



STEEL KING™
BUILT TO DELIVER

Cantilever Rack System



Steel King

*Strength. Innovation.
Integrity.*

Steel King leads the way in rack technology with innovation and experience with more than 40 years in the materials handling industry.

Our superior designs give you a rugged, long lasting, truly economical rack. Steel King offers innovative, expert solutions to complex storage problems.



Maximize capacity and density with Cantilever Rack

Efficient, organized storage of long or oddly-sized materials. Choose any style for simple installation, low maintenance, and rugged operation.

Easier to use: With no front column in the way, cantilever racks are faster to load and unload, lowering handling time and costs.

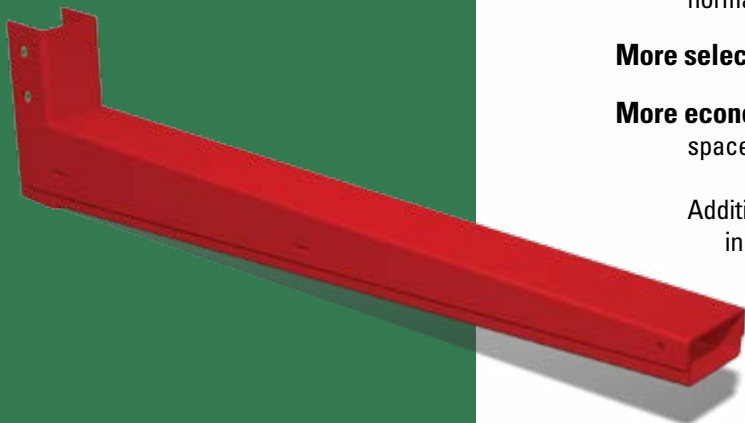
More compact: The lack of a front column saves horizontal space normally lost to rack structure and allows for easy access.

More selective: Any load or storage slot is immediately accessible.

More economical: Both reduced handling times and increased space utilization make cantilever racks more cost-efficient.

Additionally, cantilever racks become more economical to incorporate than pallet rack when load length increases.

More adaptable: Cantilever racks can store nearly any type of load. They are especially useful for storing long, bulky, or oddly-shaped items.



Steel King offers a variety of cantilever racks, including standard- and light-duty racks, I-beam cantilever racks, and furniture cantilever racks.



Arms are available in a variety of sizes and styles to accommodate your rack load.



Applications

Typical storage applications

- Plywood
- Lumber
- Furniture
- Appliances
- Pipe
- Structural members
- Sheet steel
- Tubing
- Doors
- Boxes
- Pallets
- Conduit
- Extrusions
- Rolls
- Building materials
- and many more!



Flared entry design allows for easier bay access.





Standard-duty cantilever racks

Holds standard to heavy loads

Standard-duty cantilever racks offer efficient, organized storage of longer, oddly-sized materials. These racks are heavily constructed with many arm size and type options to meet a variety of storage needs. Adjustable vertically in 3" increments, these racks have bolted arm connections with a heavy arm connector plate as well as welded column-to-base connections.

Safety factors for columns and arms – 1.56 minimum (1.4 / 0.9 – based on LRFD design)

Both standard-duty and light-duty cantilever racks can be built in either single- or double-sided configurations.



Light-duty cantilever racks

Don't mistake light-duty for "light" construction. Steel King doesn't cut corners on structural integrity.

Cost effective storage

Light-duty cantilever racks are designed for use in hand loading situations. Though used for light-duty, these Steel King cantilever racks are constructed of 62,000 psi high strength steel columns, contain bolted connections, have column-to-base welded bases and are adjustable vertically in 2" increments.



