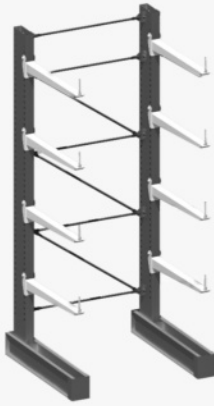




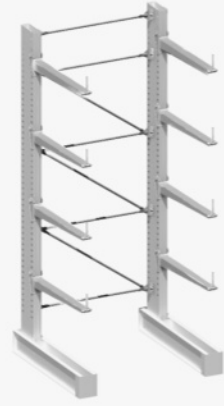
ASSEMBLY INSTRUCTIONS



Single Sided - Powder Coated Full Bay



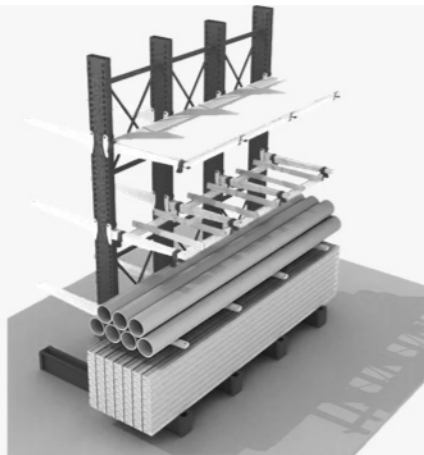
Single Sided - Powder Coated Add On Bay



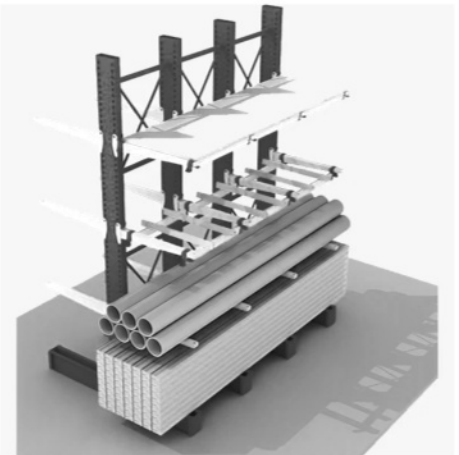
Single Sided - Galvanised Full Bay



Single Sided - Galvanised Add On Bay



Double Sided - Powder Coated



Double Sided - Galvanised

HEAVY DUTY CANTILEVER RACKING

Single & Double Sided | Powder Coated and Galvanised
USING 3048MM - SINGLE SIDED FULL BAY AS AN EXAMPLE

