

INTERNATIONAL STANDARD

ISO
4305

Second edition
1991-05-15

Mobile cranes — Determination of stability

Grues mobiles — Détermination de la stabilité



Reference number
ISO 4305:1991(E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75% of the member bodies casting a vote.

International Standard ISO 4305 was prepared by Technical Committee ISO/TC 96, *Cranes*.

This second edition cancels and replaces the first edition (ISO 4305:1981), the table of which has been technically revised.

Annex A of this International Standard is for information only.

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International Organization for Standardization
Case Postale 56 • CH-1211 Genève 20 • Switzerland

Printed in Switzerland

Mobile cranes — Determination of stability

1 Scope

This International Standard specifies the conditions to be taken into consideration when verifying the stability of a mobile crane by calculation, assuming that the crane is operating on a firm and level surface (up to 1 % gradient).

It applies to mobile cranes as defined in ISO 4306-2, i.e. appliances mounted on wheels (trucks) or crawlers, with or without outriggers.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 4302:1981, *Cranes — Wind load assessment*.

ISO 4306-1:1990, *Cranes — Vocabulary — Part 1: General*.

ISO 4306-2:1985, *Lifting appliances — Vocabulary — Part 2: Mobile cranes*.

ISO 4310:1981, *Cranes — Test code and procedures*.

3 Calculations of stability

3.1 General

The calculation shall verify that the crane is stable under the following conditions:

- a) the criteria specified in table 1;
- b) the criteria specified in table 2;
- c) backward stability (see 3.3);
- d) stability with out-of-service wind (see 3.4).

3.2 Criteria for stability

3.2.1 See table 1 and table 2.

3.2.2 Based on the criteria specified in table 1 and table 2, it is intended that the stability-limited crane ratings shall be usable in a minimum wind speed of 8,3 m/s. Under special conditions where this requirement imposes a restriction on rated capacity, the manufacturer shall clearly specify the maximum wind speed included in the stability calculation.