



BSI Standards Publication

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

National foreword

This British Standard is the UK implementation of ISO 22915-10:2023. It supersedes BS ISO 22915-10:2008, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee MHE/7, Industrial trucks.

A list of organizations represented on this committee can be obtained on request to its committee manager.

Contractual and legal considerations

This publication has been prepared in good faith, however no representation, warranty, assurance or undertaking (express or implied) is or will be made, and no responsibility or liability is or will be accepted by BSI in relation to the adequacy, accuracy, completeness or reasonableness of this publication. All and any such responsibility and liability is expressly disclaimed to the full extent permitted by the law.

This publication is provided as is, and is to be used at the recipient's own risk.

The recipient is advised to consider seeking professional guidance with respect to its use of this publication.

This publication is not intended to constitute a contract. Users are responsible for its correct application.

© The British Standards Institution 2023
Published by BSI Standards Limited 2023

ISBN 978 0 539 13565 7

ICS 53.060

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 30 April 2023.

Amendments/corrigenda issued since publication

Date	Text affected
------	---------------

**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*





COPYRIGHT PROTECTED DOCUMENT

© ISO 2023, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

Contents

Page

Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Test conditions	3
4.1 General.....	3
4.2 Position of the truck on the tilt table.....	3
4.2.1 Counterbalance trucks.....	3
4.2.2 Reach and straddle trucks.....	3
4.2.3 Pallet stackers.....	3
4.2.4 Bidirectional and multidirectional trucks.....	3
4.2.5 Industrial variable-reach trucks.....	3
4.2.6 Rough-terrain trucks with mast.....	4
4.2.7 Rough-terrain variable reach trucks.....	4
4.2.8 Counterbalance trucks with articulated steering.....	4
4.2.9 Variable-reach container handler.....	4
4.2.10 Counterbalanced container handler.....	4
4.3 Position of the load.....	4
5 Verification of stability	4
5.1 General.....	4
5.2 Counterbalance trucks.....	4
5.3 Reach and straddle trucks.....	4
5.4 Pallet stackers.....	4
5.5 Bidirectional and multidirectional trucks.....	4
5.6 Industrial variable-reach trucks.....	4
5.7 Rough-terrain trucks with mast.....	4
5.8 Rough-terrain variable reach trucks.....	5
5.9 Counterbalance trucks with articulated steering.....	5
5.10 Variable-reach container handler.....	5
5.11 Counterbalanced container handler.....	5
6 Marking	5
Bibliography	6

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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

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

This second edition cancels and replaces the first edition (ISO 22915-10:2008), which has been technically revised.

The main changes are as follows:

- references to “This part of ISO 22915” have been replaced by “this document”;
- the applicable types of trucks have been added in the scope;
- cross-references to figures and tests from other parts of the ISO 22915 series have been dated;
- normative references in [Clause 2](#) have been updated;
- the Bibliography has been added;
- in the key to [Figure 1](#), key reference “A-A: longitudinal centre plane” has been added and units (mm) have been specified for dimension “S”.

A list of all parts in the ISO 22915 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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

This document 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 laterally to a substantial, predetermined extent from the longitudinal centre plane of the truck or from the centred position. Such devices are used in this mode for depositing and retrieving a load.

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 \geq 5 000 kg and \leq 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 \geq 20 000 kg;

This document is applicable to the following types of trucks as defined in ISO 5053-1:

- a) counterbalance trucks;
- b) reach and straddle trucks;
- c) pallet stackers;
- d) bidirectional and multidirectional trucks;
- e) industrial variable-reach trucks;
- f) rough-terrain trucks with mast;
- g) rough-terrain variable reach trucks;
- h) counterbalance trucks with articulated steering;
- i) variable-reach container handler;
- j) counterbalanced container handler.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 trucks, variable-reach trucks and burden-carrier trucks*