SLOVENSKI STANDARD
SIST EN 16842-6:2019

01-april-2019

Vozila za talni transport - Gnana vozila za talni transport - Vidno polje voznika - Preskusna metoda in preverjanje - 6. del: Čelni viličarji z voznikovim sedežem in težki terenski viličarji z zmogljivostjo več kot 10 000 kg

Powered industrial trucks - Visibility - Test methods and verification - Part 6: Sit-on counterbalance trucks and rough terrain masted trucks greater than 10 000 kg capacity

Kraftbetriebene Flurförderzeuge - Sichtverhältnisse – Testmethoden und Verifikation - Teil 6: Gegengewichtstapler mit Fahrersitz und geländegängige Stapler mit Mast mit einer Nenntragfähigkeit von über 10 000 kg

Chariots de manutention automoteurs - Visibilité - Méthodes d'essai et vérification - Partie 6 : Chariots en porte□à□faux à conducteur assis et chariots tout-terrain à mât ayant une capacité supérieure à 10 000 kg inclus

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ICS:

53.060	Industrijski tovornjaki	Industrial trucks

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EUROPEAN STANDARD

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Powered industrial trucks - Visibility - Test methods and verification - Part 6: Sit-on counterbalance trucks and rough terrain masted trucks greater than 10 000 kg capacity

Chariots de manutention automoteurs - Visibilité - Méthodes d'essai et vérification - Partie 6 : Chariots en porte-à-faux à conducteur assis et chariots tout-terrain à mât ayant une capacité supérieure à 10 000 kg inclus

Kraftbetriebene Flurförderzeuge - Sichtverhältnisse - Prüfverfahren und Verifikation - Teil 6: Gegengewichtstapler mit Fahrersitz und geländegängige Stapler mit Mast mit einer Nenntragfähigkeit von über 10 000 kg

This European Standard was approved by CEN on 22 May 2018.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (EN 16842-6:2018) 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 May 2019, and conflicting national standards shall be withdrawn at the latest by May 2019.

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

This European Standard is intended to be used in combination with the requirements in EN 16842-1.

EN 16842, consists of the following parts under the general title *Powered industrial trucks – Visibility – Test methods and verification*:

— *Part 1: General requirements;*

— *Part 2: Sit-on counterbalance trucks and rough terrain masted trucks up to and including 10 000 kg capacity;*

— *Part 3: Reach trucks up to and including 10 000 kg capacity;*

— *Part 4: Industrial variable-reach trucks up to and including 10 000 kg capacity;*

— *Part 5: Industrial variable-reach trucks greater than10 000 kg capacity* (in preparation)*;*

— *Part 6: Sit-on counterbalance trucks and rough terrain masted trucks greater than 10 000 kg capacity;*

— *Part 7: Variable-reach and masted container trucks handling freight containers of 6 m (20 ft) length and longer;*

— *Part 8: Stand on counterbalance trucks up to and including 10 000 kg capacity* (in preparation)*;*

— *Part 9: Order-picking, lateral- and front-stacking trucks with elevating operator position;*

— *Part 10: Towing and pushing tractors and burden carrier;*

It is intended to develop additional parts related to the following machinery:

— Pallet stacking trucks (rider controlled);

— Single side loader;

— Multi-directional forklift truck;

— Articulated counterbalance lift truck;

— Non stacking low lift straddle carriers (as defined in ISO 5053-1:2015, 3.18);

— Stacking high lift straddle carriers (as defined in ISO 5053-1:2015, 3.19).

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria,

Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

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

This document is of relevance, in particular, for the following stakeholder groups representing the market players with regard to machinery safety:

— machine manufacturers (small, medium and large enterprises);

— health and safety bodies (regulators, accident prevention organizations, market surveillance, etc.).

Others can be affected by the level of machinery safety achieved with the means of the document by the above-mentioned stakeholder groups:

— machine users/employers (small, medium and large enterprises);

— machine users/employees (e.g. trade unions, organizations for people with special needs);

— service providers, e.g. for maintenance (small, medium and large enterprises);

— consumers (in case of machinery intended for use by consumers).

The above-mentioned stakeholder groups have been given the possibility to participate at the drafting process of this document.

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 type-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.