I-Beam cantilever racks

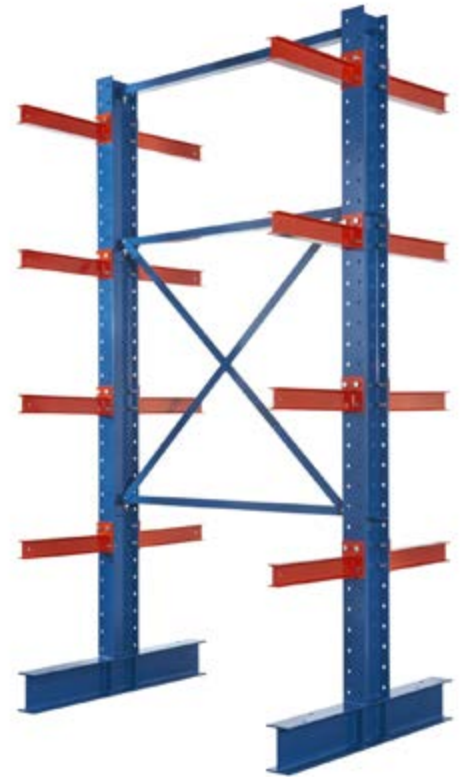
Maximize storage and improve accessibility

Cantilever racks in the I-Beam configuration allow accessibility from both sides, allowing for faster load and unload times. This design saves horizontal space normally lost to rack structure and reduces fork truck damage.

- Arm lengths up to 8'
- Freestanding heights up to 30'
- Arms adjust vertically in 4" increments
- Constructed of structural steel with a 50,000 psi minimum yield
 - Heavy arm connector plate
 - Bolted base-to-column connection



I-Beam Cantilever Racks can be built in either single- or double-sided configurations.



Open-Web Cantilever Racks

- Open-web allows in-rack sprinkler systems to be installed within the upright frames – maximizing storage space and protecting sprinkler heads from damage.
- A variety of base design options make product storage on the floor possible.
- Top ties are incorporated for added stability.
- Arms adjust vertically in 2" increments.



Closed-Column Cantilever Racks

- Closed-column racks are ideal for free-standing units and single-aisle applications.
- Top ties are optional.
- Welded or bolted base channels are available.
- Use closed-column racks for heavy-duty loads.
- Arms adjust vertically in 3" increments.



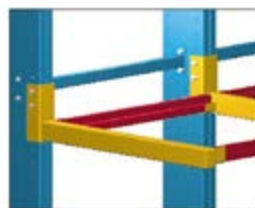
	Standard	Light	I-Beam
Steel strength	50,000 psi high strength steel columns	62,000 psi high strength steel columns	50,000 psi high strength steel columns
Connections	Bolted arm connections and heavy arm connector plate	Bolted connections secure arms to columns	Heavy arm connector plate holds rigid even under heavy loads
Arm types	Many available	Many available	NA
Adjustability	3"	2"	4"
Modular construction	Yes	Yes	Yes

Options and accessories for light and standard-duty cantilever racks

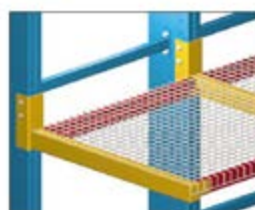


Roof brackets: Attaches to arms to accept stringers for roof structure

Saddles: Attaches to arms. Used for decking supports.



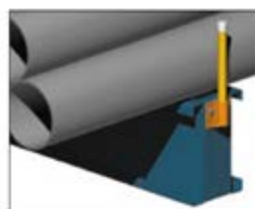
Wire deck: Attaches to arms for storage of odd lengths of bar, rounds, etc.



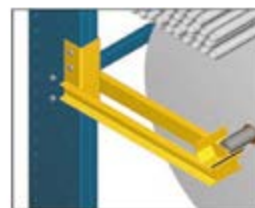
Drop-on pans: Attaches to arms for storage of odd lengths of bar, rounds, etc.



Removable pipe end stops: Attaches to arms or base. Includes Pipe, bracket and plastic cap.



Core/ axle saddles: Attaches to arms for accepting core I axle of rolls.



Welded lips: Welds to arms or base. Many heights available.



Bolted end lips: Arms punched to accept optional removable end lips.



How to design your cantilever rack systems

1. Determine the number and spacing of support arms.

1a. Use enough arms under a load to prevent deflection of the load. Deflection causes undesirable side pressure on the arms.

Using wood blocks on the floor under the load, test your load for deflection on a two-support system.

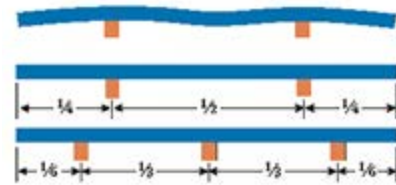
1b. If you do not detect any deflection, you may use two support arms. The arm capacity required will be half the load weight, and the upright centerline will be 1/2 of the load length.

