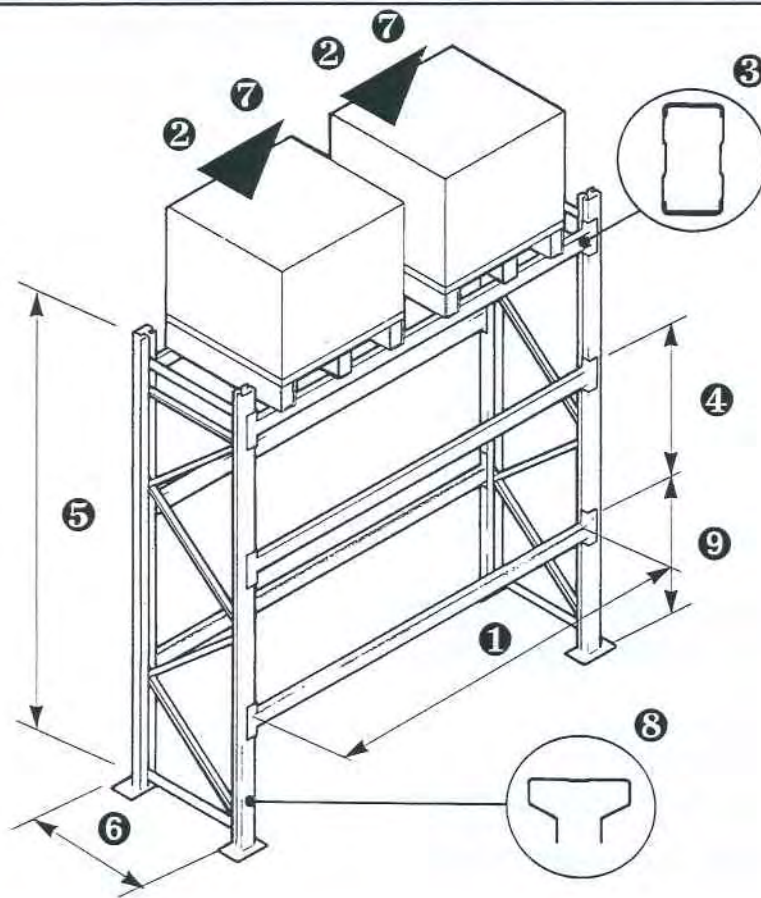


DESIGN ELEMENTS

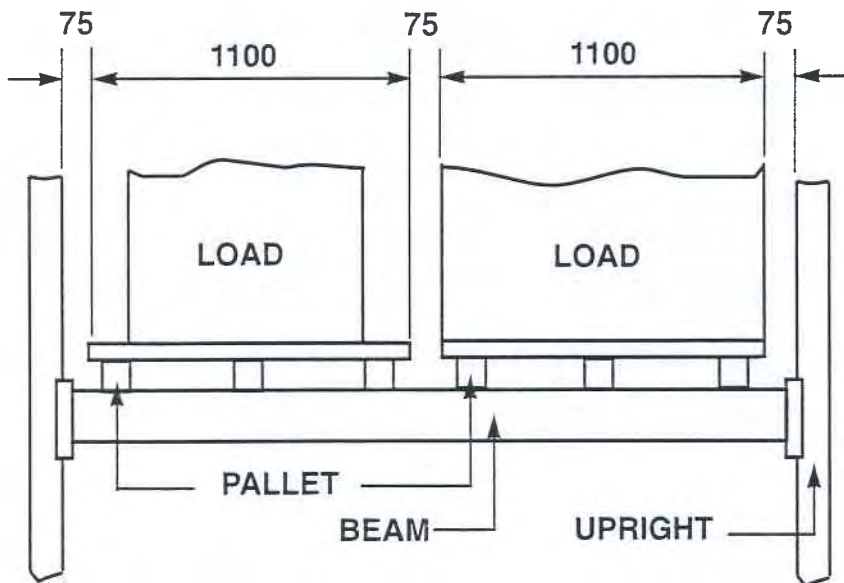


DESIGN ELEMENTS

- ① Beam Length
- ② Load on beam
- ③ Beam Type
- ④ Beam Pitch
- ⑤ Height of Frame
- ⑥ Depth of Frame
- ⑦ Load on Frame
- ⑧ Frame Type
- ⑨ First Beam Level

