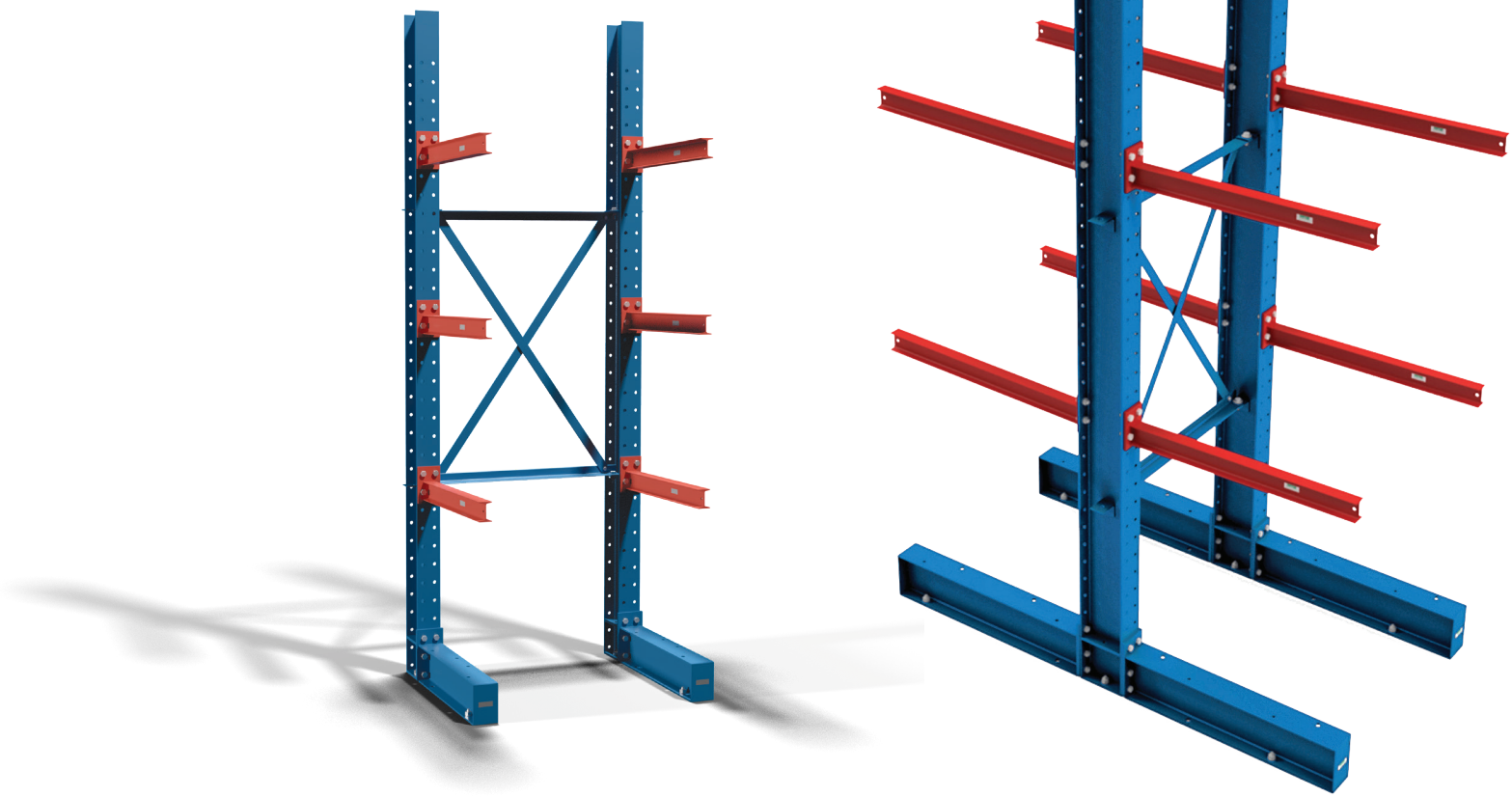
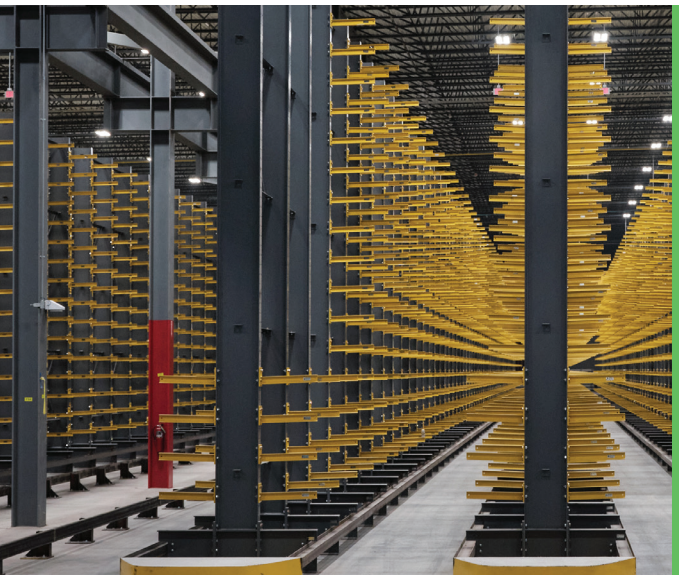
STEEL KING®
BUILT TO DELIVER

I-BEAM CANTILEVER

ASSEMBLY GUIDE



Assembly Instructions



Steel King Industries recommends that this product be assembled only by qualified personnel, experienced in this assembly of storage racks, and knowledgeable of all safety regulations and practices. These instructions are intended only for use by qualified individuals using all proper safety equipment.

