TERMINOLOGY

Adjustable Beam Pallet Racking

A system of upright frames connected by horizontal beams to provide pallet storage levels, which can be adjusted vertically.

1
Bay
A Module between upright frames

2
Run
A series of bays connected lengthways

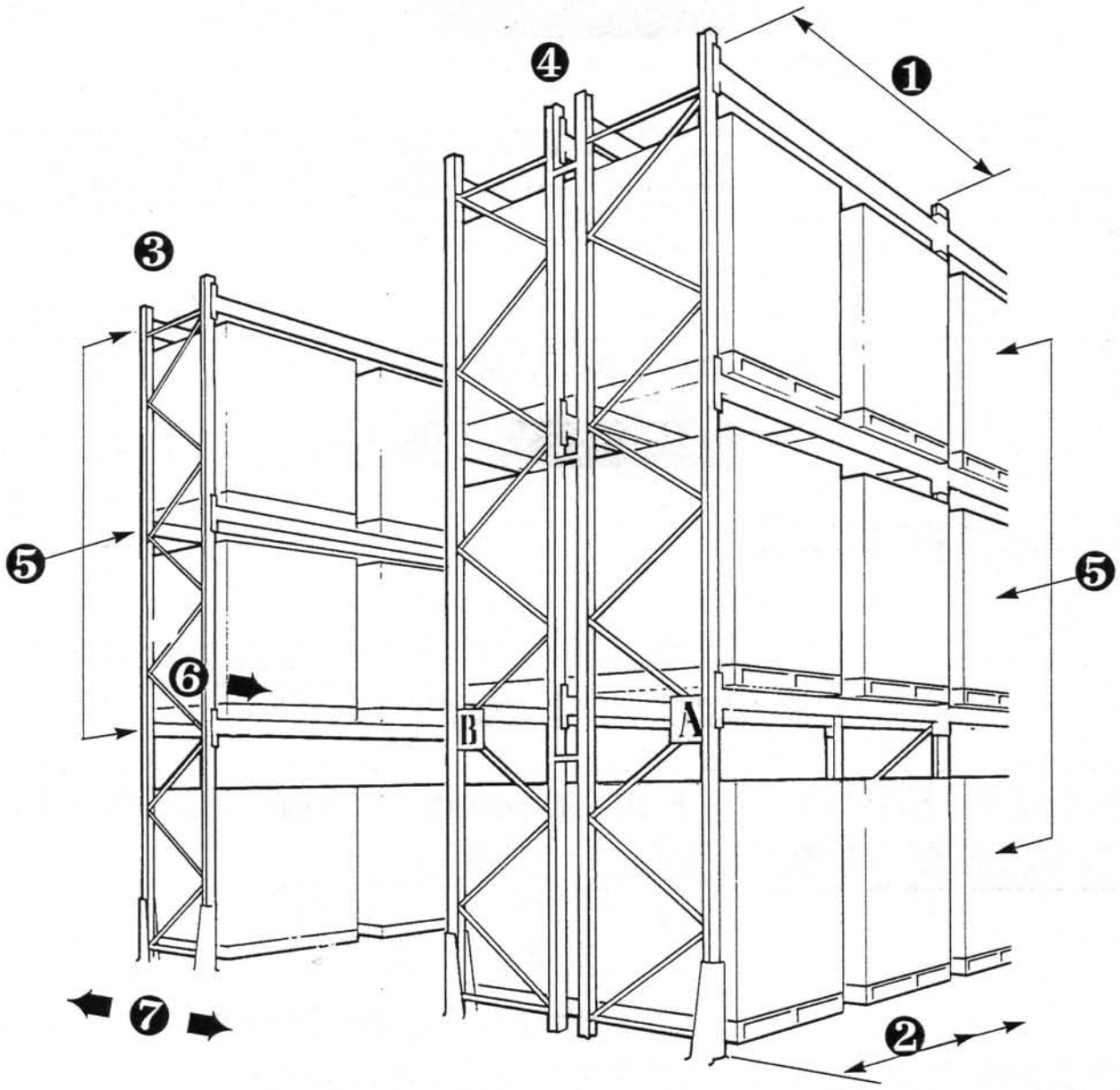
3
Single Sided Run
Single depth of rack,usually accessible on one side only

