



Acoustical Ceilings

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Literature Number SC1902

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Manufacturer's Guide Specifications

Section 09511—Acoustical Panel Ceilings

1: General	1.01 Description of Work	<p>A. Related work specified elsewhere:</p> <ol style="list-style-type: none">1. Insulation: Section _____.2. Mechanical equipment: Section _____.3. Electrical: Section _____.4. Gypsum board systems: Section _____.5. Ceiling suspension systems: Section _____. <p>B. Work installed but furnished under other sections: (include applicable requirements).</p> <p>C. Work furnished but installed under other sections: (include applicable requirements).</p>
	1.02 System Description	<p>Standard Panels: Suspended (New Fire-Rated) ceiling system consisting of acoustical panel ceiling suspension system. System shall be rated NRC () in accordance with ASTM C423 and CAC () in accordance with ASTM test method E1414 and classification E4131 as tested by an independent agency.</p> <p>FIRECODE™ formulation panels: Suspended (non-fire-rated) (fire-rated) ceiling system consisting of acoustical panel ceiling suspension system. System shall be rated NRC () in accordance with ASTM C423 and CAC () in accordance with ASTM test method E1414 and classification E4131 as tested or witnessed by an independent agency.</p> <p>AC: Articulation Class.</p> <p>CAC: Ceiling Attenuation Class.</p> <p>LR: Light Reflectance coefficient.</p> <p>NRC: Noise Reduction Coefficient.</p> <p>Recycled Content: Average percentage based on weight of component materials. Material recovered or diverted from the solid waste stream, either during the manufacturing process (pre-consumer) or after consumer use (post-consumer).</p>
	1.03 Delivery and Storage of Materials	<p>A. All materials shall be delivered in their original unopened packages and stored in an enclosed shelter providing protection from damage and exposure to the elements.</p> <p>B. Storage time of materials at the jobsite should be as short as possible, and environmental conditions should be as near as possible to those specified for occupancy (see no. 1.04 below). Excess humidity during storage can cause expansion of material and possible warp, sag, or poor fit after installation. Chemical changes in the mat and/or coatings can be aggravated by excess humidity and cause discoloration during storage, even in unopened cartons. Cartons should be removed from pallets and stringers to prevent distortion of material. Long-term (6-12 months) storage under uncontrolled environmental conditions should be avoided.</p> <p>C. Damaged or deteriorated materials should be removed from the premises. Immediately before installation, to stabilize tile and panels, store them at a location where temperature and humidity conditions duplicate those ambient during installation and anticipated for occupancy.</p>
	1.04 Environmental Conditions	<p>A. Installation of acoustical panels shall not begin until building is enclosed, permanent heating and cooling equipment is in operation, and residual moisture from plaster, concrete, or terrazzo work has dissipated. <i>CLIMAPLUS</i>™ acoustical ceilings and <i>CLIMAPLUS</i> Ultra acoustical ceilings can be installed prior to building enclosure and permanent heating and cooling equipment is in operation.</p> <p>B. Do not use ceiling panels in extreme or continuous high humidity, or areas exposed directly to weather or water. Ceiling panels are sized and designed for use within the standard occupancy range of temperature and humidity, 65-85 °F (18-29 °C), no more than 70% RH (relative humidity). Humidity can greatly affect product dimensional stability and sag resistance. Sag can become noticeable during periods of high humidity lasting only a few hours. <i>CLIMAPLUS</i> ceilings and <i>CLIMAPLUS</i> Ultra ceilings, if used with DONN® Brand Suspension Systems, can withstand temperatures up to 90-104 °F (32-40 °C) and relative humidity 90%-100% RH. See USG Interiors Inc. for standard Warranty information.</p> <p>C. Allow time for dimensional changes in ceiling panels stored at temperature/humidity conditions well outside of those recommended for service. With increases in temperature/humidity, these products expand (up to 1/64 in./ft. (4.3 mm/m) at</p>