WARNING: I-Beam Cantilever storage racks are extremely heavy and, if not properly secured during installation and assembly, could fall, possibly causing injury or death as well as damage to property.

Contact Steel King Industries or your local Steel King Representative for the name and contact information of a qualified installer. Users of this information agree to indemnify and hold harmless Steel King Industries from any and all liability.

WARNING: Instructions for assembly are set forth on these pages. Proper assembly is the responsibility of the purchaser and is not covered by any warranty of the seller. Buyer is cautioned not to substitute parts or hardware. Seller disclaims all liability with respect to any substitution of parts or hardware not approved in writing by seller.

The installation detail drawings that follow are intended as basic guides for installation of the standard components. Depending upon the specifications of the system, there may be limitations regarding the use of these standard components and/or a requirement for special installation techniques. Additional information is found in Steel King price books, published technical documents, comprehensive installation drawings, and other materials.

Step 1: Check the Material

A. Check to make certain that all materials have been received. Materials should be checked against the packing lists and Bill of Lading.

B. Notify the shipper immediately of any shortages or product damage.

Step 2: Check the Area

A. Clear the area where the racking system is to be installed.

B. Check the area for all obstruction, such as lights, heating ducts, pipes, building columns, etc., to insure a clear area for the installation of the racks.

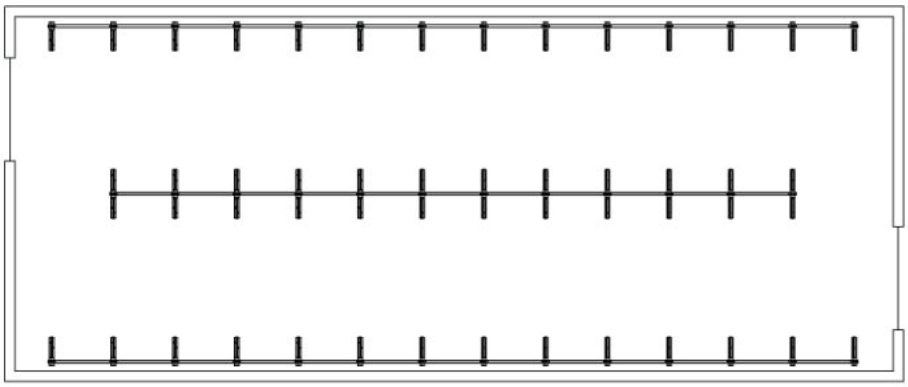
Step 3: Lay Out Floor

RECOMMENDED TOOLS:

- Tape Measure
- Chalk Line

A. Establish the rack layout by determining the aisle dimensions and the rack position. **See figure below.**

B. Snap a chalk line establishing the front edge of the upright bases. The chalk line should run the entire length of the row of rack.



Example of rack layout

Step 4: Assemble -Beam Cantilever Rack

RECOMMENDED TOOLS:

- Air Compressor
- Torque Wrench
- 1-1/8" Drive Impacts or Equivalent

A. Distribute the uprights, bases, arms and bracing for assembly near their final installed position. Use dunnage to protect the floor during this operation. It is best to pre-assemble the bases to the columns before standing the columns.

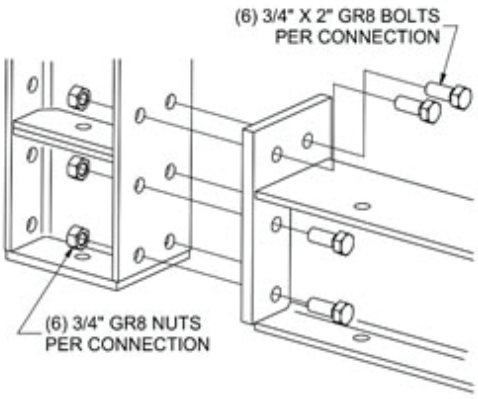
***NOTE**: Arms may be pre-installed before standing the columns, however, it is not a requirement. If arms are installed after the columns are stood, the down-aisle bracing should be installed prior to installing the arms.*

Step 4: Assemble I-Beam Cantilever Rack (continued)