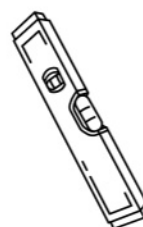
YOU'LL NEED



Hammer Drill



Impact Driver



Level



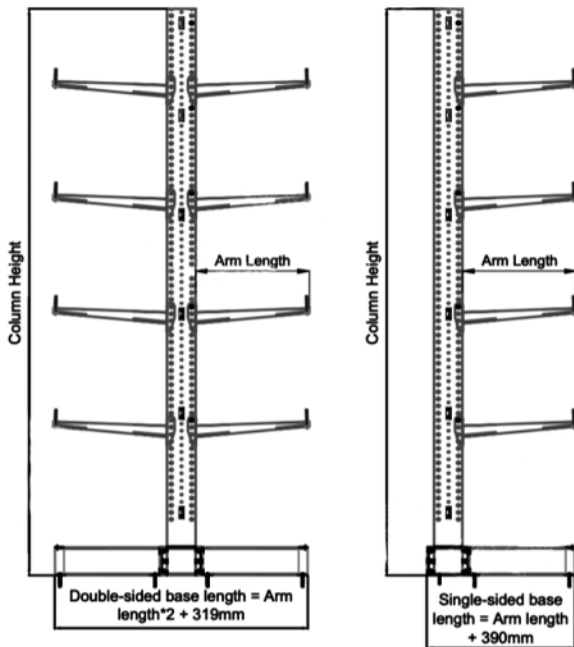
Hammer



Mallet

DISCLAIMER

This document is supplemental to FEM 10.2.09. This document must be read in conjunction with FEM 10.2.09. It is the responsibility of the installer to install the racking in compliance with FEM 10.2.09. Steelspan does not take any liability or responsibility for the installer not complying with the provisions of FEM 10.2.09 as they apply to an installation of the relevant racking. The maximum capacities are dependant on the racking design configuration. Always consult with the manufacturer before determining signage load capacities. Steelspan Storage Systems will not warrant or accept liability for racking designed and installed without its consultation and certification.