4
Double Sided Run
Two runs built back to back

5
Levels
Number of storage levels in height

6
Aisle
Space giving access to picking or loading faces

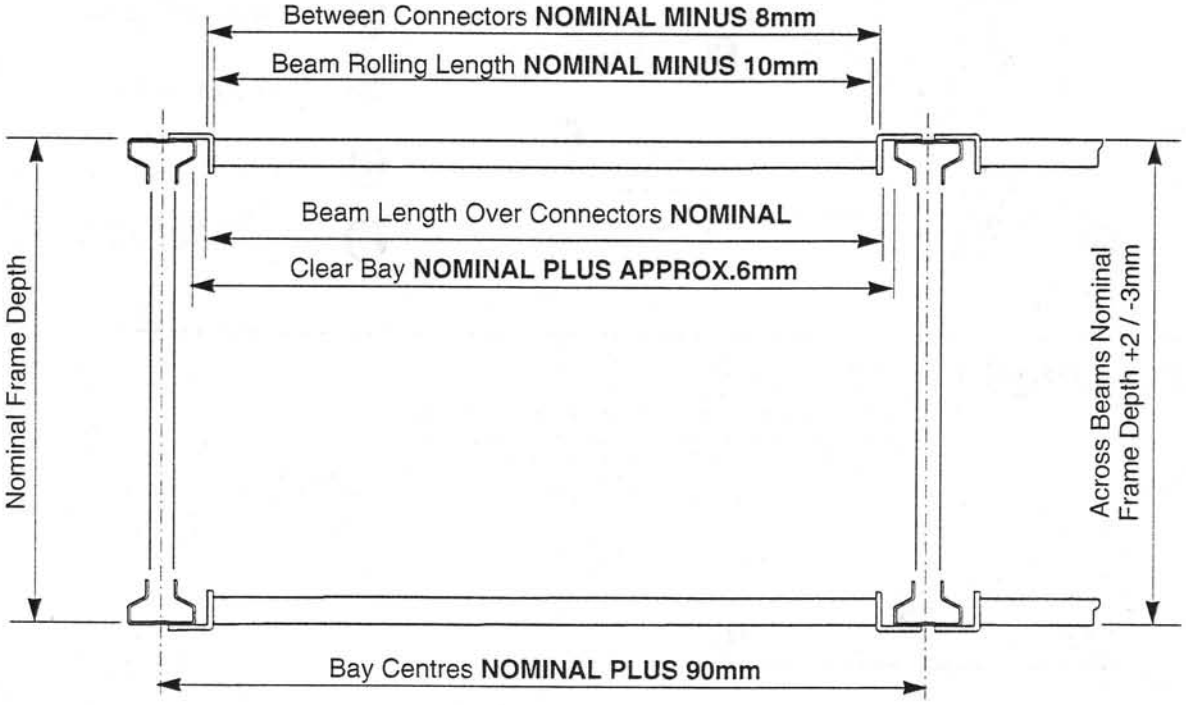
7
Gangway
Space for movement of transport but not giving access to picking or loading faces



OVERALL DIMENSIONS

It is essential to specify the dimensions shown below correctly in order to prevent design errors.

