

INNOVATIVE'S LIGHTWEIGHT  
GYPSUM-BASED CEILING TILES

**GENERAL**

**1.1 SECTION INCLUDES:**

1. Supply of lightweight gypsum-based 2' x 2' ceiling tiles complete and ready for installation. The installing contractor shall be responsible for the supply, installation and coordination of all work and the installing contractor shall do so in compliance with the requirements of all regulatory agencies having jurisdiction, all applicable local codes and ordinances, approved shop drawings and in accordance with INNOVATIVE'S printed recommendations.

**1.2 REFERENCES:**

The following references and guidelines shall be followed:

1. ASTM C635: Standard Specifications for Metal Suspension Systems for Acoustical Tile and Lay-In Panel Ceilings.
2. ASTM C636: Recommended Practice for Installation of Metal Suspension System for Acoustical Tile and Lay-In Panels.
3. ASTM E84: Fire Hazard Classification
4. CISCA Ceiling Systems Installation Handbook

**1.3 SUSPENSION SYSTEM DESCRIPTION:**

1. INNOVATIVE'S ceiling tiles are designed to be installed into a suspended 2' x 2' ceiling system consisting of main tees and cross tees connected together to form a modular installation for the ceiling tiles, acoustical materials, light fixtures and air diffusers.

**1.4 QUALITY ASSURANCE:**

1. Subcontractor qualifications: The installer shall have not less than three years of successful experience in the installation of ceiling suspension systems on projects with requirements similar to requirements specified.
2. Requirements of regulatory agencies: Codes and regulations of authorities having jurisdiction.
3. Source quality control: Manufacturer will provide test certification for the ceiling tile as required meeting industry performance standards specified by various agencies.

**1.4 RESPONSIBILITY:**

1. The installing contractor shall perform all the work in this section, and will assume responsibility for coordinating the installation with associated trades.

**1.5 SUBMITTALS:**

1. Samples: Submit ceiling tile panel and suspension system main and cross tees for acceptance.

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2. Shop drawings:
  - A. Reflected ceiling plans: Submit ceiling system layout to indicate ceiling modules, and related lighting and mechanical systems.
  - B. Assembly drawings: Indicate module dimensions, accessory attachments, and installation of system components.

**1.6 SCHEDULING:**

1. Special scheduling for site coordination must be specified at time of bidding.

**1.7 DELIVERY, STORAGE AND HANDLING:**

1. Delivery of materials: INNOVATIVE's product is to be delivered in its original unopened packaging, clearly labeled with INNOVATIVE's name, item description, specification number, type and class, as applicable. The product shall be handled and transported in non-damaging packaging in order to prevent damage or excessive stress
2. Inspection: Upon arrival, the product is to be inspected for any damage during shipment and freight claims are to be filed and/or replacement materials are to be requested immediately. Freight claims for damage during shipment, and/or replacement materials should be filed as required.
3. Storage: Storage of the product at the jobsite should be as short as possible and environmental conditions should be as near possible to those specified for occupancy. Excess humidity during storage can cause possible warp, sag, or poor fit after installation. In order to prevent damage, boxes should not be removed from the pallets and stringers.
4. Handling: INNOVATIVE's product is to be handled in such a manner so as to ensure against cracking, distortion, or physical damage of any kind.

**1.8 PROJECT CONDITIONS**

1. Existing conditions: Include specific alteration work requirements for project.
2. Environmental requirements: Building shall be enclosed with all windows and exterior doors in place and glazed, and the roof watertight before installation of ceiling system. Wet work shall be in place, completed, and nominally dry with HVAC system in continuous operation. Maintain climate conditions to range from 60-85 °F (16-29 °C) and relative humidity of not more than 70% before installation of system.
3. Coordination with other work:
  - C. General: Coordinate with other work supported by or penetrating through ceiling, including mechanical and electrical work and partition systems.
  - D. Mechanical work: Ductwork above the ceiling system shall be complete and permanent heating and cooling systems operating.
  - E. Electrical work: Installation of conduit above suspension system shall be complete before installation of suspension system.
4. Protection: Protect completed work above the ceiling system from damage during installation of suspension system components.