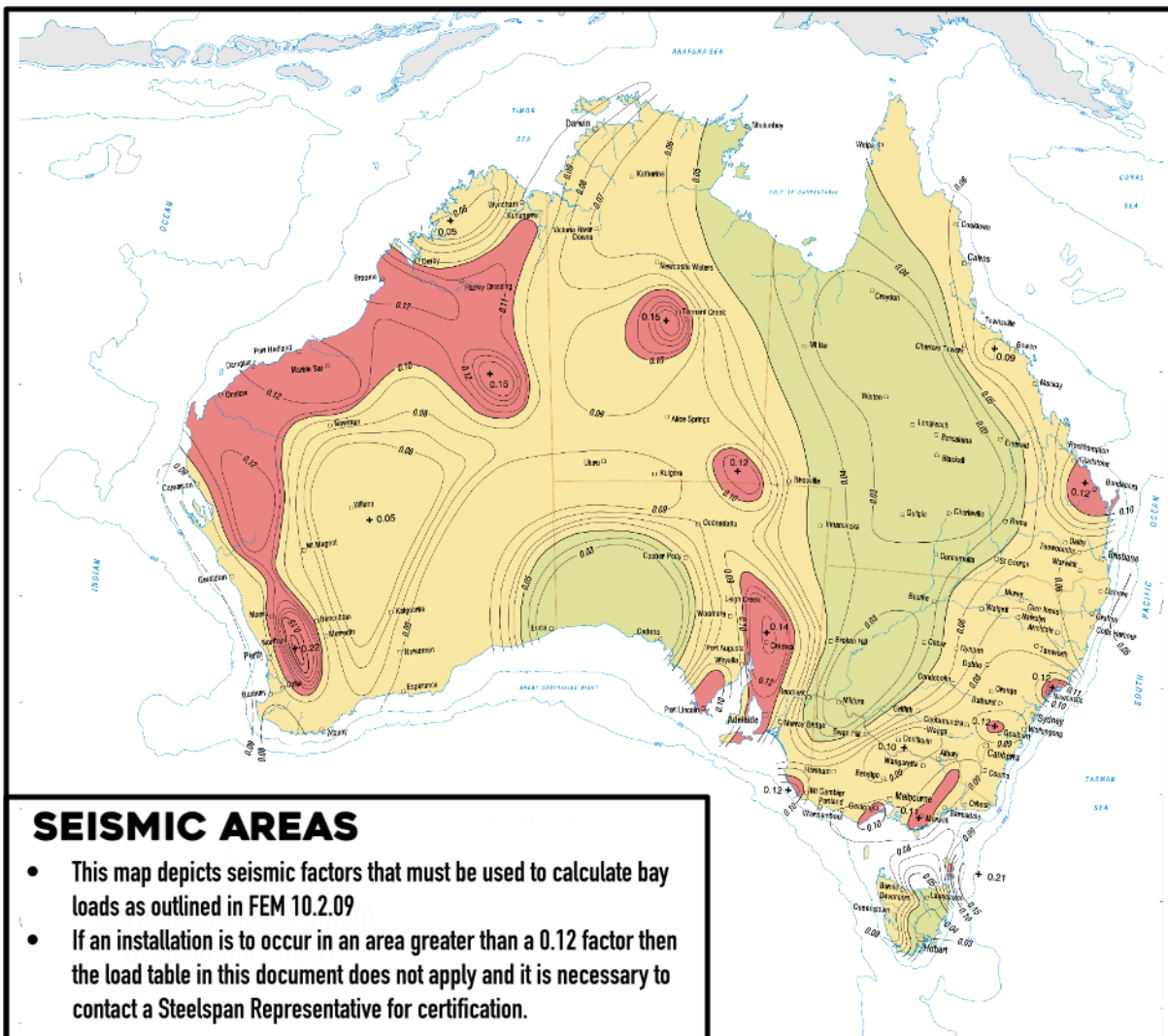


BASE LENGTH

- Arms cannot be longer than the external point of the Base.
- Arm loads cannot protrude past the arm tip.
- Please also refer to FEM 10.2.09 for the erection tolerances and guidelines.

ARM LOADS

- Arm load must not protrude past the arm tip.
- Refer to Load Table on Page 3 of this document for arm load specifications specific to Column height and Arm length.
- Refer to FEM 10.2.09 for further clarification.

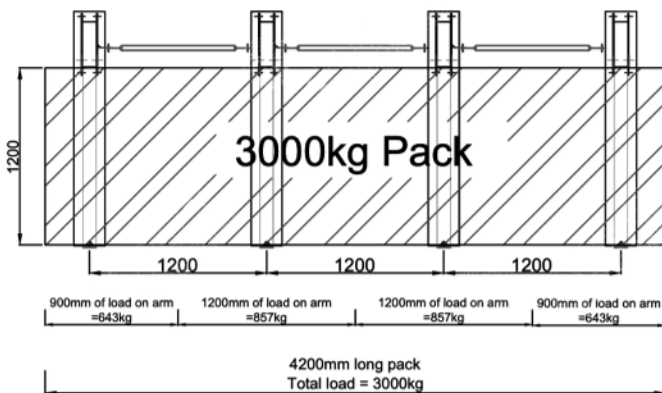


ARM LOAD DISTRIBUTION GUIDE - HEAVY DUTY CANTILEVER

- The arm load must not protrude past the arm tip;
- All loads are given as UDL, loads that are not a true UDL must be checked by a Steelspan representative;
- Below are example calculations of how a load is distributed to the arm to ensure that an arm load is not exceeded;
- NOTE - As a general rule the cantilever should be designed so that the outer arm holds less than or equal to the centre arms. If however, the outer arm has more load distance than the centre arms have, then the outer arm load distance must also be used to calculate the outer arm loads. This calculation will result in a higher load on these arms compared to the centre arm, which could result in failure;
- Please refer to the FEM 10.2.09 for further clarification.

EXAMPLE 1 - PASS

Calculation of actual load on arm.

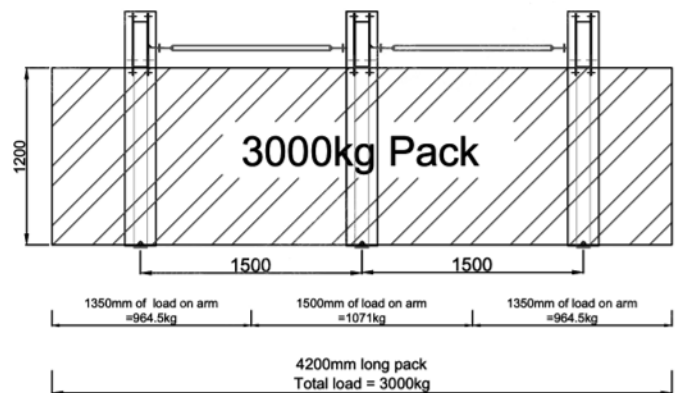


Formula:

1. Load of pack ÷ length of pack e.g. $3000\text{kg} \div 4200\text{mm} = 0.7142$
2. Multiply this by the distance between column centres e.g. $0.7142 \times 1200\text{mm} = 857\text{kg}$
3. So loading is ok as the 1200mm long arms are rated to 1000kg/arm and only 857kg has been calculated.

