

Australian Standard™

Cranes, hoists and winches

Part 4: Tower cranes

This Australian Standard was prepared by Committee ME-005, Cranes. It was approved on behalf of the Council of Standards Australia on 13 February 2004 and published on 30 March 2004.

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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
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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/TC 96/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.

This Standard differs from the previous edition as follows:

- (a) Requirements for limiting and indicating devices have been revised
- (b) Crane Standards have traditionally been based on the permissible stress method and problems arose when the various parts of AS 1170, *Structural design actions*, were revised based on the limit states design method. These problems have been addressed.
- (c) Requirements for inspection and testing have been updated.

CONTENTS

	<i>Page</i>
SECTION 1 SCOPE AND GENERAL	
1.1 SCOPE	5
1.2 NEW DESIGNS AND INNOVATIONS	5
1.3 APPLICATION	5
1.4 TYPES.....	5
1.5 REFERENCED DOCUMENTS	6
1.6 DEFINITIONS	6
SECTION 2 GENERAL REQUIREMENTS FOR DESIGN	
2.1 CLASSIFICATION AND LOAD RATING	7
2.2 CRANE LOADS	8
2.3 WIND ACTIONS	12
2.4 CRANE STRUCTURE DESIGN.....	13
SECTION 3 CRANE MECHANISMS	
3.1 MECHANISMS.....	17
3.2 CLASSIFICATION OF MECHANISMS	17
3.3 REEVED ROPE, DRUM AND SHEAVE SYSTEMS.....	17
3.4 LIMITING DEVICES	17
SECTION 4 CONTROLS AND INDICATING DEVICES	
4.1 CONTROLS	20
4.2 INDICATORS	21
SECTION 5 OPERATIONAL EQUIPMENT	
5.1 ELECTRICAL EQUIPMENT AND CONTROLS.....	23
5.2 HYDRAULIC EQUIPMENT AND CONTROLS.....	23
5.3 PNEUMATIC EQUIPMENT AND CONTROLS	23
SECTION 6 OPERATIONAL DESIGN AND ACCESS	
6.1 OPERATIONAL DESIGN	24
6.2 ACCESS.....	24
SECTION 7 MARKING AND MANUAL	
7.1 MARKING ON CRANE	29
7.2 MARKING OF ACCESS AND SERVICE ISOLATORS.....	29
7.3 MANUAL.....	29
SECTION 8 INSPECTION AND TESTING	
8.1 INSPECTION	31
8.2 OPERATION TESTS	31
8.3 TYPE TESTS	31

	<i>Page</i>
APPENDICES	
A	INFORMATION TO BE SUPPLIED WITH AN ENQUIRY OR ORDER..... 32
B	INFORMATION TO BE SUPPLIED BY THE MANUFACTURER 34
C	TYPICAL ILLUSTRATIONS OF TOWER CRANES 37
D	TYPICAL GROUP CLASSIFICATIONS OF THE TOWER CRANE AS A WHOLE..... 42
E	TYPICAL GROUP CLASSIFICATIONS OF THE MECHANISMS OF TOWER CRANES 43

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STANDARDS AUSTRALIA

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Part 4: Tower cranes

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard sets out requirements for tower cranes—

- (a) that are dismantled when they have served their purpose; and
- (b) of the permanently erected type,

as defined in AS 2549.

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

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, that 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.

1.3 APPLICATION

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.

1.4 TYPES

The types of tower cranes within the scope of this Standard are power-driven cranes that have a vertical tower designed to be freestanding up to a specified height.

The general types of tower cranes are designated by specific features as follows:

- (a) Ram luffing crane.
- (b) Rope luffing crane.
- (c) Trolley jib (horizontal jib) crane.