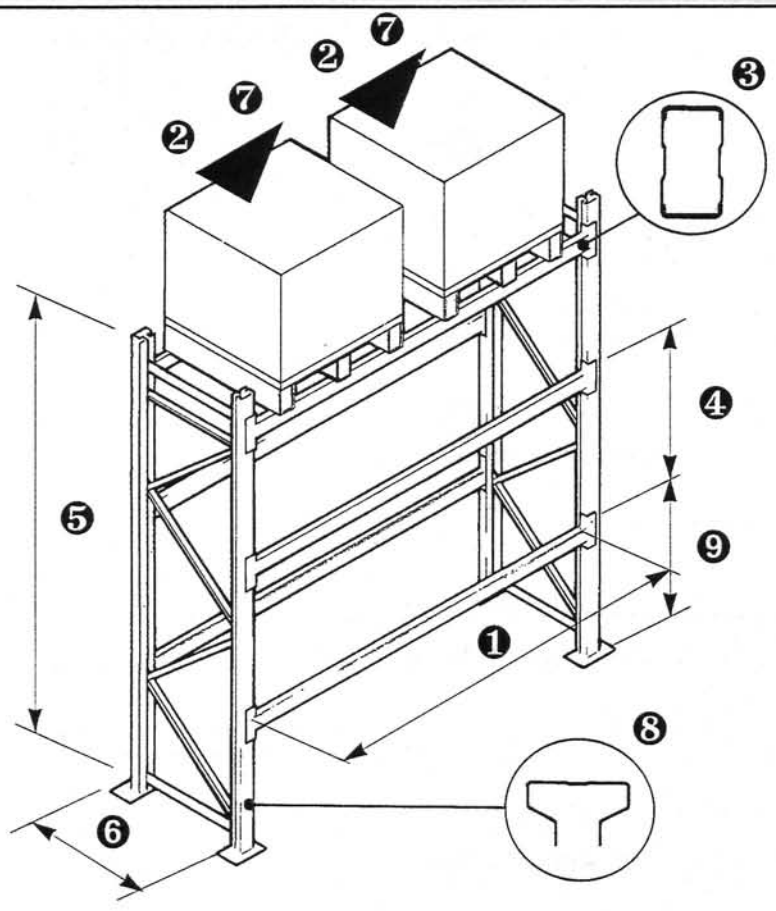
Plan View of Bay



Note :

Beam length over connectors Nominal	=	Dimensions shown in price list and Loading Tables
Nominal Frame Depth	=	Dimensions shown in price list and Loading Tables
Tolerance on beams	+	0mm
	-	2mm
Tolerance on frame (depths)	+	2mm
	-	2mm

DESIGN ELEMENTS

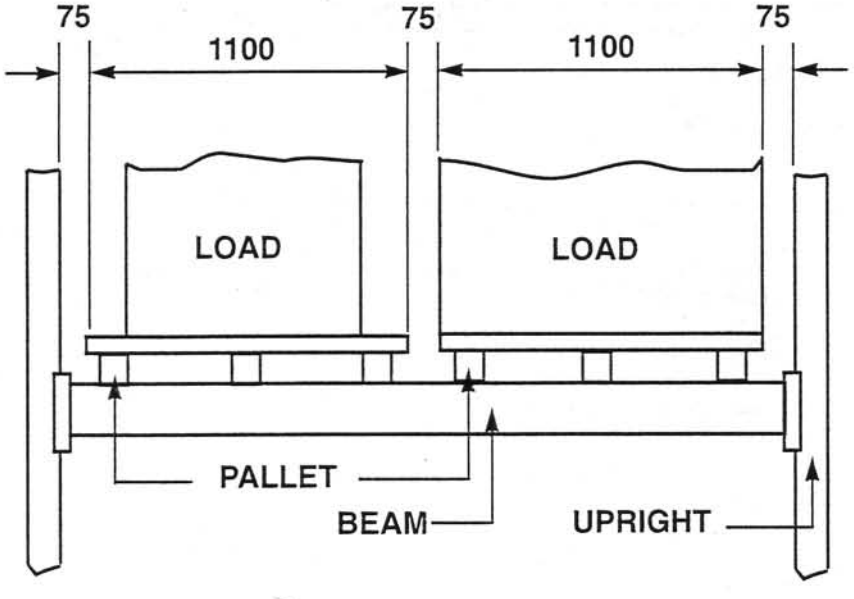


DESIGN ELEMENTS

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

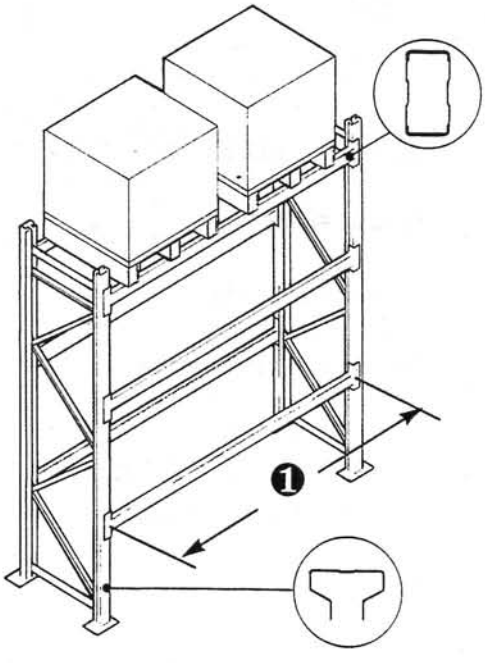
1 Beam Length

Beam length is calculated from the size of pallet s 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