EXAMPLE 2 - FAIL

Calculation of actual load on arm.



Formula:

1. Load of pack ÷ length of pack e.g. $3000\text{kg} \div 4200\text{mm} = 0.7142$
2. Multiply this by the distance between column centres e.g. $0.7142 \times 1500\text{mm} = 1071\text{kg}$
3. So loading will cause the arm to FAIL as the 1200mm long arms are only rated to 1000kg and 1071kg has been calculated.

Heavy Duty Cantilever Rack Arm Capacities

Arm Length	Working Load Limit (WLL)
900mm	890kg per arm
1200mm	665kg per arm
1500mm	525kg per arm

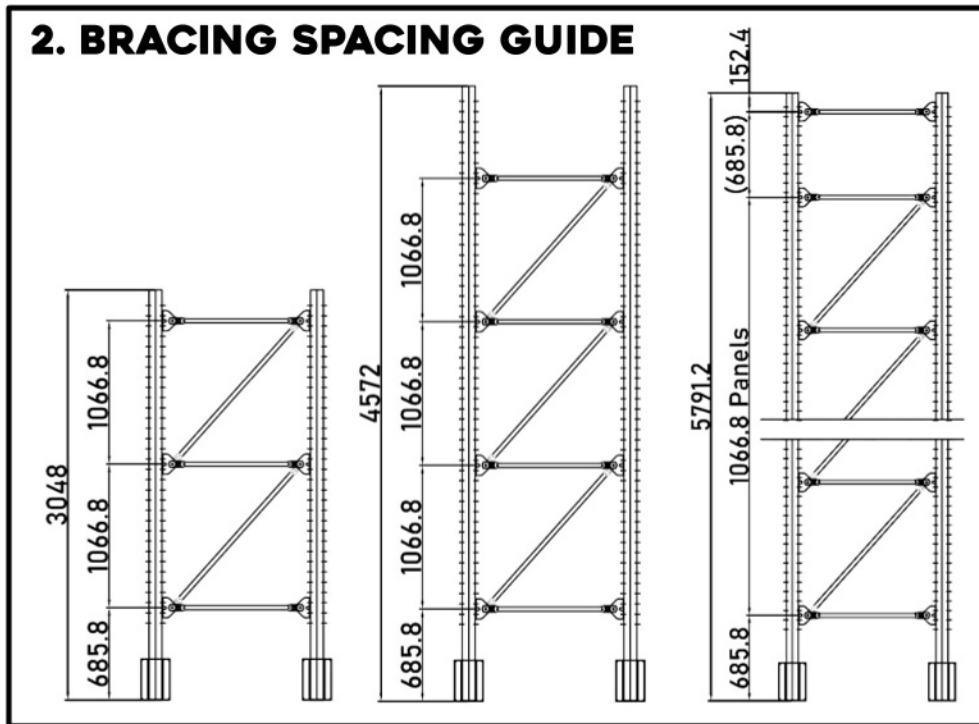
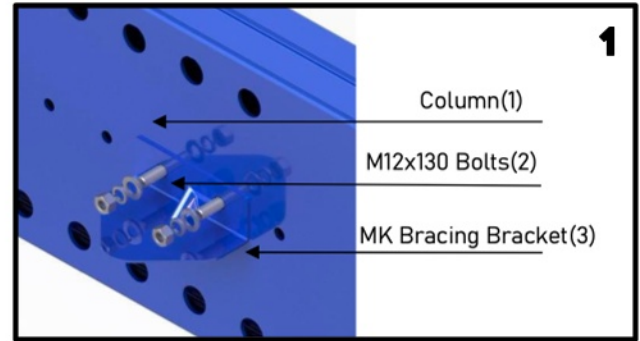
Heavy Duty Cantilever Rack Column Capacities - WLL per column side

Column Height	Arm Length		
	900mm	1200mm	1500mm
3048mm	3735kg	2805kg	2235kg
4572mm	3716kg	3060kg	2432kg
5791mm	3408kg	2898kg	2514kg

