AS 1418.18—2001
(Incorporating Amendment Nos 1 and 2)

Australian Standard™

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Cranes, hoists and winches

Part 18: Crane runways and monorails

Standards Australia

This Australian Standard was prepared by Committee ME-005, Cranes. It was approved on behalf of the Council of Standards Australia on 8 December 2000 and published on 16 February 2001.

The following are represented on Committee ME-005:

Association of Consulting Engineers, Australia
Australian Chamber of Commerce and Industry
Australian Elevator Association
Australian Institute of Building
Australian Institute for Non-destructive Testing
Bureau of Steel Manufacturers of Australia
Construction and Mining Equipment Association of Australia
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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee ME-005, Cranes.

This Standard incorporates Amendment No. 1 (March 2003) and Amendment No. 2 (November 2003). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.

This Standard is a result of a consensus among representatives on the Joint Committee to produce it as an Australian Standard.

Runway girders are the subject of much debate relating to their method of design, as some people regard them as a part of the building structure that houses and supports the crane and others regard them as an integral part of the crane. This Standard allows for the design of runway girders by either limit states or permissible stress methods to allow their design by those engineers who favour either method. However, in choosing to design the runway girders by one method, the designer must use that exclusively throughout the design.

This Standard has been introduced in recognition that there is currently little guidance given to aid designers in designing runway girders. It is intended that the Standard will give direction on the correct implementation of the appropriate structural design Standards with a view to producing a uniform design method for crane runways and monorails.

The term ‘normative’ has been used in this Standard to define the application of the appendix to which it applies. A ‘normative’ appendix is an integral part of a Standard.

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SECTION 1 SCOPE AND GENERAL

1.1 SCOPE AND APPLICATION

1.1.1 Scope

This Standard specifies the general requirements for runway girders and monorails constructed of structural steel.

Deflection limits and construction tolerances for structures supporting the runway girders are also covered by this Standard.

A distinction is made between light duty and heavy duty runways.

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NOTE: See Clause 1.5.4 for a definition of heavy duty runways and Clause 1.5.7 for a definition of light duty runways.

1.1.2 Application

Loads and load combinations shall be determined in accordance with the requirements of AS 1418.1 with the additions specified herein.

Where this Standard indicates that specific requirements apply to heavy duty runways, such requirements may be omitted from the design considerations of light duty runways. Where no distinction is specified, the requirement applies to both heavy and light duty runways.

Requirements specified for application to light duty runways shall not be used in the design of heavy duty runways.

1.2 NEW DESIGNS AND INNOVATIONS

Any novel materials, designs and procedures that do not comply with the specific requirement of this Standard, or are not mentioned in it, are not necessarily prohibited provided the designer can demonstrate that generally accepted methods and procedures or well-documented research results have been employed.

1.3 INTERPRETATIONS

Questions concerning the meaning, the application, or the effect of any part of this Standard may be referred to the Standards Australia Crane Committee. The authority of the Committee is limited to matters of interpretations and precludes the dispute adjudication.

1.4 REFERENCED DOCUMENTS

The following documents are referenced in this Standard:

AS
1085 Railway permanent way material
1085.1 Part 1: Steel rails