75mm+1100mm+75mm+1100mm+75mm =2425mm



❷ Load on Beam

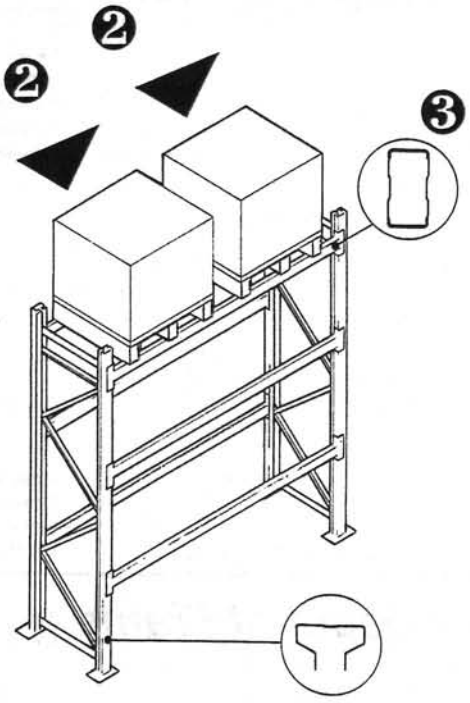
Load on beam is calculated from the total
weight of load and pallets.

❸ Beam Type

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

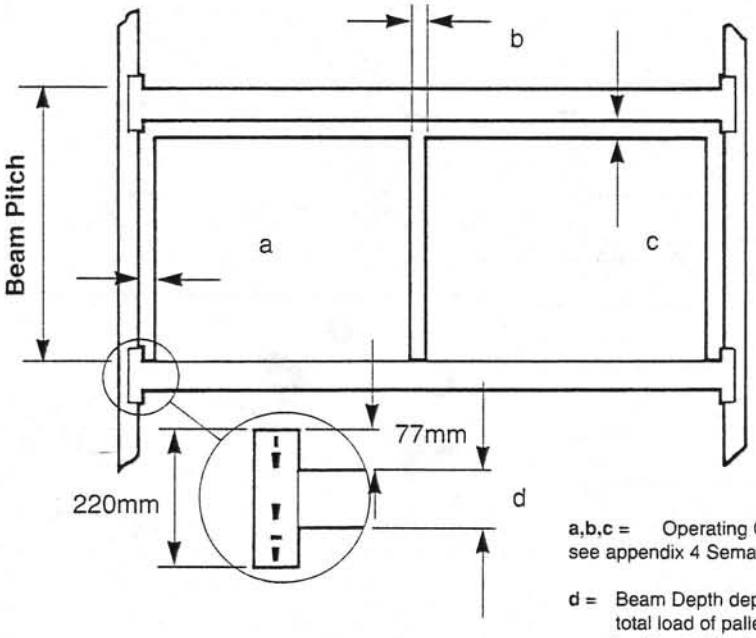
Note on Point Loads
Point Loads in excess of five can be considered uniformly distributed. (Pallets are usually assumed to impose a Uniformly Distributed Load.)

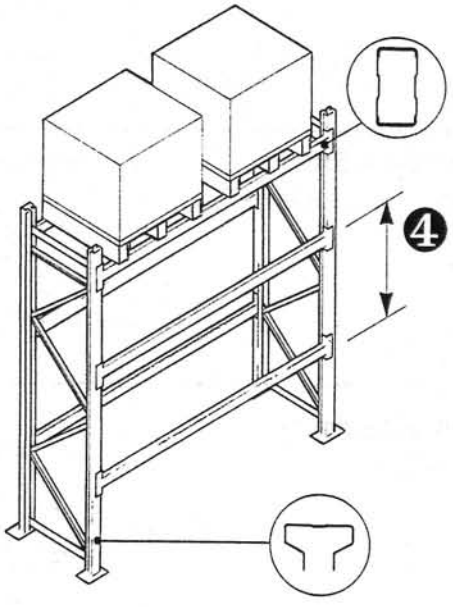
For point loads of less than six always add one extra point load to represent the approximate equivalent uniformly distributed load when calculating total beam load.