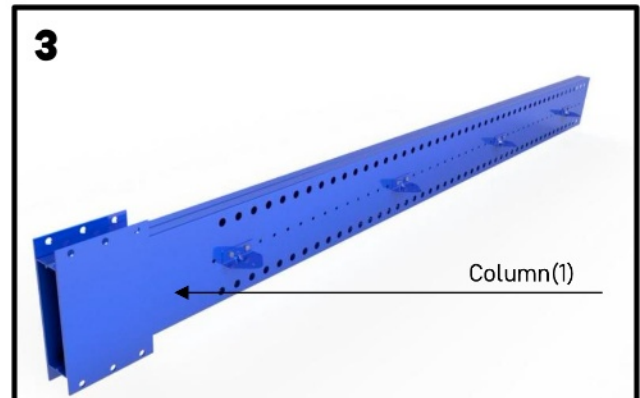
ASSEMBLE THE BRACING BRACKETS & COLUMNS

1 + 2. Attach the Bracing Brackets to the upright Columns with M12x130 bolts, nuts and washers as shown in diagram 1. Refer to the diagram below - 2. Bracing Spacing Guide - for the distance between Bracing Brackets relevant to your height of Cantilever Racking.

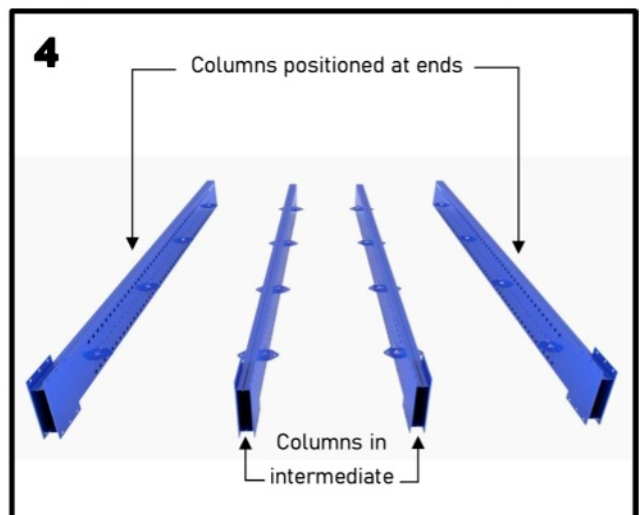
Tightening torque=86~103N.M



3. Position the columns on the floor on a side with no drill-holes as shown in the diagram.



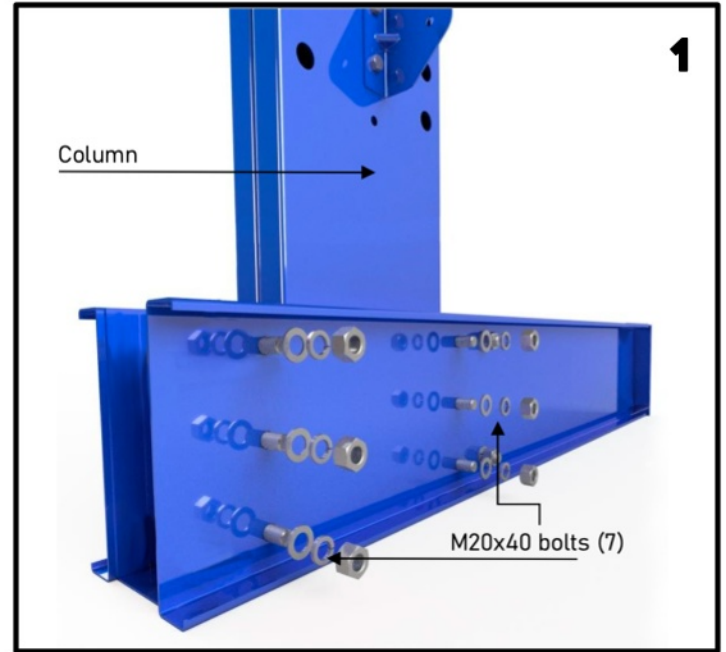
4. Fix one row of Bracing Brackets on the inside of the columns positioned at the ends as shown. Fix a row of Bracing Brackets to both sides of the columns in intermediate. Be sure to follow the spacing outlined in the Bracing Spacing Guide above relevant to the height of columns.



