AS 4084—1993

Australian Standard®

Steel storage racking

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The following interests are represented on Committee BD/62:

Association of Consulting Engineers Australia

Australian Institute of Steel Construction

Department of Occupational Health, Safety and Welfare, W.A.

Metal Trades Industry Association of Australia

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PREFACE

This Standard was prepared by the Standards Australia Committee on Steel Storage Racking in response to several requests from the Australian racking industry, to improve uniformity of racking performance and enhance public safety.

The design aspect of the Standard is based on permissible stress method and is intended to supplement AS 1250 and AS 1538.

Reference has been made to the American Rack Manufacturers Institute Specification (RMI), the British Storage Equipment Manufacturers Association (SEMA) and the European Racking Code FEM 10.2.02.

A Commentary provides background material to the requirements of this Standard.

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S E C T I O N 1 S C O P E A N D G E N E R A L

1.1 SCOPE This Standard sets out minimum requirements for the design (in permissible stress method), fabrication and erection tolerances, test methods, operation and maintenance.

This Standard applies to adjustable static pallet racking made of cold-formed or hot-rolled steel structural members. It covers both the situation where racking is installed within a building and where the racking forms part of the building frame.

The Standard does not cover drive-in and drive-through racking, cantilever racking, mobile racking or racking made of materials other than steel.

1.2 REFERENCED DOCUMENTS The following documents are referred to in this Standard.

AS
1170 SAA Loading Code
1170.2 Part 2: Wind loads

1250 SAA Steel Structures Code

1538 Cold-formed Steel Structures Code

2121 SAA Earthquake Code

1.3 DEFINITIONS For the purpose of this Standard, the definitions below apply.

1.3.1 Adjustable pallet racking—storage system comprising upright frames perpendicular to the aisles and independently adjustable, positive locking shelf beams, spanning between the frames parallel to the aisles, and designed to support unit loads (see Figures 1(a) to 1(c)).

1.3.2 Aisle width—space along which the unit load handling equipment operates (see Figure 2(a)).

1.3.3 Base plate—bearing plate bolted or welded to the underside of the column to transmit vertical and horizontal forces into the floor, and provide structural fastening of the upright frame to the floor.

1.3.4 Bay height—maximum vertical distance from the ground to the highest point of the unit load in a racking structure (see Figure 2(b)).

1.3.5 Bay width—see definition of shelf beam length (see Clause 1.3.24 and Figure 2(b)).

1.3.6 Ceiling clearance—minimum vertical distance between the highest part of the upright frame or the highest part of the unit load on the top shelf beam level and the underside of the ceiling or the support steelwork for the ceiling (see Figure 2(b)).

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