❹ 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

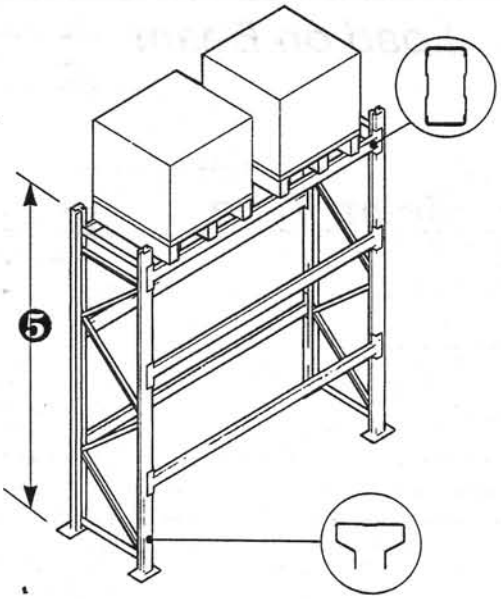
Note: Beam Height = Height from floor to top of beam.
* Minimum Clearance may be considered when truck as rising cab

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.

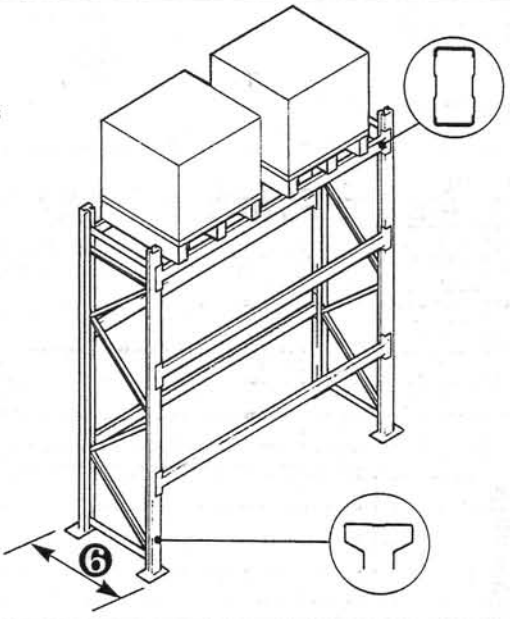


Note: Where future height extension to racks is possible or planned, master frames should be specified.
i.e. 1650, 2250, 2850. etc.

⑥ Depth of Frame

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

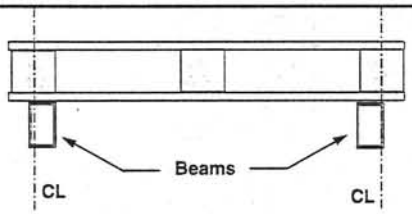
The standard practice for commonly used pallets is shown below.



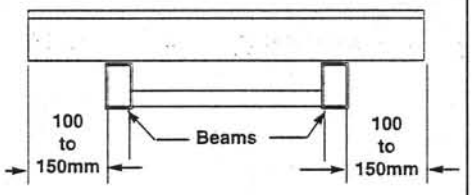
Four Way Entry

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

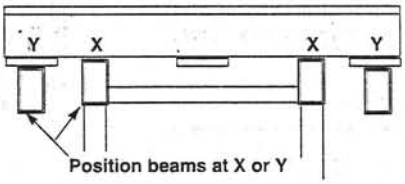
Note: Beams must never be positioned under unsupported perimeter base board

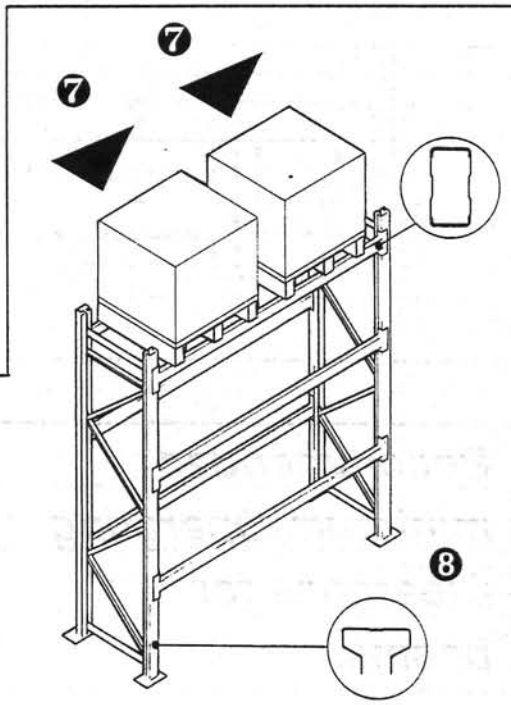


Two Way Entry
(Non reversible)



Two Way Entry
(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

ESE PROJECTS
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