ASSEMBLE THE HORIZONTAL & DIAGONAL BRACING

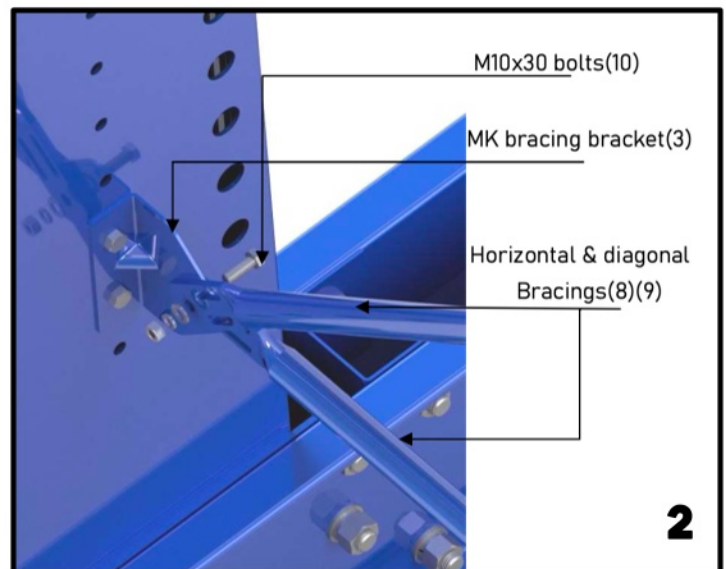
1. Position the Columns vertically into the Column Bases as shown. Fix the Column to the Column Base with M20x40 bolts, washers and nuts.

Recommended torque: 86~103N.M

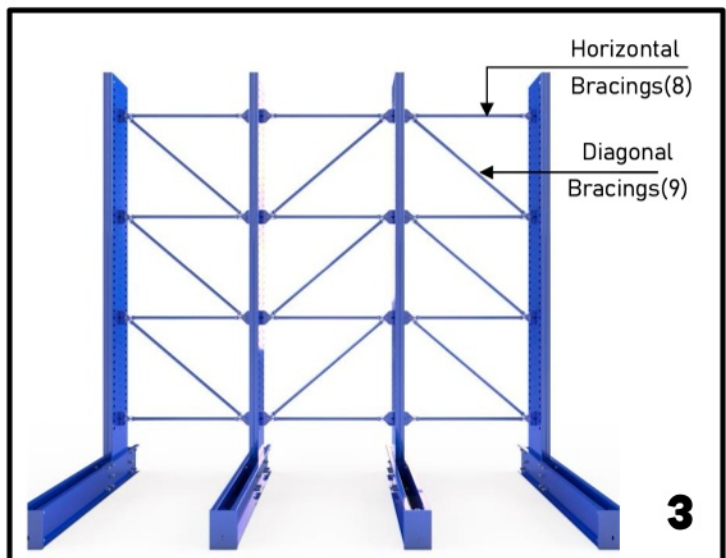


2. Fix the Horizontal and Diagonal Bracings to the Bracing Brackets on the sides of the Columns using M10x30 bolts, washers and nuts as shown.

