

MATERIAL SPECIFICATIONS FOR PRE-ENGINEERED STRUCTURAL STEEL CANOPIES

Structural Components

1. **Columns:**

- a. Structural steel tubing shall be used.
- b. Square steel tube to be ASTM A500 Grade B, minimum yield strength 46 ksi
- c. Round steel tube to be ASTM A500 Grade B, minimum yield strength 42 ksi
- d. Size to meet or exceed specific project design load requirements.
- e. Provide each column with a 4" electrical access opening and cover plate.

2. **Base Plates:**

- a. ASTM A572, Grade 50 plate to be a minimum 3/4" thickness with welded gussets. Shop fabricated with pre-punched or pre-drilled bolt holes.

3. **Top Plates:**

- a. ASTM A572, Grade 50 plate to be a minimum 3/4" thickness with welded gussets. Shop fabricated with pre-punched or pre-drilled bolt holes.

4. **Structural Framing:**

- a. ASTM A992, 50 ksi wide-flange steel beams shall be used.

5. **Structural Connections:**

- a. ASTM A36 structural steel for miscellaneous plates and angles.
- b. All framing members shall be shop fabricated for bolted field assembly.
- c. Domestic ASTM A325 high strength bolts shall be used. All ASTM A325 bolts shall be installed per the RSCS Specification for Structural Joints, contained in part 16, Specifications and Codes of the AISC Steel Construction Manual, latest edition.
- d. Flange and purlin bracing where required.

6. **Anchor Bolts:**

- a. ASTM F1554 Grade 55 hex head bolt with a minimum yield strength of 55 ksi.
- b. 1 1/4" diameter x 30" long standard bolt with the hex head embedded in concrete footer.
- c. Threaded projection above footing shall be 7".
- d. Double nuts and washers for each bolt shall be provided, one set to be used for plumbing and leveling.
- e. Templates for setting anchor bolts shall be provided.
- f. Templates shall be removed before setting column on foundation.

7. **Painting:**

- a. All framing members will be given one shop coat of drying red oxide primer.

Deck Panels

1. ASTM A792 Galvalume having an AZ50 aluminum-zinc coated surface, minimum yield strength of 50 ksi.
2. 20 gauge, 16" wide x 3" deep steel panels.
3. Panels are fastened to the wide-flange beams with an engineered screw type clamp and lock nut system.
4. No splicing of deck panels will be allowed.
5. Panels shall have a finish side coated with a full coat of polyester paint baked on over an epoxy primer. A white wash coat of polyester baked on over an epoxy primer shall protect the reverse side.
6. Panels to be manufactured in sufficient length to avoid unnecessary center gutters.

Fascia

1. **ACM Panels:**
 - a. Aluminum composite material, of varying thicknesses, is a sandwich panel consisting of 2 aluminum sheets bonded to a polyethylene core.
2. **Fascia Attachment Systems:**
 - a. Fascia support braces to be 20 gauge galvanized steel. Braces are formed into a C-channel 1 ½" wide x 1 1/4" deep x 10' long.

Accessories

1. **Gutter:**
 - a. Straight sections to be ASTM A792 Galvalume having an AZ50 aluminum-zinc coated surface.
 - b. Straight sections of 20 gauge steel are 8" wide x 6" deep.
 - c. Straight gutter sections shall have a finish side coated with a full coat of polyester paint baked on over epoxy primer. A white wash coat of polyester paint baked on over epoxy primer shall protect the interior surface.
2. **Downspouts:**
 - a. External downspouts to be 4" x 3" roll formed 26 gauge steel with watertight locked seams.
 - b. Exterior paint with one full coat of polyester paint baked on over epoxy primer.
 - c. Downspouts to be of one contiguous length up to 15'.
3. **Collectors:**
 - a. Collectors to be circular and constructed of gel-coated fiberglass

4. Internal Drains:

- a. 3" schedule 40 PVC.

5. Hardware:

- a. Gutter to deck panel fasteners shall be 1/4" dia. x 3/4" long self-drilling screws.

6. Sealant:

- a. Tube sealant shall be 100% urethane caulk for water-proof areas, and silicone caulk for cosmetic.

General Notes

1. All material is new and without defects which would lessen quality of work.
2. All material will conform to requirements, tolerances, etc. of the latest editions of the AISC Manual of Steel Construction, AISI Specifications for general requirements for rolled steel plates, shapes, sheets, and bars for structural use, and AWS for welded connections.
3. Permit drawings include required foundation plans.
4. Building erection drawings to be furnished at time of shipment. Piece marks included for field identification of all major parts.
5. Upon request, design calculations or a letter of design certification sealed by a registered professional engineer licensed in the state in which the job is located shall be provided.
6. All A325 bolts shall be tightened by the turn-of-the-nut method.