B. Bolt the bases to the uprights using the 3/4" diameter x 2" long bolts. Torque the bolt to 320 ft-lbs.

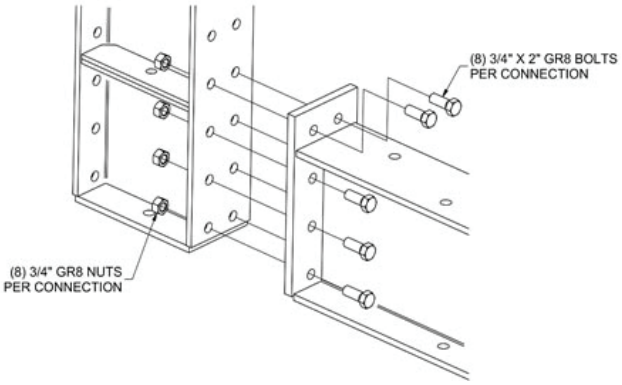
BASE CONNECTION 6-HOLE

8" and 10" bases require 6 bolts



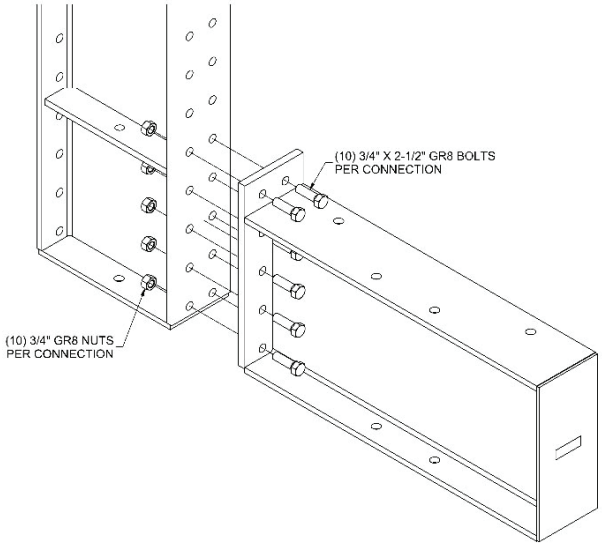
BASE CONNECTION 8-HOLE

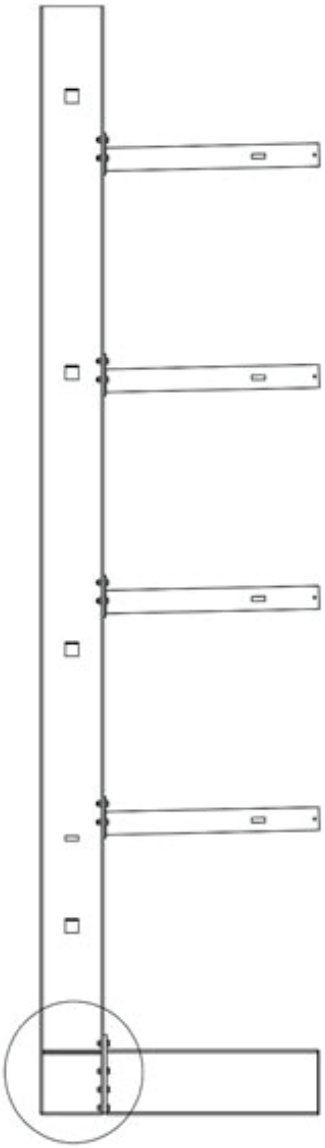
