Australian Standard™

Cranes (including hoists and winches)

Part 4: Tower cranes

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 June 2001 and published on 17 July 2001.

The following interests are represented on Committee ME-005:

Association of Consulting Engineers Australia

Australian Chamber of Commerce and Industry

Australian Elevator Association

Australian Industry Group

Australian Institute for Non-destructive Testing

Bureau of Steel Manufacturers of Australia

Construction and Mining Equipment Association of Australia

Crane Industry Council of Australia

Department of Administrative and Information Services (South Australia)

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PREFACE

This Standard was prepared by the Standards Australia Committee ME-005, Cranes.

The objective of this Standard is to provide nationally uniform requirements for the design of tower cranes for reference by importers, designers, users, and regulators.

Cognizance has been taken of the development of Standards for tower cranes as undertaken by the International Standards Technical Committee ISO/TC96/SC7, Tower Cranes, at the time of developing this Standard.

Considerations for loads and load factors are based on ISO 8686-3, *Cranes, Design principles and load combinations*, Part 3: *Tower cranes*.

The term ‘informative’ has been used in this Standard to define the appendix to which it applies. An ‘informative’ appendix is for information and guidance only.

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SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard sets out requirements for —

(a) power-driven tower cranes that are dismantled when they have served their purpose; and

(b) tower cranes of the permanently erected type,

as defined in AS 2549.

Horizontal jib and luffing jib and boom cranes are included, and the cranes may be of the travelling, fixed, or climbing type.

Power-driven mobile cranes fitted with tower crane configurations are excluded except for the stability and foundation considerations when used in the capacity of a tower crane.

The Standard covers requirements from and including the hook to the anchorages of the tower crane as well as requirements for rail-mounted types.

NOTES:

1 Guidance on information to be supplied with an enquiry or order is given in Appendix A.

2 Guidance on information to be supplied by the manufacturer is given in Appendix B.

3 Guidance on selection and operation of tower cranes is given in AS 2550.4.

1.2 NEW DESIGNS AND INNOVATIONS

This Standard does not preclude the use of materials, designs, methods of assembly, procedures and the like which do not comply with a specific requirement of this Standard, or are not mentioned in it, but which can be shown to give equivalent or superior results to those specified.

NOTE: This Standard does not provide specific guidance on the limit state design methods, as the necessary dynamic factors have not been formulated for the complex forces cranes are subjected to. This is a worldwide situation and the International Standards Organisation (ISO) has established a working group specifically to resolve the issue. Design of structural members by limit state methods, including determination of the partial load factors for individual loads, should comply with the appropriate Australian Standard, e.g., AS 1664.1 for aluminium members and AS 4100 for steel members.

1.3 APPLICATION

This Standard applies to tower cranes used in building construction sites, works of engineering construction, dockside and ship-building.

This Standard covers specific requirements for tower cranes and is intended for use in conjunction with AS 1418.1; however, requirements given herein take precedence over corresponding requirements of that Standard.

