
Cranes — Safety requirements for loader cranes

*Appareils de levage à charge suspendue — Exigences de sécurité pour
les grues de chargement*



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ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

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Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
3.1 Definitions.....	2
3.2 Terminology.....	6
4 Safety requirements and/or protective measures	7
4.1 Calculation of rated capacity.....	7
4.2 Structural calculation.....	8
4.3 Stress analysis.....	12
4.4 Mechanical arrangements.....	12
4.5 Hydraulic system.....	14
4.6 Limiting and indicating devices.....	16
4.7 Controls.....	19
4.8 Control stations.....	20
4.9 Electrical systems and related phenomena.....	22
4.10 Installation.....	22
5 Verification of the safety requirements and/or measures	24
5.1 General.....	24
5.2 Testing and test procedures.....	27
6 Information for use	30
6.1 General.....	30
6.2 Manuals.....	30
6.3 Marking.....	33
Annex A (informative) List of significant hazards	38
Annex B (informative) Examples of configurations and mountings	41
Annex C (informative) Explanatory notes	46
Annex D (informative) Examples of movements to be prevented in event of overload	47
Annex E (normative) Additional requirements for cableless controls and control systems	49
Annex F (normative) Symbols for working and setting-up functions	51
Annex G (informative) Control system — Preferred vertical layout for controls operated from the ground	52
Annex H (informative) Control systems — Horizontal layout order	54
Annex I (informative) Control levers for high seats and remote controls	57
Annex J (normative) Cabins fitted on chassis-mounted loader cranes up to load moment of 250 kN · m	59
Annex K (informative) Examples of raised control stations	61
Annex L (normative) Raised control stations — Handrails and handholds, ladders and steps	64
Annex M (informative) Installation of loader cranes on chassis	67
Annex N (normative) User information pertaining to noise	73
Annex O (informative) Stress history parameter s and stress history classes S	74
Bibliography	76

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. 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.

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

ISO 15442 was prepared by Technical Committee ISO/TC 96, *Cranes*, Subcommittee SC 6, *Mobile cranes*.

This second edition cancels and replaces the first edition (ISO 15442:2005), which has been technically revised.

Introduction

This document is a type-C standard as stated in ISO 12100.

The machinery concerned and the extent to which hazards, hazardous situations or hazardous events are covered are indicated in the Scope of this document.

When requirements of this type-C standard are different from those which are stated in type-A or B standards, the requirements of this type-C standard take precedence over the requirements of the other standards for machines that have been designed and built according to the requirements of this type-C standard.

Even though a loader crane mounted on a chassis may be considered as a particular type of mobile crane, with very few exceptions International Standards developed for mobile cranes do not currently include specific requirements for loader cranes.

This International Standard

- identifies specific safety requirements for loader cranes,
- when applicable, refers to existing International Standards which contain provisions that can be applied to loader cranes,
- promotes loader crane safety by both identifying specific requirements and referring to existing applicable standards, so that incorporating all such provisions into the design and use of loader cranes will guard against and minimize injury to workers and damage to equipment,
- facilitates the work of everyone in the field of loader cranes (designers, supervisors and other personnel, as well as people directly or indirectly responsible for their safe use and maintenance) who needs to consult currently available International Standard for loader cranes, and
- contributes to the further international harmonization of loader crane standards.

Cranes — Safety requirements for loader cranes

1 Scope

This International Standard specifies the minimum requirements for the design, calculation, examination and testing of hydraulic powered loader cranes and their mountings onto chassis or static foundations.

It is applicable to all new loader cranes manufactured one year after its publication. It is not the intent of this International Standard to require the retrofitting of existing loader cranes.

It is not applicable to loader cranes used on board ships or floating structures or to articulated boom system cranes designed as a total integral part of special equipment such as forwarders.

It deals with all significant hazards, hazardous situations or hazardous events relevant to loader cranes, with the exception of hazards related to the lifting of persons, when used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer. See Annex A for a list of the significant hazards.

NOTE The use of cranes for the lifting of persons may be subject to specific national regulations.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 3744, *Acoustics — Determination of sound power levels and sound energy levels of noise sources using sound pressure — Engineering methods for an essentially free field over a reflecting plane*

ISO 3864-1, *Graphical symbols — Safety colours and safety signs — Part 1: Design principles for safety signs and safety markings*

ISO 4302, *Cranes — Wind load assessment*

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

ISO 4310, *Cranes — Test code and procedures*

ISO 4413, *Hydraulic fluid power — General rules relating to systems*

ISO 5353, *Earth-moving machinery, and tractors and machinery for agriculture and forestry — Seat index point*

ISO 7752-1, *Cranes — Control layout and characteristics — Part 1: General principles*

ISO 8566-1, *Cranes — Cabins and control stations — Part 1: General*

ISO 8566-2, *Cranes — Cabins — Part 2: Mobile cranes*

ISO 11201, *Acoustics — Noise emitted by machinery and equipment — Determination of emission sound pressure levels at a work station and at other specified positions in an essentially free field over a reflecting plane with negligible environmental corrections*

ISO 10245-1, *Cranes — Limiting and indicating devices — Part 1: General*

ISO 11660-1, *Cranes — Access, guards and restraints — Part 1: General*

ISO 11660-2, *Cranes — Access, guards and restraints — Part 2: Mobile cranes*