Irish Standard
I.S. EN 16203:2014

Safety of Industrial Trucks - Dynamic tests for verification of lateral stability - Counterbalanced Trucks

I.S. EN 16203:2014

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English Version

Safety of Industrial Trucks - Dynamic tests for verification of lateral stability - Counterbalanced Trucks

Sécurité des chariots de manutention - Essais dynamiques pour la vérification de la stabilité latérale - Chariots en porte-à-faux

Sicherheit von Flurförderzeugen - Prüfung der dynamischen Standsicherheit - Gegengewichtsstapler

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Foreword

This document (EN 16203:2014) has been prepared by Technical Committee CEN/TC 150 “Industrial Trucks - Safety”, the secretariat of which is held by BSI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by December 2014 and conflicting national standards shall be withdrawn at the latest by December 2014.

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

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For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

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Introduction

This European Standard is a type C standard as stated in EN ISO 12100:2010. This standard has been prepared to be a harmonized standard to provide one means of conforming to the essential safety requirements of the Machinery Directive and associated EFTA regulations.

The extent to which hazards are covered is indicated in the scope of this standard.

NOTE 1 The requirement for a dynamic test is intended to be included in EN 16307-1, *Industrial trucks – Safety requirements and verification – Part 1: Supplementary requirements for self-propelled industrial trucks, other than driverless trucks, variable -reach trucks and burden-carrier trucks.*

The purpose of this standard is to provide a procedure for verifying the lateral stability of the truck while travelling. The procedure can be used as a type test as well as an individual test.

The truck is designed so that when travelling, laden or unladen, it will remain stable while being operated on smooth level ground under conditions of use defined by the manufacturer, e.g. by controlling travelling velocity, steering rate of change, acceleration and deceleration, position of load handling device.

To reduce the risk of lateral instability for lifting, furthermore it is proposed to indicate this misuse of driving with elevated load by signals or by reduction of the driving velocity when exceeding a certain lift height. This requirement is intended to be included in the respective standard in its next revision.

NOTE 2 This standard is not intended to completely eliminate the possibility of a lateral tip over in all working conditions, i.e. it is possible to exceed the lateral stability limits if slightly uneven or sloping surfaces combine with unsafe driving practices.

1 Scope

This European Standard specifies dynamic tests for the verification of lateral stability for counterbalanced lift trucks according to EN ISO 3691-1 that have a centre control, sit down, non-elevating operator, with a rated capacity up to and including 5 000 kg when travelling on smooth level ground with the forks in travelling position. The standard is not applicable for Rough Terrain forklift trucks.

NOTE 1 Experience shows that counterbalanced lift trucks with a rated capacity over 5 000 kg are not significantly affected by lateral instability.

The requirements are specific to the various drive systems (e.g. Electric-/Internal-Combustion-Engine trucks), taking account of their varying influence on dynamic stability performance.

This European Standard does not cover the risk of a lateral tip over associated with driving backwards.

NOTE 2 Research has shown that driving backwards in typical working operations, such as unloading of a lorry, does not cause lateral instability. For this reason, only driving forward needs to be tested.

Risks due to falling off a loading dock or turning on a ramp are not covered by this European Standard.

Risks due to lifting or manoeuvring operations are covered by the respective stability tests.

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.

EN ISO 3691-1:2012, *Industrial trucks - Safety requirements and verification - Part 1: Self-propelled industrial trucks, other than driverless trucks, variable-reach trucks and burden-carrier trucks (ISO 3691-1:2011)*

ISO 5053:1987, *Powered industrial trucks - Terminology*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 5053:1987 and EN ISO 3691-1:2012 and the following apply.

3.1
maximum velocity
maximum designed truck velocity according to the manufacturer’s specifications

Note 1 to entry: If the truck velocity is automatically reduced in certain load device positions (i.e. lift height dependent), this reduced velocity is the maximum velocity for that load condition.

3.2
test velocity
velocity greater than 90 % of the maximum velocity