12" and 14" bases require 8 bolts



BASE CONNECTION 10-HOLE

16" bases require 10 bolts

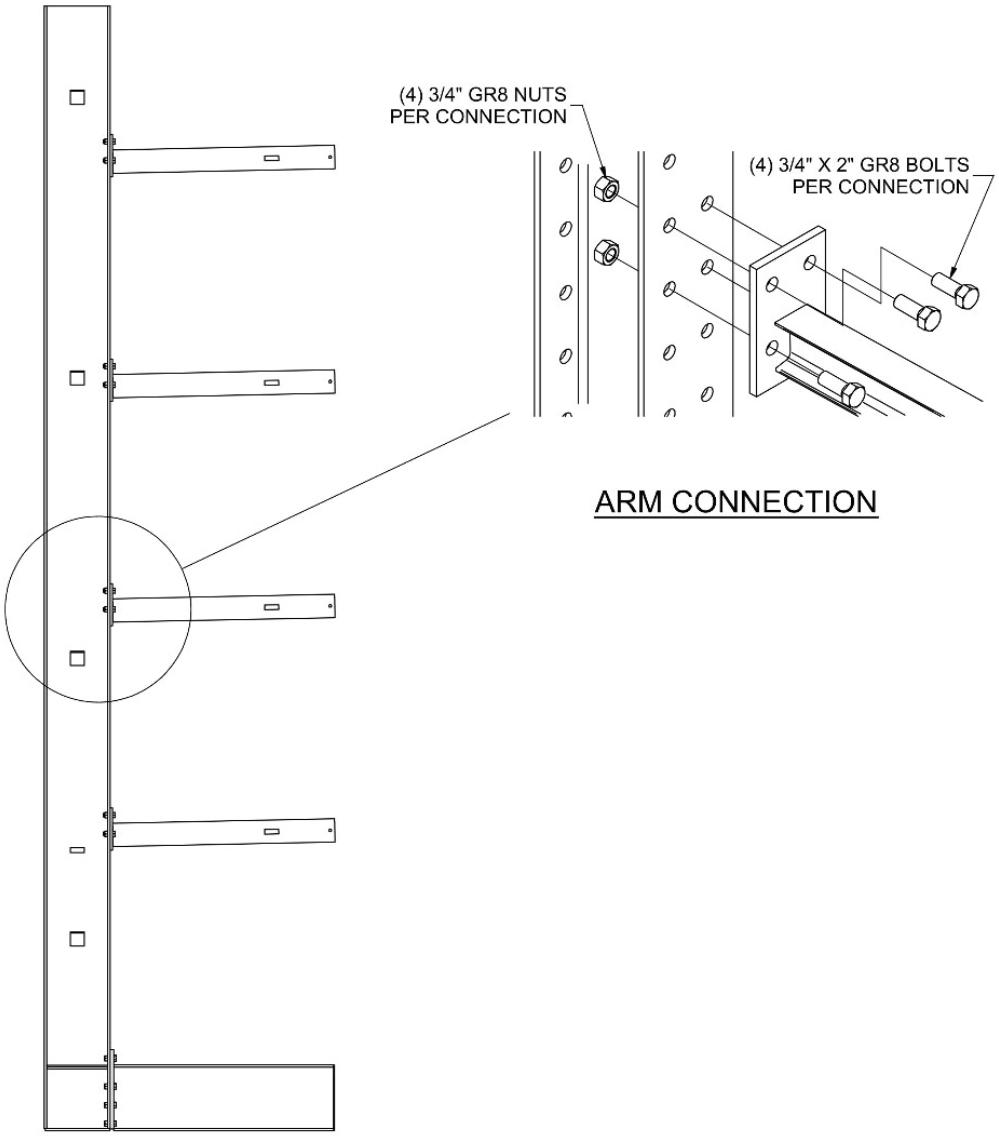




Step 4: Assemble I-Beam Cantilever Rack (continued)

C. Mark the arm elevations on the uprights. The marks should be below the top of the arm end plate so as not to show after the arm is bolted in place.