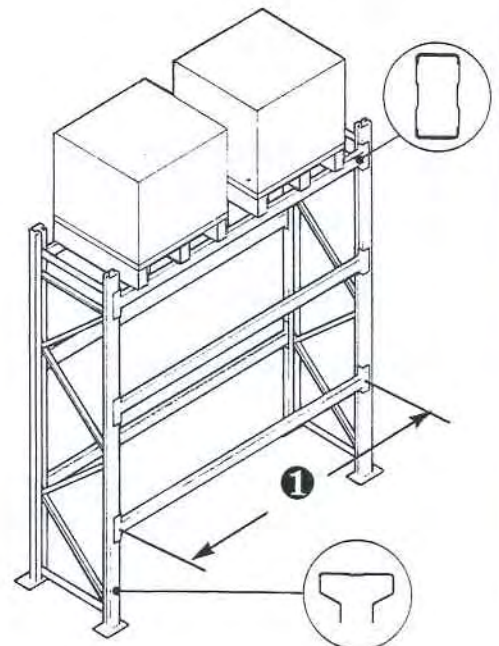
① Beam Length

Beam length is calculated from the size of pallets or load (which ever is greater) with the addition of a 75mm minimum working clearance. Refer to SEMA "Recommended Practice for the use of static racking" for clearances see example below.



Worked Example

$$75\text{mm} + 1100\text{mm} + 75\text{mm} + 1100\text{mm} + 75\text{mm} = 2425\text{mm}$$



DESIGN ELEMENTS

② Load on Beam

Load on beam is calculated from the total weight of load and pallets.

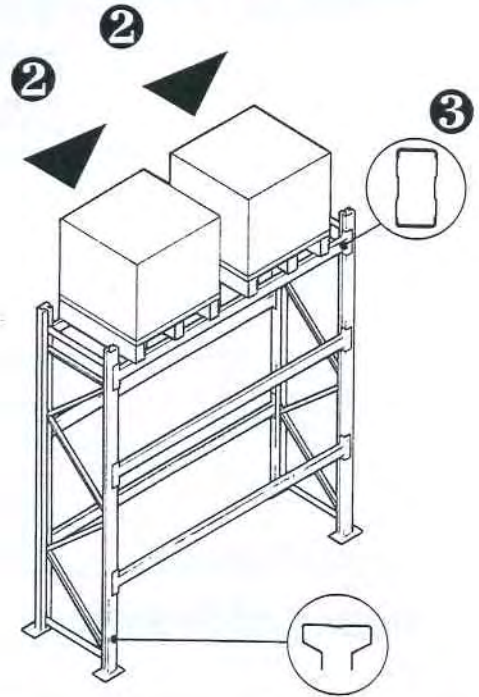
③ Beam Type

Beam type is dependant on load and span. Using this information a beam can be selected from the tables on page 13.

Note on Point Loads

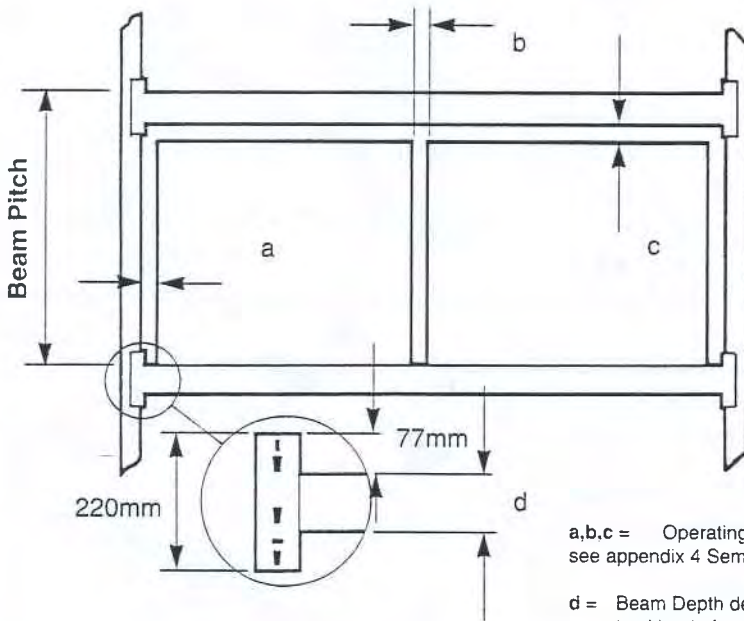
Point Loads in excess of five can be considered uniformly distributed. (Pallets are usually assumed to impose a Uniformly Distributed Load.)

For point loads of less than six always add one extra point load to represent the approximate equivalent uniformly distributed load when calculating total beam load.



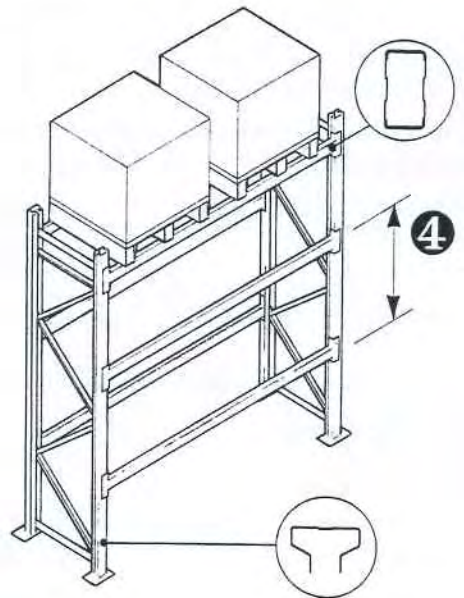
④ Beam Pitch

Beam pitch is always in increments of 75mm. (Beams can be welded in 5mm Increments from standard position)



a,b,c = Operating Clearance see appendix 4 Sema codes.

d = Beam Depth depends on the total load of pallet/pallets, see loading tables for correct beam specification.



