INTERNATIONAL STANDARD

ISO 22915-10

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Industrial trucks — Verification of stability —

Part 10: Additional stability test for trucks operating in the special condition of stacking with load laterally displaced by powered devices

Chariots de manutention — Vérification de la stabilité —

Partie 10: Essai de stabilité supplémentaire pour les chariots travaillant dans des conditions de gerbage spéciales avec la charge décentrée latéralement par des dispositifs à moteur

Reference number
ISO 22915-10:2008(E)

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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 22915-10 was prepared by Technical Committee ISO/TC 110, *Industrial trucks*, Subcommittee SC 2, *Safety of powered industrial trucks*.

This first edition of ISO 22915-10 cancels and replaces ISO 10658:1996, of which it constitutes a technical revision.

ISO 22915 consists of the following parts, under the general title *Industrial trucks — Verification of stability*:

— *Part 1: General*

— *Part 2: Counterbalanced trucks with mast*

— *Part 3: Reach and straddle trucks*

— *Part 4: Pallet stackers, double stackers and order-picking trucks up to and including 1 200 mm lift height*

— *Part 7: Bidirectional and multidirectional trucks*

— *Part 8: Additional stability test for trucks operating in the special condition of stacking with mast tilted forward and load elevated*

— *Part 10: Additional stability test for trucks operating in the special condition of stacking with load laterally displaced by powered devices*

— *Part 20: Additional stability test for trucks operating in the special condition of offset load, offset by utilization*

— *Part 21: Order-picking trucks with operator position elevating above 1 200 mm*

The following parts are under preparation:

— *Part 5: Single side loading trucks*

— *Part 9: Counterbalanced trucks with mast handling freight containers of 6 m (20 ft) length and longer*

— *Part 11: Variable reach trucks*

— *Part 12: Variable reach trucks handling freight containers of 6 m (20 ft) length and longer*

— *Part 14: Rough-terrain variable reach trucks*

— *Part 15: Counterbalanced trucks with articulated steering*

— *Part 16: Pedestrian-propelled trucks*

— *Part 17: Burden and personnel carriers*

Introduction

An important step forward in work on the ISO 22915 series was the agreement to put in place a new structure. The stability tests are presented in the form of a basic part describing and defining stability tests in general, together with separate parts that each give specific stability test criteria and requirements for a different truck type.

From the very beginning, the task of the Working Group involved was to establish the new structure and revise existing standards to create a series of International Standards complying with the major legislative regulations in the world such as those in force in the EU, USA, Japan and Australia.

For several problem areas compromises were needed and will be needed in the future. In order to ensure that these International Standards are actively used in the ISO member countries worldwide, it will be necessary that they replace existing national standards.

Only in this way will there will be the guarantee that products in accordance with these International Standards can be shipped worldwide, freely and without any technical barriers to trade.

Industrial trucks — Verification of stability —

Part 10: Additional stability test for trucks operating in the special condition of stacking with load laterally displaced by powered devices

1 Scope

ISO 22915 deals with the safety of industrial trucks, as defined in ISO 5053, relative to their stability and the verification of that stability. For the purposes of ISO 22915, industrial trucks are wheeled, self-propelled or pedestrian-propelled vehicles, excepting those running on rails. They are either operator-controlled or driverless and designed to carry, tow, push, lift, stack or tier in racks.

This part of ISO 22915 specifies an additional test for verifying the stability of a laden truck fitted with a powered load-handling device, such as a sideshift, which can displace the centre of gravity to a substantial, predetermined extent from the longitudinal centre plane of the truck. Such devices are used in that mode for depositing and retrieving a load with the mast vertical or raised to maximum boom angle and extension.

A displacement is considered to be a substantial displacement if it is more than

— 100 mm, for a truck with a rated capacity $< 5\,000$ kg,

— 150 mm, for a truck with a rated capacity $\geqslant 5\,000$ kg and $\leqslant 10\,000$ kg,

— 250 mm, for a truck with a rated capacity $> 10\,000$ kg and $< 20\,000$ kg,

— 350 mm, for a truck with a rated capacity $\geqslant 20\,000$ kg.