D. Bolt the arms to the uprights using the 3/4" diameter x 2" long bolts. Torque the bolt to 320 ft-lbs.



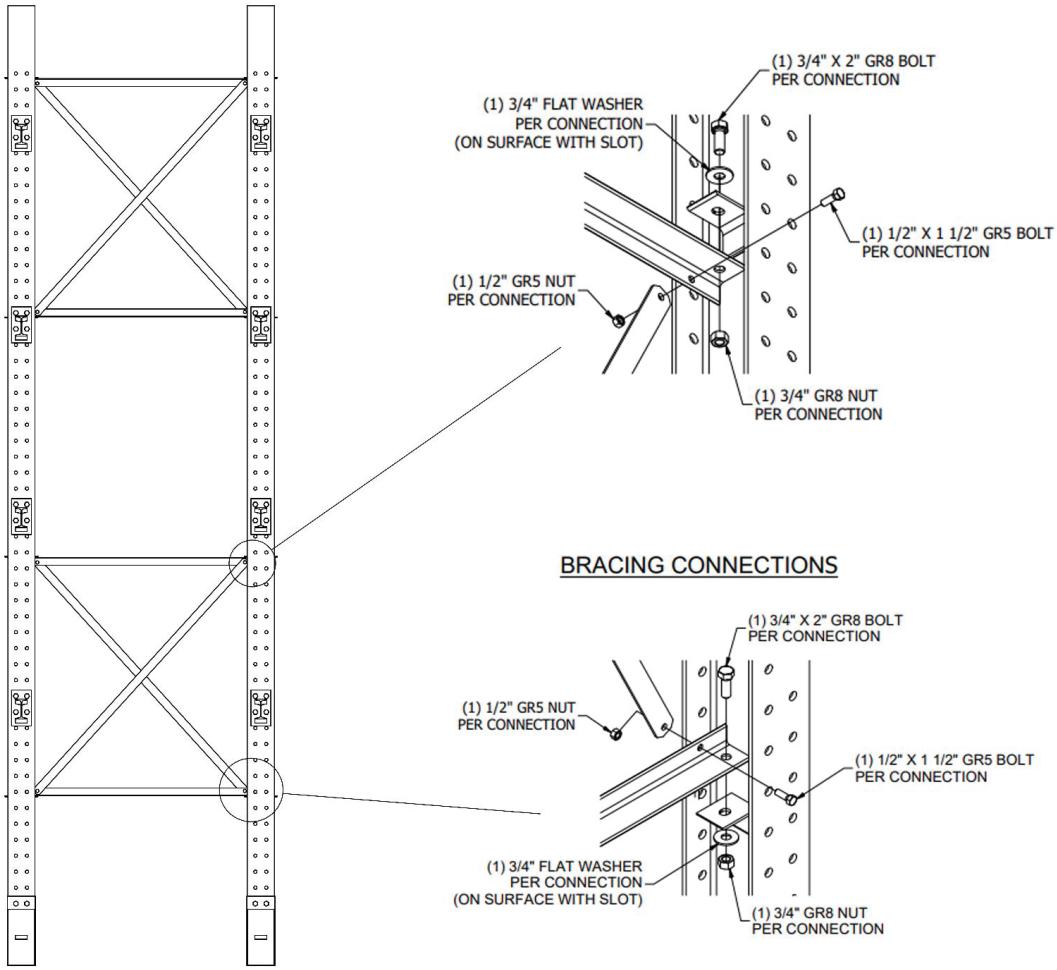
Step 5: Erect Upright Columns

RECOMMENDED TOOLS:

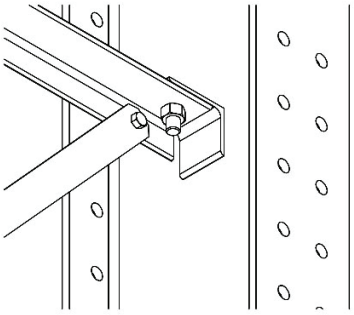
- Fork Truck or Other Mechanical Lifting Device
- Air Compressor
- Torque Wrench
- 1-1/8" Drive Impacts or Equivalent

A. Using a fork truck, carefully stand the pre-assembled uprights with arms attached. Please be careful here to protect the floor.

B. For each row, assemble a starter bay. A starter bay includes two pre-assembled uprights with attached arms and all support bracing, both diagonal and horizontal. See Starter Bay Configuration **figure below.** *Your rack may have more or less bracing based upon rack height.*



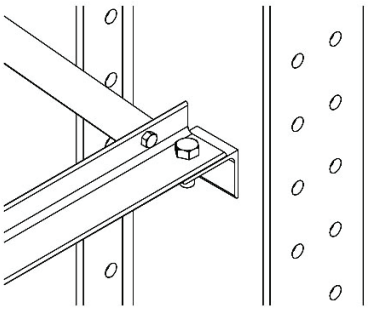
Step 5: Erect Upright Columns (continued)



C. Tighten all bracing.

D. A spacer bar is typically used to assure proper spacing between the bases in the down-aisle direction, though in some instances, the installer may choose to add down-aisle chalk lines for locating the columns and bases in lieu of using a spacer bar.

E. The balance of the uprights can be erected to complete the run. The uprights can be stood either one at a time or in groups of 2. If 2 uprights are to be erected, this should be the bay with the X-bracing tightened in place.



Step 6: Square, Plumb, Shims, and Anchor Bolts

A. Square the bases of the uprights on the chalk lines.

B. Plumb the uprights vertically. Use shims to adjust.

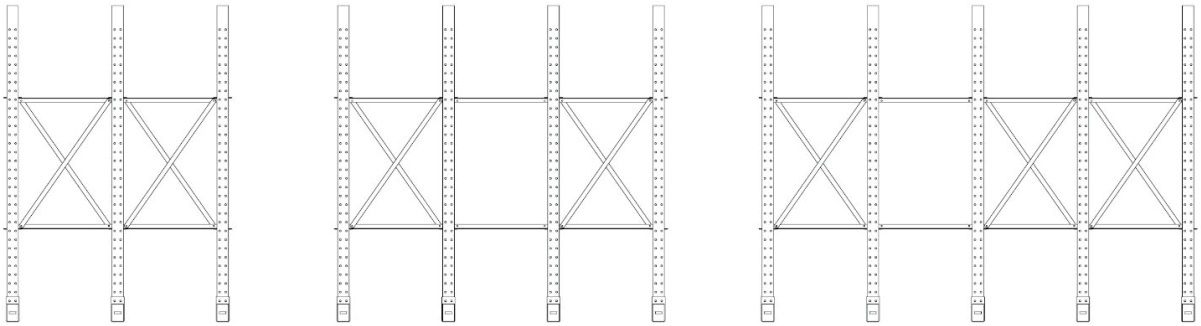
C. Shim the upright and base assemblies such that the columns maintain an out-of-plumb tolerance of 1/2" or less in 10 feet. Bases must be fully secured to the columns before shimming. Shims are to be positioned at an anchor bolt.

