



Republic Keystone Storage Rack Specifications

Storage system shall be Storage Rack Steel Framing as manufactured by Republic Storage Systems Company. Republic rack systems consist of two basic components: upright frames and beams. Each component is engineered and manufactured to strict design and quality specifications, ensuring consistency and ease of installation.

Upright Frame Assembly

Upright frames are comprised of columns, footplates, horizontal and diagonal bracing.

Columns

Sizes	Gauge	Stamp
3" x 1-5/8"	14	S
3" x 1-5/8"	13	R
3" x 3"	14	N
3" x 3"	13	M
3" x 3"	12	H
4" x 3"	14	N
4" x 3"	12	H

The three sizes of columns available are shown above along with the gauges and the letter stamped on the front face of those columns. All columns are singly symmetric channels with lips and punched with a single row of keystone slots in the front face (two rows of slots in the 4" wide columns) that the lugs on the beam clips fit into. Holes are punched on both sides of the column, offset from the keystones, for the beam safety clips to snap into to prevent accidental dislodgement of the beam. Columns are available in 3" height increments. The keystones and holes are punched on 3" centers, which means the beams are adjustable in 3" increments. All columns are made of ASTM A-1011/A Structural Quality Hot Rolled Steel, having a minimum yield point of 50,000 psi.

Footplate

Footplates are made of 11 gauge ASTM A-1011/A Hot Rolled Steel. They are punched with two 9/16" diameter holes that are used for anchoring uprights to floor.

Horizontal and Diagonal Bracing

Both braces are made of 14 gauge ASTM A-1011/A Structural Quality Hot Rolled Steel, having a minimum yield point of 50,000 psi. They are formed in the shape of a singly symmetric channel without lips where both legs are one inch long. The web of the channel is 1-1/2" when used with 3" wide columns and 2-17/16" when used with 4" wide columns. The braces are welded to the columns in a zee pattern to provide stability.

Beam Assemblies

Beam Assemblies are made up of beam clips welded on each end of the beam and a safety clip installed in each beam clip.

Beam

The offset beam is a box shaped beam that is 2-3/4" wide by the height shown below with a 1-5/8" high by 7/8" deep offset rolled into it. The beam heights, gauges and the letter stamped on the beam are as listed below. Beams are available in 36" to 144" lengths. All beams, except the 3-1/2" 16 gauge beams, are manufactured using ASTM A-1011/A Structural Quality Hot Rolled Steel, having a minimum yield point of 50,000 psi. The 3-1/2" 16 gauge beam is manufactured using ASTM A-1011/A Hot Rolled Steel having a minimum yield point of 33,000 psi.

Height	Gauge	Stamp
3-1/2"	16	n/a
3-1/2"	14	N
3-3/4"	14	N
4-1/4"	14	N
4-3/4"	14	N
5-1/4"	14	N
5-1/4"	13	M
5-1/4"	12	H
6"	12	n/a
6"	11	n/a

Beam Clip

The beam clips are made of 7 gauge ASTM A-1011/A Structural Quality Hot Rolled Steel, having a minimum yield point of 40,000 psi. The clips used on 3-1/2" and 3-3/4" high beams have two lugs each and are 5-1/4" tall. A three lug 8-1/4" tall beam clip is used on the remaining sizes. The lugs are designed to create a slip-fit that makes installation easy. The offset beams are welded 1/8" down from the top of the beam clip. A safety clip is attached to each beam clip after painting.

Safety Clip

The beam safety clip is made of 20 gauge high carbon spring steel and is zinc plated. Safety clips are installed into beam assemblies after painting. The safety clip snaps into the hole in the column at assembly and prevents the beam from being lifted out accidentally.

Accessories

Plain Cross Bar

Plain cross bars are singly symmetric channels with lips that are 3" wide x 1-5/8" high. They are made of 14 gauge ASTM A-1011/A Structural Quality Hot Rolled Steel, having a minimum yield point of 50,000 psi. Plain cross bars sit on the offset of the offset style beams and provide front to rear support for pallets that do not rest on beams.

Lapped Cross Bar

Lapped cross bars are singly symmetric channels with lips that are 3" wide x 1-5/8" high. They are made of 14 gauge ASTM A-1011/A Structural Quality Hot Rolled Steel, having a minimum yield point of 50,000 psi. Lapped cross bars are plain cross bars with a flap at the front and rear that goes over the beam and prevents the crossbar from being twisted out of place. For added safety, lapped cross bars can be fastened to beams with self drilling screws.

Fork Entry Bar

Fork entry bars are used front to rear on a set of beams to hold a load that does not have fork access. The fork entry bar is comprised of a 3" x 3" pallet rail section with 1-3/8" x 1-1/2" angles welded on each end. The angles go over the faces of the beams to hold the fork entry bar in place. The pallet rail is a 3" x 3" singly symmetric channel with lips made of 14 gauge ASTM A-1011/A, Hot Rolled, Pickled and Oiled Steel. The angles are made of 11 gauge ASTM A-1011/A Hot Rolled Steel.

Notched Cross Bar

Notched cross bars are singly symmetric channels with lips that are 3" wide x 1-5/8" high. They are made of 14 gauge ASTM A-1011/A Structural Quality Hot Rolled Steel, having a minimum yield point of 50,000 psi. They are similar to plain cross bars except they are notched to sit down in the offset of the offset style beam far enough to allow plywood or other decking to be installed in the offset and be flush with the top of the beam.

Skid Channel

Skid channels sit on a pair of beams and are used to support skids that may not be deep enough to rest on the beams. The 9 gauge channel is 3" wide with 1-1/2" legs and is made of ASTM A-1011/A Hot Rolled, Pickled and Oiled Steel. The 1-1/2" legs point up; a 3/4" flange fitting over the faces of the beams points down at the front and back ends.

Rigid Row Spacer

Rigid row spacers are singly symmetric channels with lips that are 1-1/2" wide with 1" legs. They have a tab at each end that attaches to the column through holes in the sides of the column. They are made of 14 gauge ASTM A-1011/A, Hot Rolled, Pickled and Oiled Steel. Rigid row spacers are used to tie two uprights together back to back. They are attached with 3/8" – 16 x 3/4" hex head bolts and nuts.

Rigid Wall Spacer

The rigid wall spacer is similar to the rigid row spacer except it has a 6" x 6" plate welded on the end that is anchored to the wall. The other end is attached to the column the same as the rigid row spacer.

Clip-On Post Protector

The clip-on post protector is made by welding a 3-1/8" x 3-1/8" 7 gauge formed angle onto 4 three lug beam clips that clip onto upright frame. Available in heights of 12", 24", 36" and 48".

Free Standing Post Protector

The free standing post protector is made by welding a 1/4" thick steel U shaped formed channel onto a 7-5/8" x 6" x 1/4" steel base plate. The steel base plate has four 9/16" holes, for anchoring to floor and is notched to fit around the upright frame post.