1 Scope

This document specifies the requirements and test procedures for 360° visibility of sit-on self-propelled industrial counterbalance trucks and rough terrain masted trucks (herein after referred to as trucks) without a load, with a capacity greater than 10 000 kg in accordance with ISO 5053-1 and it is intended to be used in conjunction with EN 16842-1.

Where specific requirements in this part are modified from the general requirements in EN 16842-1, the requirements of this part are truck specific and to be used for sit-on self-propelled industrial counterbalance trucks and rough terrain masted trucks with a capacity greater than 10 000 kg.

This part of EN 16842 deals with all significant hazards, hazardous situations or hazardous events, relevant to the visibility of the operator for applicable machines when used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer.

2 Normative references

The following documents are referred to in 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.

EN 16842-1:2018, *Powered industrial trucks — Visibility — Test methods and verification — Part 1: General requirements*

EN ISO 3691-1:2015, *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, including Cor 1:2013)*

ISO 5053-1, *Industrial trucks — Terminology and classification — Part 1: Types of industrial trucks*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 16842-1 and ISO 5053-1 apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

4 Truck configuration

4.1 General

For truck test configuration, EN 16842-1:2018, 4.1, 4.2.2 and 4.3 shall apply.

4.2 Height of load carrying surface

The load carrying surface of the fork arms, measured at the heel, shall be positioned up to 500 mm above the floor.

NOTE The dimensions above are to enable the operator to adjust height of the forks for maximum visibility of fork tips.

4.3 Fork arm dimensions

The test truck shall be equipped with fork arms of the following nominal lengths:

— Trucks with load centre 600 mm, fork arm length 1 200 mm;

— Trucks with load centre 900 mm, fork arm length 1 800 mm;

— Trucks with load centre 1 200 mm, fork arm length 2 400 mm.

Other fork arm lengths shall be tested if these adversely affect visibility (e.g. shorter fork arms, etc.).

Lengths of forks arms shall be noted in the test report in accordance with EN 16842-1:2018, 8.2 i).

NOTE Fork arm lengths in millimetres are given as two times the length of the standard load centre distance as defined in EN ISO 3691-1:2015, A.2.3.

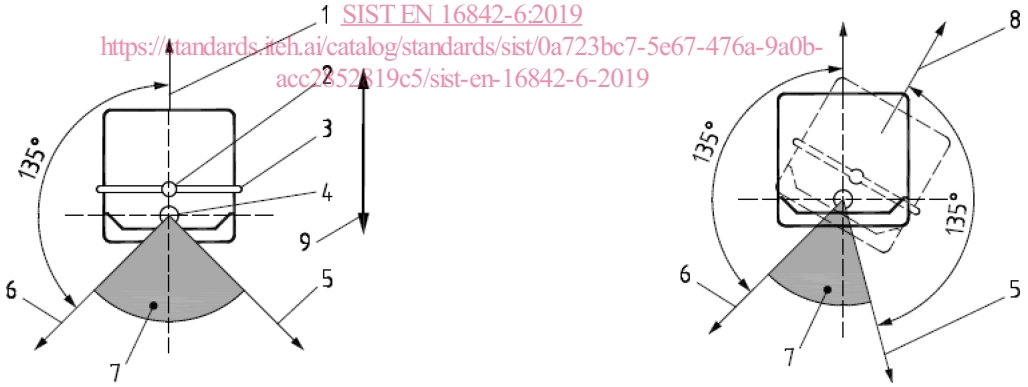
5 Test equipment

For test equipment, EN 16842-1:2018, Clause 5 shall apply.

6 Test procedures for direct visibility

6.1 Lighting equipment position

The lighting equipment shall be positioned relative to the seat index point (SIP). The seat shall be placed at the closest adjustment position to the mid-point of horizontal and vertical adjustment and the mid-point of the suspension height, if so equipped. For trucks with rotatable seats, the seat may be turned toward the direction of the test being conducted. See Figure 1.



a) Sit-on truck where the operator is facing the line of travel

b) Sit-on truck where the operator is facing the line of travel equipped with rotatable seat

Key

1 0° seat direction
2 SIP
3 row of lights
4 row of lights axis of rotation
5 +135° test direction
6 -135° test direction
7 the row of lights cannot be turned to this area for tests
8 seat direction rotatable
9 forward and rearward truck direction for all seat positions shown

Figure 1 — Seat position and test direction