NOTE: *Proper shimming is important because it affects the alignment of the arms.*

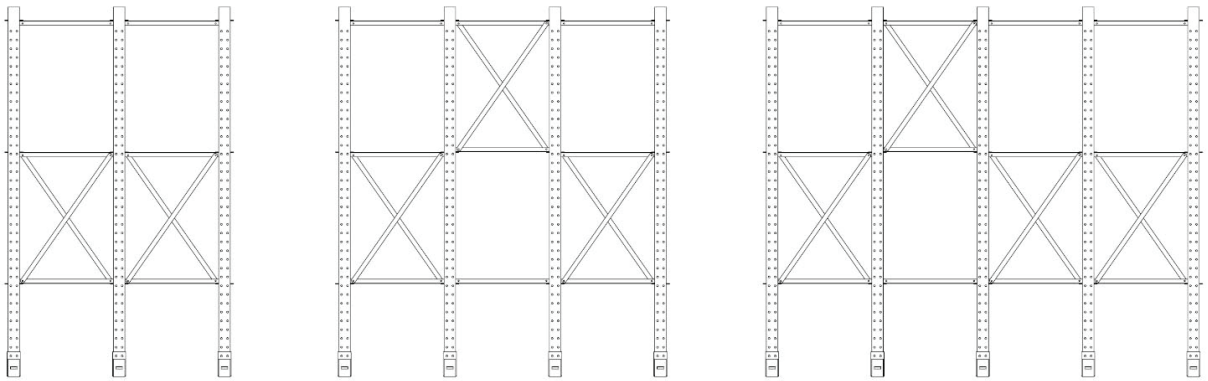
D. For non-seismic applications, anchor the upright and base assemblies to the slab-on-grade per the following configurations using 3/4" diameter x 5-1/2" long anchor bolts. Torque per the anchor manufacturer's recommendation. Anchor holes are to be vacuumed out before inserting the anchor bolts.

Required X-bracing is based on the number of horizontals.

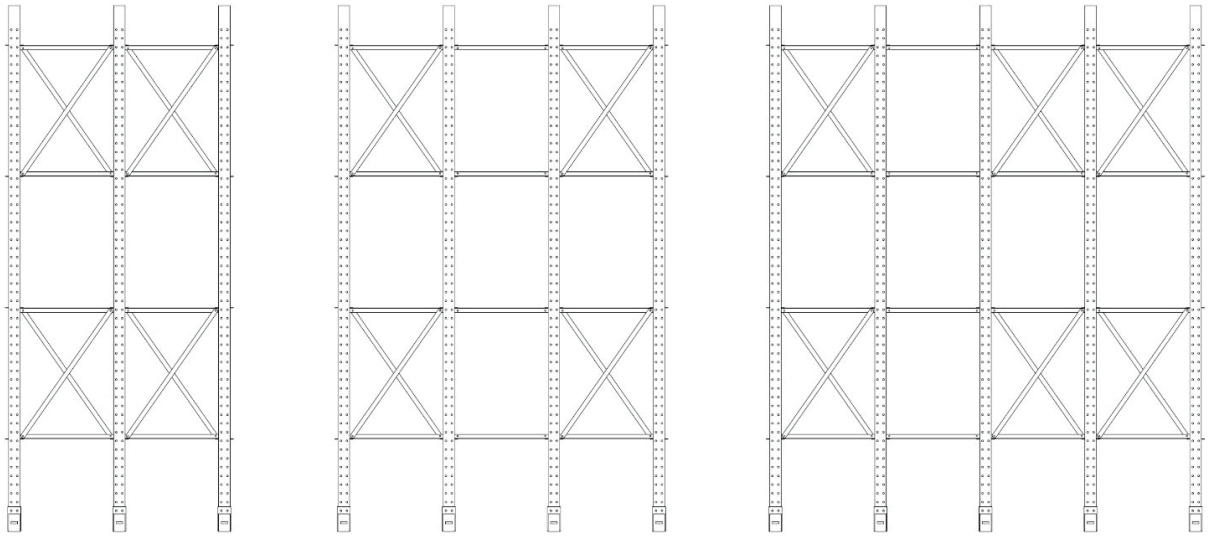
2 BAYS | ODD NUMBER OF BAYS | EVEN NUMBER OF BAYS (ABOVE 2)