1c. If you notice deflection with two supports, try three supports. If this system works, arm capacity will be 1/3 of the load weight, and the upright centerlines will be 1/3 of load length.

If three supports are still not enough, add supports as necessary until deflection is eliminated.

Note: Product should overhang the end of the rack by 1/2 of the upright centerline distance.

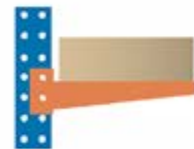
Loading without overhang is incorrect.



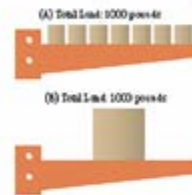
1a

1b

1c



2a



Arm capacity is based on uniformly distributed loads as shown in (A) & (B)

Loading pattern shown in (C) reduces capacity of arm by 50%

2. Determine arm length. Arm length is generally equal to load depth.

Arm length shown in 2a is correct; 2b can also be used if rack is designed as such.

3. Determine upright height.

Start with base height:

+ number of storage levels x load height

+ handling clearance [4" to 6"] x number of levels

+ number of arm levels x arm thickness = upright height.

Note: Contact Steel King for current arm and base dimensions.

Note: Check limitations at your plant such as ceiling clearance or fork lift height.

Note: Top arm level must be below the top of the column.

4. Determine capacities required.

Arms: Load weight ÷ number of arms per level = arm capacity.
(Assuming each arm supports an equal amount of the load)

Uprights: Number of arms per side x load per arm.

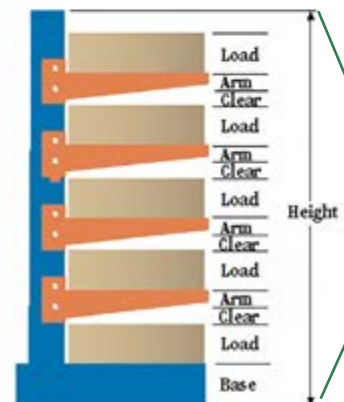
Note: Load on base is not included in capacity.

5. "Bracing lengths" refer to the horizontal centerline distance from column to column, as in the diagram.

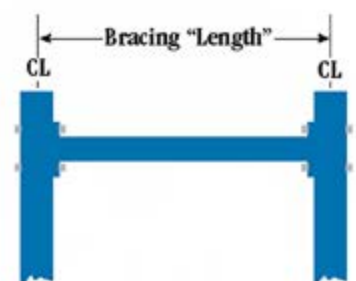
Based on the number of arms calculated in Step 1, determine the bracing length required.

Bracing is sold in pieces, not sets.

Contact Steel King for current bracing information.



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Why Choose Steel King?

Industry Leadership – With our state-of-the-art facilities and active participation in the associations that develop the national specifications for quality and safety, we lead the way with our uncompromising dedication to engineering and manufacturing excellence.

Expertise and Versatility – Our in-house engineering and drafting staff has decades of experience designing thousands of rack systems, which means we can custom engineer a solution for any storage challenge and ensure efficient space utilization.

Quality and Safety – Steel King is committed to providing customers with the highest quality and safest products possible. Our structural engineers design our products to strictly conform to industry design codes to ensure product and worker safety. Steel King facilities and processes are tested and fabricator licenses are approved for the City of Los Angeles and the City of Phoenix.

Durability – Made with the highest quality materials available, Steel King products are built to last. We design them to better resist the daily rigors of your environment, which means they last longer, require less maintenance and provide greater safety.

Single Source Responsibility – Our wide breadth of product offerings allows us single-source responsibility that ensures both cost and quality control.

Welder Certification – Our welders are trained and qualified to American Welding Society (AWS) D1.1 and D1.3 standards. We also have an in-house Certified Welding Inspector (CWI).

**We are a “one-stop shop”
for all your storage needs.**



Steel King has been delivering customized storage solutions since 1970, designing and manufacturing pallet racking systems and related material handling products that improve operational efficiency in manufacturing, warehousing and distribution facilities.

When it comes to offering the highest quality, safest and most diverse product offerings, **Steel King is built to deliver.**



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PLANT LOCATIONS

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