2 Normative references

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

ISO 3691-1, *Industrial trucks — Safety requirements and verification — Part 1: Self-propelled industrial trucks, other than driverless, variable-reach trucks and burden-carrier trucks* [1)]

ISO 5053, *Powered industrial trucks — Terminology*

ISO 22915-1, *Industrial trucks — Verification of stability — Part 1: General* [1)]

ISO 22915-2, *Industrial trucks — Verification of stability — Part 2: Counterbalanced trucks with mast*

1) To be published.

ISO 22915-3, *Industrial trucks — Verification of stability — Part 3: Reach and straddle trucks*

ISO 22915-4, *Industrial trucks — Verification of stability — Part 4: Pallet stackers, double stackers and order-picking trucks up to and including 1 200 mm lift height* [2)]

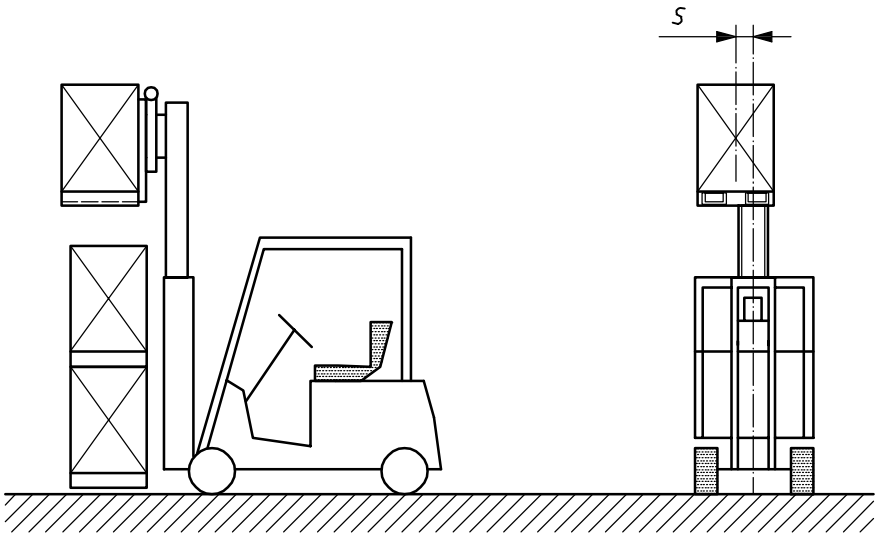
ISO 22915-7, *Industrial trucks — Verification of stability — Part 7: Bidirectional and multidirectional trucks* [2)]

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 22915-1 and the following apply.

3.1
special operating condition
stacking whereby loads are substantially displaced laterally by a powered device

See Figure 1.



Key

S substantial displacement

Figure 1 — Special operating condition

4 Test conditions

4.1 General

See ISO 22915-1.

4.2 Position of truck on the tilt table

The truck shall be positioned according to the appropriate lateral test with the test load fully elevated, e.g. as shown in test 3 of ISO 22915-2.

2) To be published.

4.3 Position of the load

Before conducting the test, both the mechanism that offsets the load and the centre of gravity of the test load shall be positioned centrally to the longitudinal centre plane of the truck.

When conducting the test, the load shall be displaced laterally by substantial displacement, S, in the direction of least stability and to the fullest extent allowed by the mechanism, with mast and forks fully tilted backward (as the design permits) and raised to their maximum elevation.

5 Verification of stability

The stability of the truck with the load fully offset and at maximum elevation shall be verified in accordance with test 3 of ISO 22915-2 and ISO 22915-3, tests 3 and 4 of ISO 22915-4 or test 4 for double stackers only, when carrying two loads, or test 8 of ISO 22915-7 [3)], depending on the type of truck.

6 Marking

The capacity under this special operating condition, as determined by this additional stability test, and the lateral substantial displacement shall be indicated on an information plate in view of the operator in the normal operating position according to ISO 3691-1.

3) Or of future parts of ISO 22915 dealing with other types of truck. See Foreword.

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