2 HORIZONTAL BRACES



3 HORIZONTAL BRACES

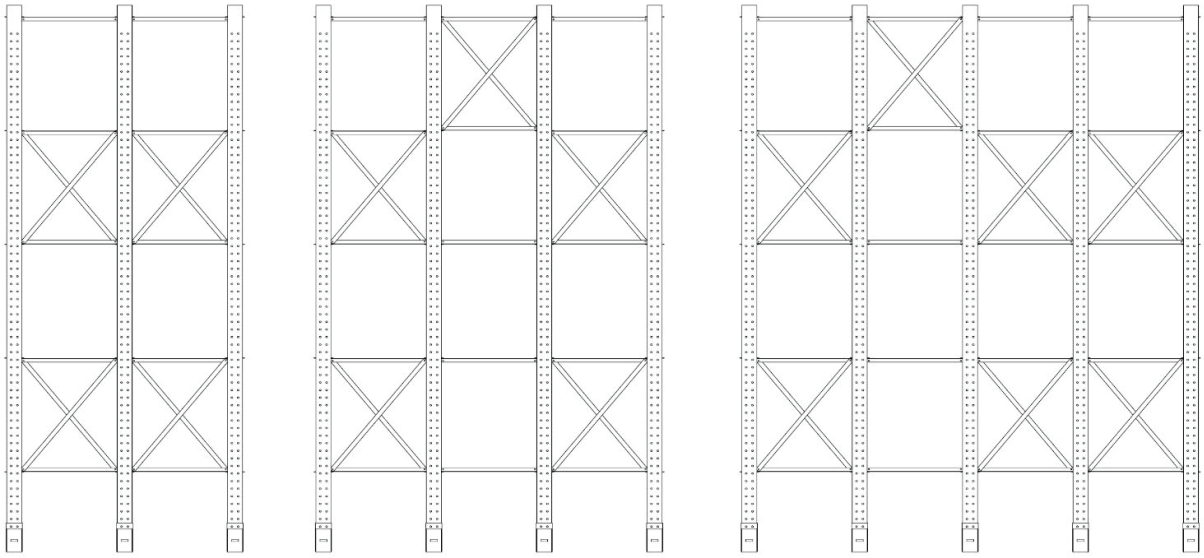


4 HORIZONTAL BRACES

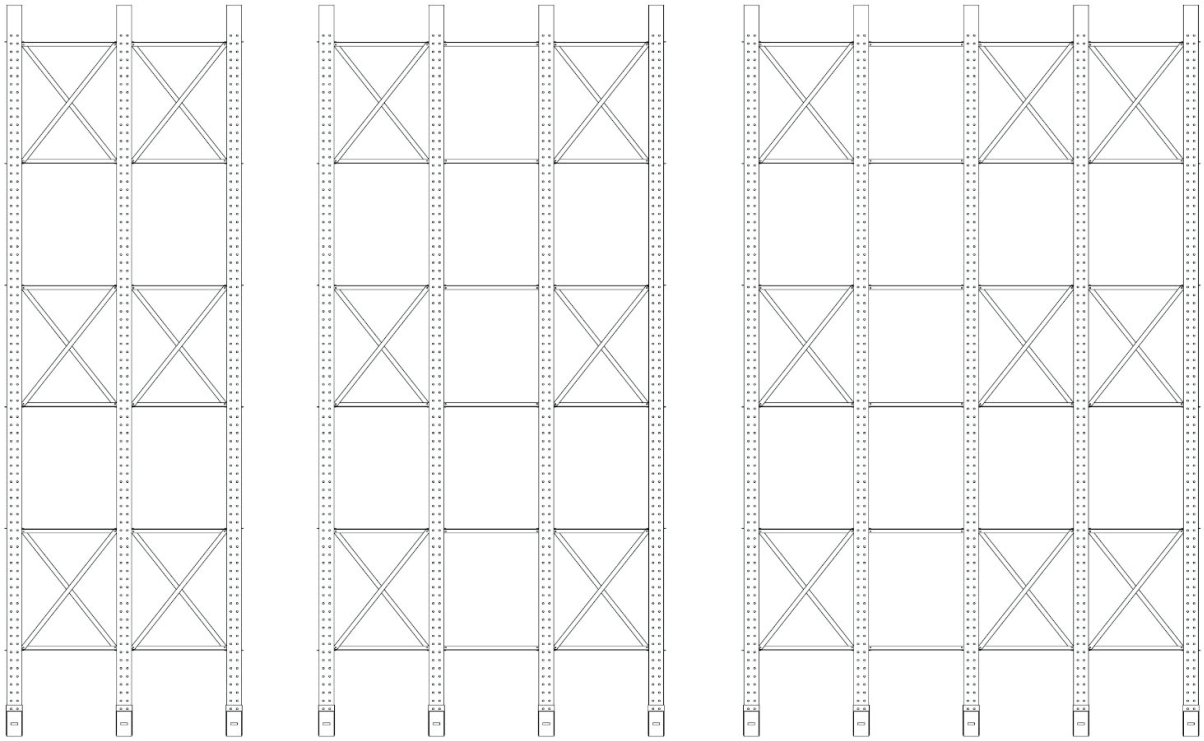
The bracing patterns depicted in these images is for low seismic areas (Seismic Design Categories A and B). Please contact Steel King for bracing requirements for higher seismic areas (Seismic Design Categories C and above).

Required X-bracing is based on the number of horizontals.