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**2. PRODUCTS**

**2.1 MANUFACTURER:**

**INNOVATIVE CAST INC.**

75 Fernstaff Court, Unit 25 & 26  
Concord, Ontario, CANADA  
L4K 3R4  
Ph (905) 660-CAST (2278)  
Fx (905) 660-2279

**2.2 MATERIALS**

1. Lightweight gypsum-based non-acoustic ceiling panels:

A. Shall be manufactured using Glass Reinforced Gypsum (GRG) and formed into 24" x 24" lay-in panels. Panels are produced using an automated production process creating a 1/2" consistent thickness throughout. No hand lay-up or chopper spray will be allowed.

B. Accessories:

- a. M7 wall moulding: 7/8" x 7/8" x 12' long angle shape of pre-painted steel.
- b. Panels with cutouts: For incandescent light, sprinklers, cameras or speakers with integral trim to conceal the edge of the panel cutout (specify hole sizes and locations for each type), sized to fit the ceiling panel top opening.

2. Lightweight gypsum-based acoustic ceiling panels:

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B. Accessories:

- a. M7 wall moulding: 7/8" x 7/8" x 12' long angle shape of pre-painted steel.
- b. Panels with cutouts: For incandescent light, sprinklers, cameras or speakers with integral trim to conceal the edge of the panel cutout (specify hole sizes and locations for each type), sized to fit the ceiling panel top opening.

3. Suspension system components:

A. General: Standard 15/16" ASTM C635, (Intermediate) (Heavy Duty) classification, commercial quality cold-rolled steel; exposed surfaces pre-finished in manufacturer's standard colour.

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4. Air distribution components:

- A. Standard air diffusers: Extruded aluminum frame with flat white vanes (24" x 24") in (one) (two) (three) (four) slot configurations with four-directional throw. Finish to coordinate with INNOVATIVE's lightweight gypsum-based ceiling tiles.
- B. Plenum: 28-gauge galvanized steel insulated with 1/2" fiberglass insulation, \_\_\_\_\_ DIA. top inlet collar.

**2.3 TOLERANCES (fabrication):**

Unless otherwise stated on the manufacturer's drawings, fabrication tolerances are as follows:

- 1. Dimensional overall lengths, widths, squareness, chords, radii or diameters  $\pm 1/8"$ .
- 2. Straightness along an edge surface  $\pm 1/8"$  per linear foot.
- 3. All outside corners  $1/16"$  to  $1/8"$ .
- 4. A minimum 3-degree draft angle shall be allowed on all returns, setbacks, and reveals/grooves.

**2.4 PERFORMANCE**

- 1. Suspension system: (Intermediate) (Heavy Duty) classification designed to support ceiling assembly as indicated on project drawing with maximum deflection of  $1/360$ .
- 2. Acoustical performance values are approximately the rating of INNOVATIVE's lightweight gypsum-based acoustical ceiling tile.
- 3. Surface burning: Class A finished GRG surfaces shall have flame spread / smoke development values of less than  $10/15$ .

**3. EXECUTION**

**3.1 INSPECTION:**

- 1. Examine areas to receive materials for conditions that will adversely affect installation.
- 2. Do not start work until unsatisfactory conditions are corrected.
- 3. Work to be concealed: Verify work above ceiling system is complete and installed in manner that will not affect layout and installation of system components.

**3.2 PREPARATION:**

- 1. Field dimensions: Installer must verify actual field dimensions prior to installation.

**3.3 INSTALLATION:**

- 1. Standard reference: Install in accordance with ASTM C636, CISCA recommendations and local building codes.

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2. Manufacturer's reference: Install in accordance with manufacturer's current printed recommendations.
3. Drawing reference: Install in accordance with approved shop drawings.
4. Hanger wires:
  - i. Spacing: Space hanger wires on main tees a maximum of 48" o.c. attaching hangers directly to structure above.
  - ii. Limitations: Do not support wires from mechanical and/or electrical equipment, piping, or other equipment occurring above ceiling.
5. Accessories: Install accessories as applicable to meet requirements.
6. Allowance tolerances: Per ASTM C636.

**3.4 CLEANING:**

1. Maintenance: Perform any necessary cleaning maintenance with non-solvent-based commercial cleaner on painted panels or suspension components.
2. Immediately remove any corrosive substances or chemicals that may attack finishes (e.g. wallpaper paste).
3. Removal of debris: Remove all debris resulting from work of this section.

**Note:** Proper safety and industrial hygiene practices shall be adhered to during handling and installing of all products and systems. The installing contractor shall ensure that all necessary precautions are taken and that appropriate personal protective equipment is worn.