Recommended minimum Operating Clearance for beams.

Beam height		Clearance
0m - 3m	=	75mm*
3m - 6m	=	100mm
6m - 9m	=	125mm
9m - 12m	=	150mm

Note: Beam Height = Height from floor to top of beam.

* Minimum Clearance may be considered when truck as rising cab

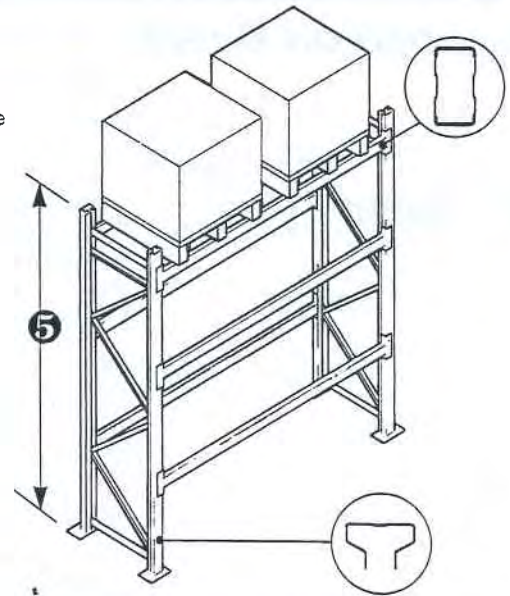
DESIGN ELEMENTS

5 Height of Frame

The height of the frame is dependent on the beam pitch x number of levels.

Frame height must be an increment of 150mm. A minimum allowance of 75mm must be allowed above top beam level, if necessary rounding up to a standard available height.

Note: Where future height extension to racks is possible or planned, master frames should be specified. i.e. 1650, 2250, 2850. etc.



6 Depth of Frame

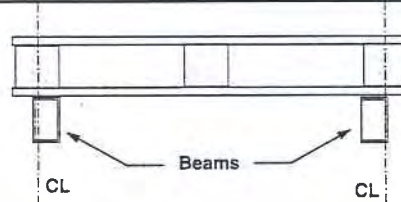
The frame depth is dictated by the type and size of pallet being used.

The standard practice for commonly used pallets is shown below.

Four Way Entry

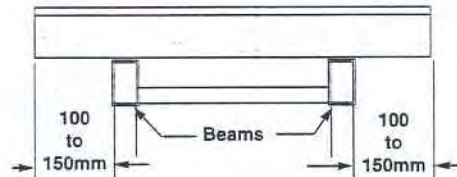
As close as possible to centre line of end pallet blocks.

Note: Beams must never be positioned under unsupported perimeter base board



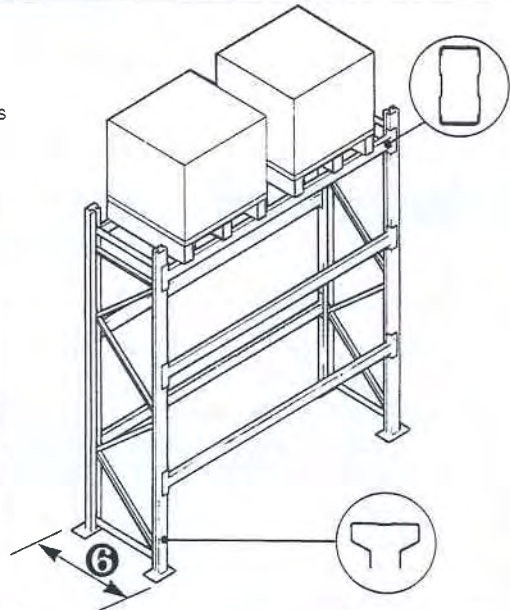
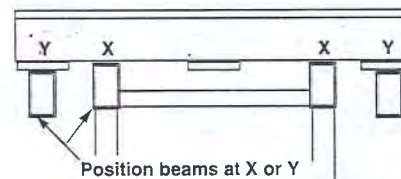
Two Way Entry (Non reversible)

(Non reversible)



Two Way Entry (Standard)

(Standard)



7 Load on Frame

The load on the frames is equal to the total load carried in the bay.

8 Frame Type

The frame type is dependant on the total load and beam pitch. Using this information a suitable frame can be selected from the loading tables