2 BAYS | ODD NUMBER OF BAYS | EVEN NUMBER OF BAYS (ABOVE 2)



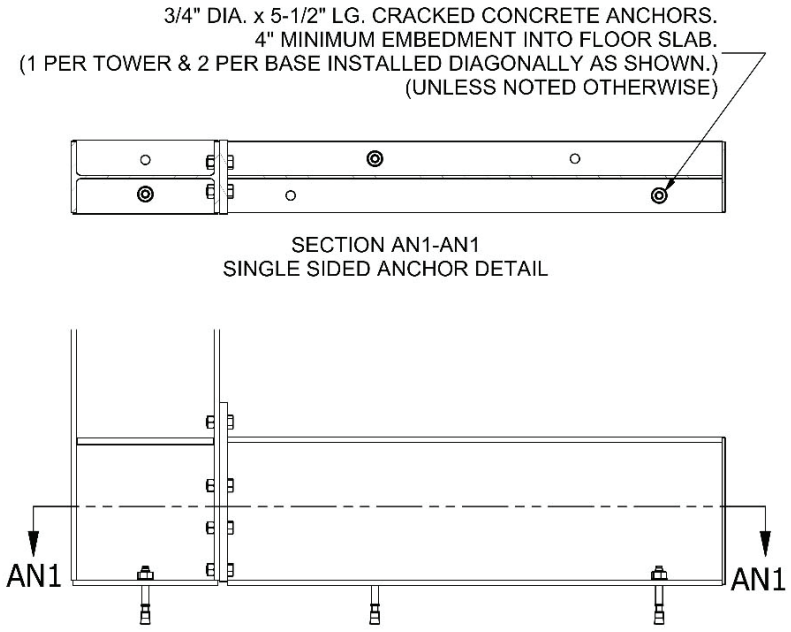
5 HORIZONTAL BRACES

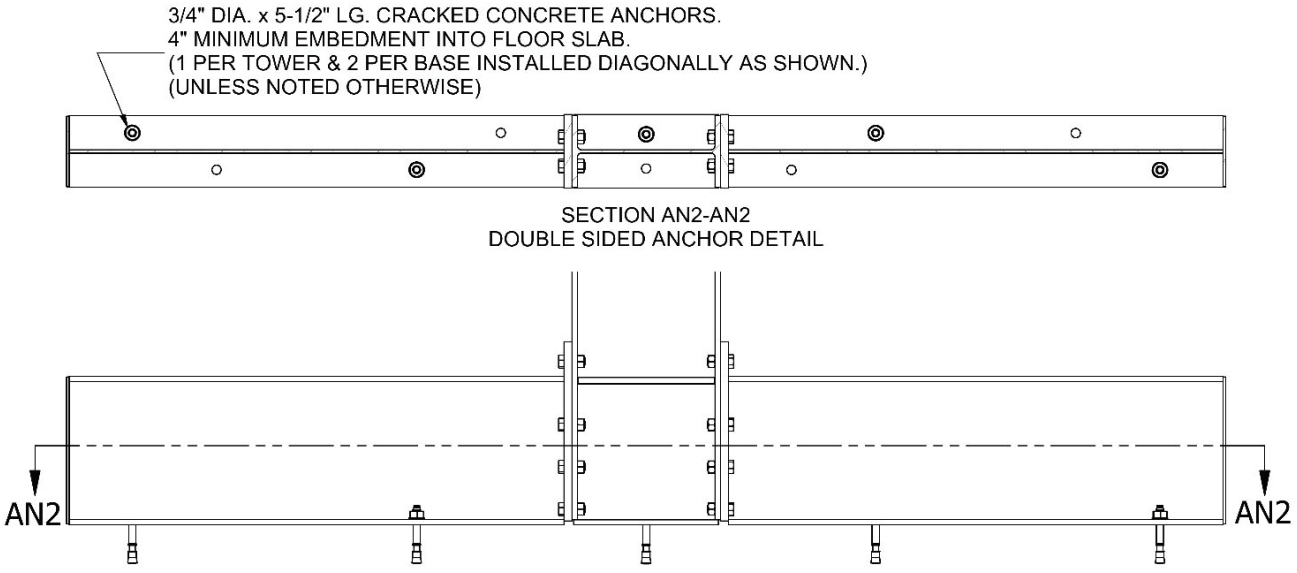


6 HORIZONTAL BRACES

The bracing patterns depicted in these images is for low seismic areas (Seismic Design Categories A and B). Please contact Steel King for bracing requirements for higher seismic areas (Seismic Design Categories C and above).

Proper Anchor Configurations for Single and Double Sided I-Beam Cantilever Racks





Step 7: Clean Up

A. Vacuum all dust and debris associated with setting anchors.

B. Dispose of all dunnage, strapping and debris. Sweep the floor with a broom if necessary.

Rack and Systems

The ultimate in design and execution, customized for your space and requirements. Built tough, forklift-friendly, and ready to store any inventory.

- Pallet Racks
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- Specialty Racks
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- Custom Shipping Racks
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Safety Products

Steel King's safety products extend the life of your facility and have been setting industry standards in safety, protecting your people, product, and plant.

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- Safety Gates
- Pallet Load Stops and Supports
- Lift-Out Rails
- Rub Rails

If you have any further questions, contact your local Steel King Representative for customer assistance or contact Steel King Industries directly at (800) 826-0203.

Containers

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