

SECTION 01 73 23 BRACING AND ANCHORING

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This Section provides guidelines and limitations for supporting all mechanical, electrical, plumbing or architectural items from the building structure. Refer to Section 01 73 23 Field Engineering for engineering and design provided by the Contractor.
- B. Install all support and bracing systems to comply with the requirements of the 2007 California Building Code (CBC) and ASCE 7, Chapter 13 for nonstructural components. Provide for attachment to portions of the building structure capable of bearing the loads imposed.
- C. Contractor is not required to design support and bracing for items which the Contract Documents provide specific attachment, support, and bracing.

1.2 SUBMITTALS

- A. Submit Shop Drawings for all substructures and attachment methods in accordance with Section 01 33 23 Shop Drawings, Product Data and Samples.
- B. Submit proposed alternative methods of attachment for review and approval by the University's Representative prior to deviating from the requirements given below.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Furnish all substructures and fasteners required to comply with the limitations given below. Use materials as specified in the various Sections and as appropriate to the use.
- B. Channel framing systems: as required to meet Project design.
- C. All exterior materials: hot-dipped galvanized or stainless steel.

PART 3 - EXECUTION

Review with Consultants and revise as applicable to the project design.

3.1 GUIDELINES & LIMITATIONS

- A. Contractor shall coordinate the load requirements from all Subcontractors so that no combination of loads exceeds the limitations given below.
- B. Steel Structure
 - 1. At both the floor and the roof, attachments may be at the upper or the lower truss chord (horizontal members at top and bottom of truss). Hang no loads from web members (the diagonal and vertical members between chords), including the end diagonal member where the lower chord is discontinuous.
 - 2. Make the point of attachment at a panel point of the truss girders or joints. (The panel points are the intersections of the horizontal chords with the diagonal or vertical web members.)
 - 3. Make no attachments to metal decking without written approval from the University's Representative. If requested, inserts shall be provided where concrete fill occurs or stiffeners welded where roof insulation occurs. Submit supported weights and details as required for such approval.
 - 4. Do not weld on any trusses. Use bolted or clamped type connections.
 - 5. Hang no more than 20 lbs. per metal deck rib in any span.
 - 6. At floor and roof joists, hang only concentric loads, not one-sided loaded. At all other members (W beams and truss girders) hang all loads greater than 40 lbs. concentric.
 - 7. Attach no loads greater than the following without specific approval of University's Representative:
 - a. Floor joists and girders: 500 lbs. point load. 1000 lbs. total for a single span.

b. Roof joists and girders: 300 lbs. point load. 600 lbs. total for a single span.

C. Wood Structure

1. Support no loads from plywood deck.
2. At 2 x 4 stiffeners of roof panels, hang no loads.
3. At Glue Lam Beam (GLB) girders, hang no loads greater than 200 lbs. without consultation. For multiple loading (on girder or from incoming purlin) submit Drawings for University's Representative's review.
4. Place all fasteners for hanger support within the middle 1/3 of the beam depth.
5. Total loads suspended from the roof structure shall not exceed the design loading of 4.5 pounds per square foot.

END OF SECTION 01 73 23