Recommended torque: 45~59N.M



3. The standard configuration of Horizontal and Diagonal Bracing after it has been fastened to the Columns is as shown.



FASTEN BASES TO THE FLOOR

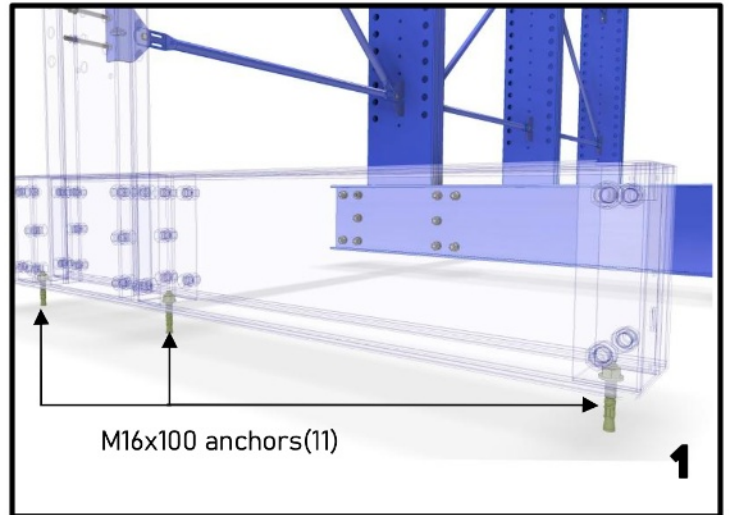
1. Level the Column Bases with Metal Levelling Plates if necessary and make sure the Cantilever Structure is in place.

If the total height of the Metal Levelling Plates exceeds 25mm then they must be welded together to avoid movement.

Using a 16mm bit drill bit, drill a hole into the floor through the drill holes in the Column Bases with a minimum depth of 100mm. Be careful to measure this depth as it cannot be less under any circumstances.

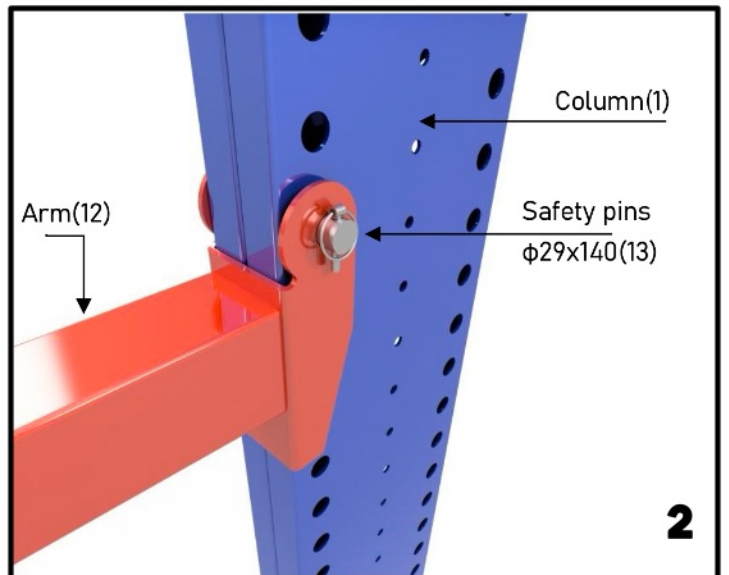
Remove the drilling remains and carefully hammer in the fastening M16x100 anchors as shown.

Recommended torque: 50N.M



FIX CANTILEVER ARMS

2. Fix the arms to the Columns as shown using the Safety Pins. It's important to refer to and adhere to the load capacities specific to your Cantilever Racking Arms and Columns. Please refer to the table on Page 3 of this document.

