

SECTION 09511 - ACOUSTICAL PANEL CEILINGS

PART 1 - GENERAL

SUMMARY

This Section includes acoustical panels and exposed suspension systems for ceilings.

SUBMITTALS

Product Data: For each product indicated.

Coordination Drawings: Drawn to scale and coordinating penetrations and ceiling-mounted items. Show the following:

Ceiling suspension system members.

Method of attaching suspension system hangers to building structure.

Light fixtures; sprinklers; and special moldings at walls, columns, and other junctures of acoustical ceilings with adjoining construction.

Samples: For each acoustical panel product, for each color and pattern required[, and for each exposed suspension system component, molding, and trim in each color and finish required].

QUALITY ASSURANCE

Fire-Test-Response Characteristics:

Acoustical Panels: ASTM E 1264, Class B materials, when tested per ASTM E 84.

Fire-Rating Ceiling Assemblies: Where indicated, provide products identical to those tested for fire resistance per ASTM E 119 and listed in UL's "Fire Resistance Directory," in ITS's "Certification Listings," or in the listing of another qualified testing and inspecting agency.

Identify products with appropriate markings of applicable testing and inspecting agency.

EXTRA MATERIALS

Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

Acoustical Ceiling Panels: Full-size units equal to 2 percent of amount installed for each type, color, and pattern indicated, but not fewer than .

PART 2 - PRODUCTS

MANUFACTURERS

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In other Part 2 articles where titles below introduce lists, the following requirements apply for product selection:

Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the products specified.

ACOUSTICAL PANELS

Available Product:

Armstrong Ultima, 24"x24"x3/4" Beveled Tegular.

ACCESSORIES

Hanger Attachment Devices: Sized for 5 times the design load indicated in ASTM C 635, Table 1, Direct Hung, unless otherwise indicated.

Anchors: Fabricated from corrosion-resistant materials with holes or loops for attaching wire hangers and capable of sustaining, without failure, a load equal to 5 times that imposed by construction as determined by testing according to ASTM E 488 by a qualified independent testing agency.

Wire Hangers, Braces, and Ties: Zinc-coated carbon-steel; **ASTM A 641 (ASTM A 641M)**, Class 1 zinc coating, soft temper.

Wire Diameter: Sized for yield stress of wire to exceed 3 times the hanger design load (ASTM C 635, Table 1, Direct Hung), but not less than **0.106-inch- (2.69-mm-)** diameter wire.

Sheet-Metal Edge Moldings and Trim: Manufacturer's standard for edges and penetrations that fit acoustical panel edge details and suspension systems indicated; material and finish matching exposed flanges of suspension system runners.

Hold-Down Clips for Non-Fire-Resistance-Rated Ceilings: For acoustical panels weighing less than **1 lb/sq. ft. (4.88 kg/sq. m)**, provide hold-down clips spaced **24 inches (610 mm)** o.c. on all cross tees.

Acoustical Sealant for Exposed and Concealed Joints: Nonsag, paintable, nonstaining, latex sealant complying with ASTM C 834 that effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.

Available Products:

Chemrex, Inc., Contech Brands; PL Acoustical Sealant.
Pecora Corp.; AC-20 FTR Acoustical and Insulation Sealant.
United States Gypsum Co.; SHEETROCK Acoustical Sealant.

Acoustical Sealant for Concealed Joints: Nondrying, nonhardening, nonskinning, nonstaining, gunnable, synthetic-rubber sealant recommended for sealing interior concealed joints to reduce airborne sound transmission.

Available Products:

Pecora Corp.; BA-98.

Tremco, Inc.; Tremco Acoustical Sealant.

PART 3 - EXECUTION

INSTALLATION

General: Comply with CISCA's "Ceiling Systems Handbook."

Measure each ceiling area and establish layout of panel units to balance border widths at opposite edges of each ceiling. Avoid use of less-than-half-width units at borders.

Ceiling Suspension System Installation: Comply with ASTM C 636.

Ceiling Suspension System Installation Requiring Seismic Restraint:

UBC Standard 25-2.

CISCA's "Recommendations for Direct-Hung Acoustical Tile and Lay-in Panel Ceilings--Seismic Zones 0-2."

Hangers:

Attach hangers to structural members. Do not support ceilings from or attach hangers to permanent metal forms, steel deck tabs, steel roof decks, ducts, pipes, or conduit.

Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structure or of ceiling suspension system.

Splay hangers only where required to miss obstructions; offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.

Fire-Resistance-Rated Ceilings: Splay hangers only if permitted by tested assembly.

Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with location of hangers at spacings required to support standard suspension system members, install supplemental suspension members and hangers in form of trapezes or equivalent devices. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards and publications.

Secure wire hangers to ceiling suspension members and to supports above with a minimum of three tight turns. Connect hangers directly either to structures or to inserts, eye screws, or other devices that are secure; that are appropriate for substrate; and that will not deteriorate or otherwise fail due to age, corrosion, or elevated temperatures.

Space hangers not more than **48 inches (1200 mm)** o.c. along each member supported directly from hangers, unless otherwise indicated; and provide hangers not more than **8 inches (200 mm)** from ends of each member.

Install edge moldings and trim at perimeter of acoustical ceiling area and where necessary to conceal edges of acoustical panels.

Apply acoustical sealant in a continuous ribbon concealed on back of vertical legs of moldings before they are installed.

Screw attach moldings to substrate at intervals not more than **16 inches (400 mm)** o.c. and not more than **3 inches (75 mm)** from ends, leveling with ceiling suspension system to a tolerance of **1/8 inch in 12 feet (3 mm in 3.6 m)**. Miter corners accurately and connect securely.

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Install suspension system runners so they are square and securely interlocked with one another. Remove and replace dented, bent, or kinked members.

Install acoustical panels with undamaged edges and fitted accurately into suspension system runners and edge moldings. Scribe and cut panels at borders and penetrations to provide a neat, precise fit.

Arrange directionally patterned acoustical panels with pattern running in one direction parallel to long axis of space.

Paint cut panel edges remaining exposed after installation; match color of exposed panel surfaces using coating recommended in writing for this purpose by acoustical panel manufacturer.

Install hold-down clips in areas indicated, in areas required by authorities having jurisdiction, and for fire-resistance ratings; space as recommended by panel manufacturer's written instructions, unless otherwise indicated or required.

Protect lighting fixtures and air ducts to comply with requirements indicated for fire-resistance-rated assembly.

END OF SECTION 09511