4-12.4. Solar Control Film Being Partially Unfurled Against a Window

The Contractor is required to submit product data for solar control film. The submittal must consist of manufacturer's descriptive data and installation instructions. Further submittals are required if the building is to be LEED-certified.

Verify that the Contractor prepares the glass surface for film installation as recommended by the film manufacturer. Verify that the film is bonded securely to the glass surface and is free of bubbles, creases, or marks visible at a normal viewing distance.