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	<p>85 °F (29 °C)/90% RH) and may not fit into a fixed grid. Conversely, with decreases, these products will be undersize, but expand to normal when standard ambient conditions return.</p> <p>D. For some pattern edge details, if perimeter panels must be cut smaller, the cut edge must be field-rabbetted, or the wall angle must be lowered by (1/4") (3/8") (Reveal Depth).</p>
1.05 Quality Assurance	<p>A. Single Source Responsibility: To obtain Lifetime ceiling system warranty, 15-year ceiling system warranty, color match or ceiling panel and suspension system compatibility, all acoustical panel and suspension system components shall be produced and supplied by one manufacturer. Materials supplied by more than one manufacturer are not acceptable.</p> <p>B. Subcontractor qualifications: Installer shall have successful experience in the installation of suspended ceiling systems on projects with requirements similar to requirements specified.</p> <p>C. Requirements of regulatory agencies: Codes and regulations of authorities having jurisdiction.</p> <p>D. Source quality control:</p> <ol style="list-style-type: none">1. Test reports: Manufacturer will provide test certification for minimum requirements as tested in accordance with applicable industry standards and/or to meet performance standards specified by various agencies.2. Changes from system: System performance following any substitution of materials or change in assembly design must be certified by the manufacturer.
1.06 References	<p>A. ASTM C635 and C636: Manufacturing of metal suspension systems and Installation of Suspended Ceilings.</p> <p>B. Underwriters Laboratories, Inc.: Fire Resistance Directory, Acoustical Materials (BYIT).</p> <p>C. ASTM E84: Surface Burning Characteristics Classification.</p> <p>D. ASTM E119: Fire Tests of Building Construction and Materials.</p> <p>E. ASTM C423: Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.</p> <p>F. CISCA Ceiling Systems Installation Handbook.</p>
1.07 Submittals	<p>A. Samples: Submit representative sample of color and finish of all exposed materials.</p> <p>B. Shop drawings:</p> <ol style="list-style-type: none">1. Reflected ceiling plans: Contractors shall submit a layout arrangement of ceiling design, dimensions and locations of related integrated lighting and air distribution components.2. Installation drawings: Detail complete installation including suspension system, installation of related lighting and air distribution components, access requirements, sound absorption requirements, and fire rating requirements when applicable.3. Manufacturer's data: Submit manufacturer's catalog cuts or standard drawings showing details of system with project conditions clearly identified and manufacturer's recommended installation instructions.4. Maintenance materials: Submit ____ (one) percent of amount of ceiling components installed. <p>C. Warranty: Manufacturer's standard warranty for extent of conditions allowable and duration of warranty.</p> <p>D. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for each acoustical panel ceiling and suspension system.</p> <ol style="list-style-type: none">1. UL Acoustical Compliance: For acoustical performance, each carton of material must carry Underwriters Laboratories certification for AC (if applicable), CAC and NRC.2. UL Suspension System Load Compliance: Manufacturer must certify that the metal suspension system is UL Classified to be load compliant per ASTM C635. For load compliance, each carton of main tees must carry Underwriters Laboratories certification for load compliance.
1.08 Project Conditions	<p>A. Existing conditions: (include specific alteration work requirements for project).</p> <p>B. Environmental requirements for interior installation: Building shall be enclosed with windows and exterior doors in place and glazed, and roof watertight before installation of ceiling system and related ceiling components. Climatic condition range of 60-85 °F (16-29 °C) with a max 75% RH. <i>CLIMAPLUS</i> and <i>CLIMAPLUS</i> Ultra ceilings used with <i>DONN</i> Brand Suspension Systems</p>



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can be used when building is not enclosed and in higher temperature, relative humidity range.

C. Coordination with other work:

- 1.** Mechanical work: Ductwork above ceiling shall be complete, and permanent heating and cooling systems operating to climate conditions prior to installation of ceiling components.
 - 2.** Electrical work: Installation of conduit above ceiling shall be complete before installation of ceiling components.
 - 3.** Fire protection work: Fire protection lines and/or equipment occurring above ceiling shall be completed and tested before ceiling components are installed.
- D.** Protection: Protect completed work above ceiling system from damage during installation of ceiling components.

2: Products

**2.01
Manufacturer**

- A.** Ceiling panels as manufactured by USG Interiors, Inc., Ceilings Division, Chicago, Illinois, U.S.A.
- B.** Fill in the following information for the product you want to specify (see Color Selector, SC1859, for color numbers):

Pattern Name	Item No.	Color No.	Plastic Coating ¹
			Yes/No

¹Plastic coating only available on certain panels. See Literature or Sales Representative.

3: Execution

**3.01
Inspection**

- A.** Examine areas to receive ceiling panels for conditions that will adversely affect installation. Provide written report of discrepancies.
- B.** Do not start work until unsatisfactory conditions are corrected.
- C.** Work to be concealed: Verify work above ceiling is complete and installed in manner that will not affect layout and installation of ceiling panels.
- D.** Beginning of installation shall signify acceptance of conditions in areas to receive ceiling panels.
- E.** Fire-rating requirements: Construction above fire-rated assembly shall meet requirements of UL Design specified in *2: Products*.

**3.02
Preparation**

- A.** Field dimensions must be verified prior to installation.

**3.03
Installation**

- A.** Standard reference: Install ceiling panels and suspension system, including necessary hangers, grillage, splines, and other supporting hardware, in accordance with ASTM C636, Cisca Installation Syds., (UL Design) and any applicable code requirement.
- B.** Manufacturer's reference: Install ceiling panels in exposed grid systems, supported on all edges, in accordance with manufacturer's current printed recommendations.
- C.** Drawing reference: Install ceiling panels in accordance with approved shop drawings.

**3.04
Maintenance**

- A.** Cleaning: Panels can be cleaned easily with a soft brush, vacuum, or dry chemical sponge.
- B.** Repainting: Spray a thinned, nonbridging vinyl-acrylic flat wall paint. The type of paint selected and the method of application can alter the acoustical performance and fire ratings of any acoustical product. Therefore, USG Interiors, Inc. cannot guarantee that the field-painted panels will match the published performance.

Safety First!

Follow good safety and industrial hygiene practices during handling and installing of all products and systems. Take necessary precautions and wear the appropriate personal protective equipment as needed. Read material safety data sheets and related literature on products before specification and/or installation.