

SECTION 03 51 16 GYPSUM CONCRETE ROOF DECKS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Section specifies gypsum plank systems for roof decks.

1.2 RELATED WORK

- A. Steel Framing: Section 05 12 00, STRUCTURAL STEEL FRAMING.
- B. Membrane Roofing: Section 07 51 00, BUILT-UP BITUMINOUS ROOFING.

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):
C317-00(R2010)..... Gypsum Concrete

C1396/C1396M-09 Gypsum Board

E119-10..... Fire Tests of Building Construction and Materials

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Gypsum Deck Panels: ASTM C1396, Type "X", 16 mm (5/8-inch) thick by 600 mm (24-inches) wide by main purlin span.
- B. Grout: Gypsum Concrete: ASTM C317, Class A, 3.5 MPa (500 psi) minimum compressive strength.

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. Gypsum Deck Plank for Roof Decks:
 - 1. Stagger joints in adjacent courses.
 - 2. Support end joints with cross-tees not supported by framing.
 - 3. Cut plank to fit at ends and framed openings.
- B. Provide continuous 16 mm (5/8-inch) minimum bearing for plank support at deck perimeter, plank ends and openings exceeding 200 mm (8-inches).
- C. 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 off excess to form smooth, flush joint.
 - 3. Fill joints at roof ridges, hips and valleys.
- D. Patching:
 - 1. Fill with grout and smooth any surface damage to gypsum plank.
 - 2. Remove and replace cracked, broken, and plank damaged beyond repair.
- E. 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.

END OF SECTION 03 15 16