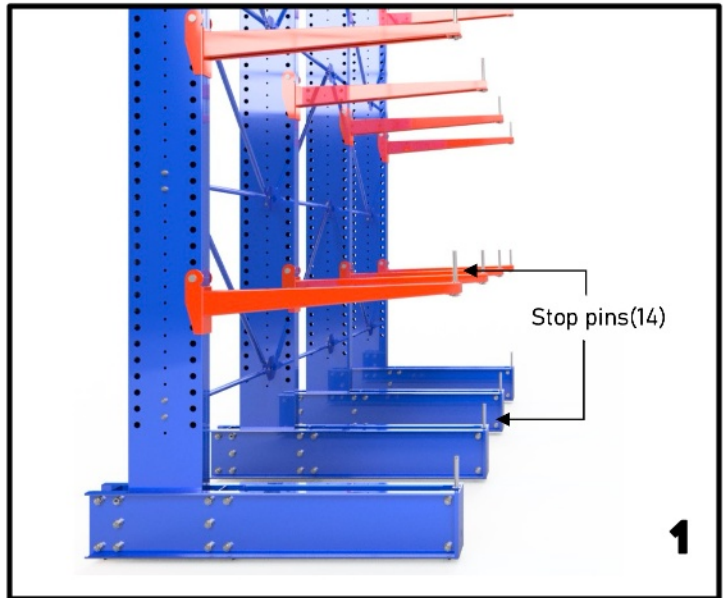


ENJOY YOUR NEW STORAGE SYSTEM!

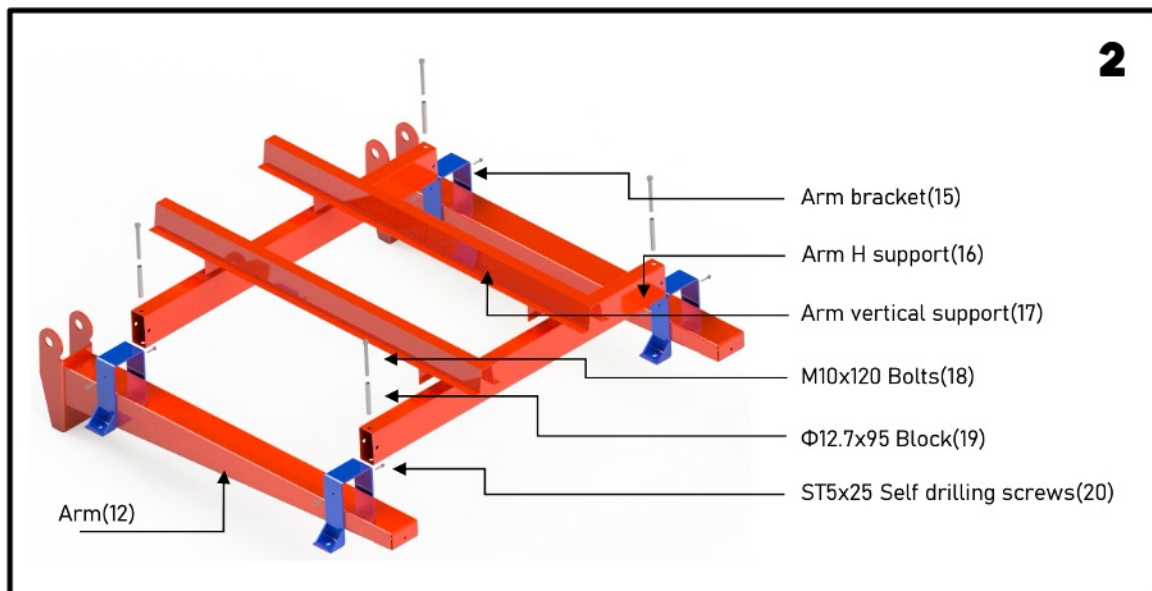
OPTIONAL ACCESSORY INSTRUCTIONS ON NEXT PAGE.

STOP PINS (OPTIONAL)

1. Stop Pins can be fitted to the ends of the Arms and Bases to avoid items moving to the front and falling. Insert the Stop Pins at the ends of the Arms and Bases in the pre-drilled holes and secure with the Lynch Pins provided.



ARM BRACKETS & HORIZONTAL BARS (OPTIONAL)



2. Arm Brackets and Horizontal Bars can be provided that offer horizontal support in the form of Support Bars (pictured), Wire Mesh Deck or Steel Shelves. Secure the Arm Brackets through the drill holes with the ST5x25 self drilling screws.

Bolt the Horizontal Beams to the Arm Brackets using the M10x120 Bolts and $\Phi 12.7 \times 95$ Blocks.

Place the Support Beams, Wire Mesh Deck or Steel Shelf across the Horizontal Beams as shown.