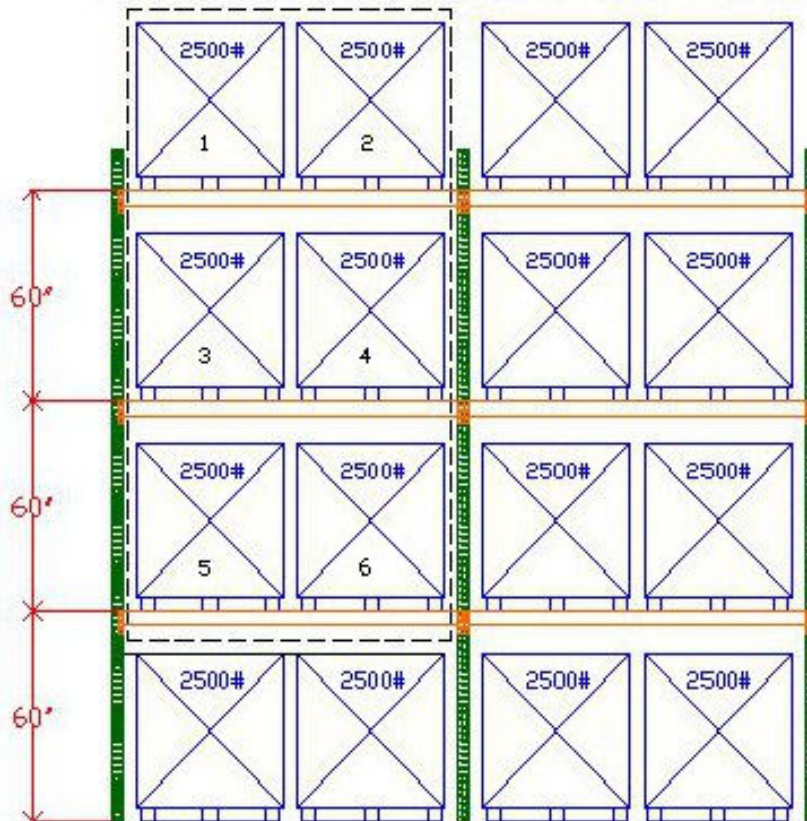


How to Select Pallet Rack Uprights

Choosing the right upright frames can seem like the easiest decision to make in designing a pallet storage solution. Simply make sure that the depth of the uprights works with the depth of your pallets and that you have enough height to store all the levels you want and you're done, right?

Well, it's not quite that simple. You also need to ensure that the capacity of the uprights works with the total weight of your pallets and that requires a little bit of work to calculate.



In the example above, the uprights are supported by beams every 60 inches. There are six beam-loaded pallets of 2,500 pounds each for a total of 15,000 pounds per bay. We do not include floor loaded pallets in our calculations.

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We use the beam spacing and total load that we established on the previous page to find out which upright has the necessary capacity using the manufacturer's capacity chart:

Example Upright Capacity Chart			
Max. Vertical Beam Spacing*	Model A 3x1-5/8, 13 GA	Model B 3x3, 14 GA	Model C 3x3, 13 GA
36"	19400	25000	34000
48"	16300	21700	28000
60"	13100	16000	22500
72"	9900	12400	18700
84"	6200	9500	14400
96"	3100	6000	10800

*The maximum vertical beam spacing is the distance between the floor and 1st beam level or the distance between any beams, whichever is greater. Also pay attention to the other special notes/limitations indicated in manufacturers charts.

Each manufacturer is different so be sure to use the correct Capacity Chart when designing your system

From this chart, we find that the Model A Upright isn't suitable because its maximum load at 60 inches of beam spacing is too low to support our 15,000 pound load. Either Model B or Model C should be selected.

Remember that while the diagonal and horizontal bracing on uprights are designed to help the frame resist the axial force applied by the load, the beam levels attached to the frame help by supplying additional support which resists twisting and separation. As a result, frame capacity is always calculated to include the amount of support supplied by the beams.

Each rack manufacturer engineers and tests their frames to establish the maximum upright capacity based on the distance between beam levels. They then supply a chart similar to our example above so that you don't have to do the calculations yourself.



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