



# SpaceLoft™ Specification Guide

Use this sample to prepare your own detailed specifications. Provided as a representative sample, the following is based on many of the standard design principles of SpaceLoft Mezzanines. For further assistance, contact your W.A. Schmidt representative.

## I. GENERAL

1. Mezzanine shall be prefabricated custom-designed unit such as the SpaceLoft™ manufactured by W.A. Schmidt, 38 Souderton Pk., Souderton, PA 18964
2. Mezzanine shall be free-standing and shall not use existing walls or building columns for vertical or horizontal support
3. Mezzanine structure shall be capable of being erected, dismantled and relocated with hand tools
4. Mezzanine to be designed for add-on capability; columns and beams to have capacity and appropriate design to accept add on units for future expansion
5. Bidder shall include the following information with bid package:
  - a. Design live load in pounds per square foot (psf)
  - b. Deflection under the design live load
  - c. Maximum load on floor (psi) when design live load is applied to baseplate
  - d. Height to top of deck and minimum clear height below mezzanine
  - e. Shipping weight
6. The successful bidder after receipt of order shall supply drawings by a qualified designer showing location of each component, along with a material list, and connection details for approval
7. Mezzanine manufacturer must verify experience in the design and fabrication of mezzanines
8. Manufacturer shall offer certification of final drawings by a Professional Engineer in the state in which installation will occur and must be capable of providing calculations and seal
9. Manufacturer to confirm that all factory welders are certified

## II. DESIGN

### 1. SPECIFICATIONS

1. The structural steel design shall meet or exceed the requirements of the American Institute of Steel Construction (AISC) "Specification for Structural Steel Buildings/Allowable Stress Design and Plastic Design 6/1/89"
2. Bar joist design shall meet or exceed the requirements of the Steel Joist Institute (SJI) "Standard Specifications for Open Web Steel Joist H Series," adopted 11/7/83
3. OSHA (Occupational Safety & Health Administration) regulations shall be met or exceeded
4. Other codes specified by the customer, such as "National Building Code" by BOCA, "Uniform Building Code" by ICBS, or "Standard Building Code" by SBCCA, shall be met by the manufacturer



## **2. LOADS AND DEFLECTIONS**

1. Design shall meet the customer's requirement for live load
2. Structure shall be designed to withstand horizontal forces as required by the seismic zone at the site of installation
3. Stairs and landings shall be designed for a live load of 100 psf
4. Deflection of all components under full live load shall not exceed 1/360 of span
5. Special requirements for concentrated load (i.e. racks, shelving, pallet trucks, etc.) shall be met by the manufacturer when specified by the customer

## **III. STRUCTURE**

### **1. COLUMNS**

1. Column spacing shall meet field conditions and requirements of customer
2. Column size shall be a minimum of 5"x5"x3/16" square tube
3. Baseplates shall be a minimum size of 8" x 8" x 1/2", and anchored with four (4) 1/2" dia. anchor bolts

### **2. STRUCTURAL STEEL SUPPORT MEMBERS AND BAR JOISTS**

1. All field connections shall be bolted
2. Wherever possible, beams shall rest on top of columns
3. Bottom cord of bar joists shall be extended to columns and attached
4. Bridging as per manufacturers design specifications

### **3. STAIRS**

1. Stair shall be all-welded or bolt type construction and produced with all structural steel members
2. All applicable codes specified by the customer shall be met or exceeded
3. Stairs shall meet all design criteria specified for the mezzanines (above)

### **4. GUARD RAIL**

1. Railings shall be minimum 1 1/4" x 14 ga. horizontal square tube or 1 1/4" structural welded round pipe with schedule 40 thickness. (1 1/2" O.D.). All railings rounded or square to have continuous top rail with smooth transitions from one level to another
2. Intermediate rail spacing to meet applicable codes
3. All railing locations to be provided with 4" x 1/8" structural kickplate
4. All applicable codes specified by the customer shall be met or exceeded

## **IV. MATERIALS**

- 1. STRUCTURAL STEEL BEAMS** shall be hot rolled wide flange and meet the requirements of ASTM Spec A36 "Standard Specification for Structural Steel" (minimum yield strength of 36,000 pounds per square inch: FY=36KSI). All steel members to be of domestic origin to meet or exceed AISC Standards
- 2. BAR JOISTS** shall meet the requirements of the Steel Joist Institute referred to above and must be produced of structural steel components of domestic origin
- 3. COLUMNS AND HANDRAILS** shall be square tube and shall meet the requirements of ASTM Spec. A500 titled "Cold Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes" (minimum yield strength of 45,000 psi. FY=3D 45 KSI)



**4. DECKS** shall be constructed in one of the following designs:

**Bar Grating** 1" x 1/8" bearing bars welded on 1 3/16" centers with cross rods on 4" centers. Attach to structure with saddle clips and tech screws. (2 per beam crossed)

**Plywood** 3/4" thick BC-grade, attached to underlayment with minimum of 32 screws per full 4' X 8' sheet

**Double Layer Wood** 1/2" BC-grade PLYWOOD staggered on 1/2" Oriented Strand Board (OSB) attached to underlayment with combined total of 32 or more screws per full 4' X 8' sheet

**Steel Plate** Flat or diamond plate, 1/8" or 1/4" thick, meeting ASTM A36 and attached over underlayment with a minimum of 20 mechanical fasteners per 32 sq. ft. area

**Other Decking** as requested by the customer

**5. DECK UNDERLAYMENT** - B-deck for plywood and steel plate shall be minimum 20 ga. (determined by design load) galvanized, or high gloss white underside, wide ribbed steel decking with 1 1/2" high corrugations, spaced 6" center to center, attached to structure with minimum of two (2) tech screws per panel width for every beam crossed

**6. STRUCTURAL BOLTS** shall conform to ASTM Spec A325 "High Strength Bolts for Structural Steel Connections". Bolts must be minimum of 3/4" diameter except for bar joist connections which require no less than two (2)-1/2" diameter structural bolts per joist. (ASTM A325) bolts to be of domestic origin to ensure structural integrity

## V. PAINTING

1. Structural steel beams and columns shall be cleaned and sand blasted to remove all mill slag, rust and other debris to assure proper adherence of paint to steel. Paint to be manufacturer's two-part baked-on Urethane in one of four standard colors. Manufacturer to supply touch-up paint at the time of shipment. MSDS sheets shall be provided detailing composition of paint
2. Guard Rail shall be cleaned and painted with two-part baked-on Urethane, hi-gloss safety yellow

## VI. OTHER SPECIFICATIONS

1. An inspection of the customer's facility by the manufacturer's representative shall be conducted before specifications are finalized
2. Manufacturer will adhere to local codes when requested by the customer
3. Manufacturer to provide Performance and Payment bond and must carry insurance coverage with a minimum 5 million umbrella coverage for Product and General Liability with proof of Workmen's Compensation Insurance
4. Manufacturer must provide a Lifetime Warranty for all workmanship, structural components and hardware