

1. BACKGROUND

Steel storage racking is adjustable pallet racking made of steel structural members. It can be installed inside or outside buildings. Given its structure it is commonly referred to as pallet racking.

AS 4084 Steel storage racking provides technical and safety information on the design, installation, operation and maintenance of steel storage racking.

This guidance sets out the minimum requirements for the sets out the minimum requirements for the design, installation, operation and maintenance of steel storage racking based on the requirements of AS 4084

2. OPERATION

2.1 Pallet racking design

The purpose and storage requirements of pallet racking should be considered during the pre-purchase phase. It is important to take into consideration the:

- environment where the racking is to be installed, including layout and accessibility;
- materials that will be stored on the racking, including size, contents and weight;
- lifting/moving equipment that will be used to access the stored items.

Pallet racking should be set up in accordance with the manufacturer's requirements and AS 4084 specifications. Any modifications to steel racking systems either prior to or following installation must be undertaken and/or authorised by the original manufacturer/supplier or a structural engineer.

The racking supplier shall provide racking configuration drawings and specifications with each installation as well as user manuals and appropriate training to the end users for correct usage and maintenance of the racking

Where pedestrian access exists to the rear of racking, protection must be installed to the rear of the racking system to ensure prevention of accidental falling loads

Collision protection (such as bollards) should be installed where there is a risk of moving equipment colliding with pallet racking. Typically collisions to pallet racking occur in areas where forklifts are used and/or deliveries are made.

2.2 Working load limits

Pallet racking will have a maximum load limit for storage determined by the manufacturer. This is referred to as the safe working limit (SWL). This information must be available to employee's using the racking and be clearly displayed.

AS 4084 determines that permanent and corrosion resistant signage must be in a conspicuous location 2 meters above floor level and mechanically secured to the racking. Information should include:

- permissible working unit load limit;
- permissible total working unit load limit for each pallet beam level;

- permissible total working unit load limit for each bay;
- designer's name;
- manufacturer's name, supplier's name, trademark and installation date; and
- maximum distance from the base plate level to the first beam level, and the maximum distance between first and second beam levels.

The following is an example of pallet racking signage requirements.



2.3 Standard operating procedures

Standard operating procedures should be developed for employees using pallet racking. The standard operating procedure should take into account the manufacturer's instructions, traffic management plans (where applicable) and the risk assessment. When it comes to day-to-day operation, storage system users are responsible for ensuring the systems are properly used and maintained, and continue to meet the standard. A [Standard operating procedure form](#) can be used to create new SOPs.

Procedures should include:

- correct use and application of equipment;
- permitted goods for storage;
- correct securing of loads;
- safe working loads;
- emergency procedures;
- reporting damage to equipment;
- authorised access arrangements; and
- exclusion of unauthorised modifications.
- safe pedestrian management

2.4 Damage/Unsafe Conditions

Where damage occurs to pallet racking immediately:

- cease operation of the pallet racking;
- isolate the area; and
- report the damage to the supervisor/manager.

There should be no initial attempt to remove stored articles from damaged pallet racking until a competent person has determined the extent and outcome of the damage.

3. MAINTENANCE

2.5 Inspection

Racking should be regularly inspected for damage, inappropriate storage (eg overloaded), visibility of SWL plates and general conditions of the working environment. Scheduled inspections should occur at least annually and be included on the [Cyclic events checklist](#).

Inspection of racking should include:

- racking structure - visible signs of damage, loss of integrity (eg rust), warping
- braces - bent or broken braces
- floor fixings - undamaged, at least two floor anchors installed per baseplate
- SWL plate: prominent location, legible, required information

2.6 Repairs

Damaged racking should not be brought back into service until it has been repaired and cleared by a competent person such as a representative of the manufacturer or a pallet racking technician/structural engineer.

For further information, refer to [Manual tasks](#) or contact your local [Health and Safety Business Partner](#).