

SINGAPORE STANDARD

Code of practice for the safe use of mobile cranes

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Singapore Crane Association
Singapore Institution of Safety Officers

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Foreword

This Code of Practice was revised by the Technical Committee on Safety of Machinery under the purview of the General Engineering and Safety Standards Committee. It is a revision of CP 37 : 2000 which has been re-numbered as SS 536.

In the first revision, a section on stability of crane was introduced and it includes a test method on soil condition prior to operating a crane over a particular ground area. This was prompted by the many incidents on overloading of the crane, poor soil conditions at construction work sites and faulty machine. A more comprehensive coverage was done for the topics on safe operation, testing and maintenance of mobile cranes.

In this revision, the focus was on the inspection, testing and examination of mobile cranes. It aims to provide recommendations for the pre-use checks, in-service inspections, thorough examination and testing of cranes, including associated equipment and the means by which tests are to be carried out.

This Code would be referred to by workplace safety and health officers, safety consultants, project / site managers, crane contractors and crane suppliers as well as the relevant authorities.

In revising this Code, reference was made to the following publications:

1. ISO 4305 : 1991 Mobile cranes – Determination of stability
2. ISO 4309 : 2004 Cranes – Wire ropes – Care, maintenance, installation, examination and discard
3. Construction Industry Research and Information Association (CIRIA) Special Publication SP 131 – Crane Stability on Site (CIRIA, London, 1996)

Clause 10 of this standard is based on materials from SP131 – Crane Stability on Site (CIRIA, London, 1996) and C654 – Tower Crane Stability and permission has been granted by the Construction Industry Research and Information Association (CIRIA) to use the information. For information on CIRIA, please refer to www.ciriabooks.com and www.ciria.org.uk.

Acknowledgement is made for the use of information from the above references.

Attention is drawn to the possibility that some of the elements of this Singapore Standard may be the subject of patent rights. Enterprise Singapore shall not be held responsible for identifying any or all of such patent rights.

NOTE

1. *Singapore Standards (SSs) and Technical References (TRs) are reviewed periodically to keep abreast of technical changes, technological developments and industry practices. The changes are documented through the issue of either amendments or revisions.*
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Code of practice for the safe use of mobile cranes

1 Scope and normative references

1.1 Scope

This Code provides information about the construction, application, operation, maintenance and testing of mobile cranes for their safe use.

The types of land-based mobile cranes covered by this Code include crawler cranes, wheel-mounted cranes and truck-mounted cranes, but exclude lorry loaders.

Both rope suspended boom types and hydraulic boom types (see Annex A) are included.

This Code does not include equipment used for specialised operations or those operations which are not basically considered as lifting, e.g.:

- a) Demolition with the use of a demolition ball;
- b) Piling;
- c) Grabbing.

1.2 Normative references

The following referenced documents are mentioned for use with this Singapore Standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 3046 :	Reciprocating internal combustion engines – Performance
	Part 1 : 1995 Standard reference conditions, declarations of power, fuel and lubricating oil consumptions, and test methods
	Part 3 : 1989 Test measurements
	Part 4 : 1997 Speed governing
	Part 5 : 1978 Torsional vibrations
	Part 6 : 1990 Overspeed protection
	Part 7 : 1995 Codes for engine power
ISO 4302 : 1981	Cranes – Wind load assessment
ISO 4306 :	Cranes – Vocabulary
	Part 1 : 1990 General
ISO 4310 : 1981	Cranes – Test code and procedures
IEC 60204 :	Safety of machinery
	Part 32 : 1998 Hoisting machines
SS CP 33 : 1996	Lightning protection
SS CP 63 : 1996	The lifting of persons in work platforms suspended from cranes