

## DIVISION 13 – SPECIAL CONSTRUCTION

### 13.1 Pre-Engineered Metal Building

- A. The pre-engineered building shall be designed to the dimensions as shown on the Drawings. Bay spacing shall be as shown on the Drawings. Verify that bay sizes shown on the Drawings will accommodate the proposed structural frame and that foundations and reinforcing are of proper configuration, size, and capacity to support any future building addition at end bay. Install rigid frame at expandable end bay. The metal building analysis and design shall be performed and sealed by a Professional Engineer licensed in the state in which the project is located.
- B. Prior to construction, submit for FXG's review basic metal building Shop Drawings that show building configuration and dimensions, including haunch height.
- C. Construction using wire rope shall not be permitted.

### 13.2 Roof Finishing

All roofs shall be insulated as specified herein. Building shall be complete with gutters, downspouts, and all other necessary and/or specified accessories.

### 13.3 Building Frame Type

Building shall be a rigid frame type with a roof pitch of 1/2" per foot. See Drawings for minimum acceptable clear heights and exact clearance requirements.

### 13.4 Roof Construction

The roof construction shall carry the Underwriters' Laboratories Uplift rating of not less than Class 90.

### 13.5 Roof Panels

- A. The exposed metal roof covering shall be either 24-gauge (minimum) aluminum coated steel panels or 24-gauge (minimum) aluminum-zinc coated steel panels of such configuration to provide the specified load-carrying capabilities and deflection requirements for this Specification. All joints and end laps shall be sealed with non-hardening sealant.
- B. Roof panels shall be the building manufacturer's standard design. Deflection of the roof panel shall not exceed  $L/180$  of its span when supporting the applicable vertical live loads previously described.
- C. Entire roof is to be insulated with vinyl scrim faced, blanket insulation, with a minimum "R" value of 13.0 and flame spread of 25 or less (minimum "R" value of 19.0 where warehouse—and garage, if any—is heated). The roof construction shall, for alternate building construction types, including "tilt – up", meet or exceed the minimum "R" value indicated above.
  1. Roofs for alternate types of building construction such as "tilt – up", and "masonry" must also meet the minimum "R" Values of R-13.0 for unheated buildings and R- 19.0 for heated buildings.

### 13.6 Wall Panels

Wall panels shall be 26-gauge, zinc-coated steel or aluminum with a color finish, fastened with the building manufacturer's standard coordinating color-coated fasteners. All wall openings

larger than 18”, including doors, shall be completely framed with structural members trimmed as required to be weathertight. (Wall panels to be a minimum “R” value of 13.0 where distribution center—and garage, if any—is heated). Walls for alternate types of building construction such as “tilt – up” and “masonry” must also meet the minimum “ R “ Value of R-13.0 when the building is heated.

13.7 Quality Assurance

The metal building system shall, as a minimum, be fabricated in accordance with Metal Building Manufacturer’s Association (MBMA) Low Rise Building Systems Manual, latest edition, and the American Institute of Steel Construction (AISC) Specification for Structural Steel Buildings, latest revision.

13.8 Qualifications

The metal building manufacturer shall have a minimum of ten (10) years experience in the manufacturer of steel building systems and shall be certified under the American Institute of Steel Construction’s MB Certification Program.

END OF SECTION