

**SECTION 03 55 11**  
**GYPSUM CONCRETE FLOOR DECKS**

**PART 1 - GENERAL**

**1.1 DESCRIPTION**

- A. Section specifies repairs to gypsum plank systems for fire rated interstitial decks.
- B. Repairs to wood system for interstitial decks.

**1.2 RELATED WORK**

- A. Sealer for interstitial floor and floor paint for traffic area in interstitial space: Section 09 91 00, PAINTING.

**1.3 QUALITY CONTROL**

- A. Work performed by experienced, qualified installers approved by manufacturer of gypsum plank.
- B. Gypsum materials products of one manufacturer.

**1.4 SUBMITTALS**

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES.
- B. Fire Tests: Fire tests, data and certifications substantiating that Gypsum Plank Decking complies with fire rating requirements.
- C. Shop Drawings: Show typical plank layouts, perimeter and framed opening supports and details of construction, installation, fastenings and grouting.
- D. Manufacturer's Literature and Data: Each item specified.
- E. Load tables for sub-purlins.

**1.5 DELIVERY AND STORAGE**

- A. Deliver materials in original packages, containers, or bundles bearing brand name and name of manufacturer.
- B. Store materials in a manner that prevents damage before use. When stored under tarpaulins, provide ventilation to prevent moisture accumulation under tarpaulin.
- C. Store gypsum planks flat and off ground. Handle and stack in a manner to prevent damage to face, ends, and edges and keep dry until used.
- D. Store gypsum concrete off ground and keep dry until used.

**1.6 APPLICABLE PUBLICATIONS**

- A. The publications listed below form a part of this specification to the extent referenced. Publications are referenced in the text by basic designations only.
- B. American Society for Testing and Materials (ASTM):
  - A36/A36M-08.....Standard Specifications for Carbon Structural Steel
  - A82-07.....Standard Specifications for Steel Wire, Plain, for Concrete Reinforcement

- A499-89 (R2008).....Standard Specifications for Steel Bars and Shapes, Carbon Rolled from "T" Rails
  - A568/A568M-09.....Standard specification for Steel, Sheet, Carbon, Structural and High-Strength, Low-Alloy, Hot-Rolled and Cold-Rolled General Requirements for
  - A653/A653M-10.....Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-coated (Galvannealed) by the Hot-Dip Process
  - C317/C317M-00 (R2010)....Standard specification for Gypsum Concrete
  - C1396/C1396M-09.....Standard Specification for Gypsum Board
  - E119-10.....Standard Test Methods for Fire Tests of Building Construction and Materials
- C. American Welding Society Publication (AWS):
- D1.1/D1.1M-10.....Structural Welding Code - Steel

**PART 2 - PRODUCTS**

**2.1 MATERIALS**

- A. Gypsum Deck Plank:
  - 1. Fabricated of gypsum board: ASTM C1396.
  - 2. Nominal Size: 50 mm (2-inches) thick by 600 mm (24-inches) wide by main purlin span. Where possible, length should span two main purlin spans.
  - 3. Factory laminate from two 25 mm (1-inch) thick gypsum panels with top panel edge set back along sub-purlin edge not more than 13 mm (1/2-inch).
  - 4. Edge encased in water-resistant paper.
- B. Gypsum Deck Panels: ASTM C1396, Type "X", 16 mm (5/8-inch) thick by 600 mm (24-inches) wide by main purlin span.
- C. Grout: Gypsum Concrete: ASTM C317, Class A, 3.5 MPa (500 psi) minimum compressive strength.

**2.2 DECK SYSTEM**

- A. Interstitial deck: Provide two-hour fire rating as tested by Gypsum plank manufacturer under ASTM E119 fire test conditions modified to simulate the Department of Veterans Affairs Building System test described in National Institute of Standards and Technology Report NBSIR 85-3158, "Fire Performance of Interstitial Space Construction System".

**PART 3 - EXECUTION**

**3.1 INSPECTION**

- A. Examine substrates, framing and conditions under which gypsum plank is to be installed and notify COR in writing of conditions detrimental to proper and timely completion.
- B. Do not proceed until unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION

#### A. Grout:

1. Mix gypsum concrete thoroughly using a minimum amount of water to form a thick, pourable consistency.
2. Fill edge joints to slight excess with single pour at sub-purlins.
  - a. Grout end joints on single span system against steel framing.
  - b. After initial set, strike of excess to form smooth, flush joint.

#### B. Patching:

1. Fill with grout and smooth any surface damage to gypsum plank.
2. Remove and replace cracked, broken, and plank damaged beyond repair.

#### C. Cleaning and Protection:

1. Upon completion of gypsum plank decking, remove, debris and sweep surface clean. Leave ready for subsequent work.
2. Protect finished deck from weather and subsequent construction operations.
3. Provide hardboard or plywood temporary protection over decking subject to repetitive impact or wheeled loads.

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