



# SLOVENSKI STANDARD

## SIST EN 16307-3:2023

01-junij-2023

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**Vozila za talni transport - Varnostne zahteve in preverjanje - 3. del: Dodatne zahteve za tovornjake z dvignjenim položajem upravljavca in tovornjake, posebej zasnovane za vožnjo z dvignjenim bremenom (dodatne zahteve k EN 16307-1)**

Industrial trucks - Safety requirements and verification - Part 3 Supplementary requirements for trucks with elevating operator position and trucks specifically designed to travel with elevated loads (additional requirements to EN 16307-1)

Flurförderzeuge - Sicherheitstechnische Anforderungen und Verifizierung - Teil 3: Zusätzliche Anforderungen für Flurförderzeuge mit hebbarem Fahrerplatz und Flurförderzeuge, die zum Fahren mit angehobener Last ausgelegt sind (zusätzliche Anforderungen zu EN 16307-1)

Chariots de manutention - Exigences de sécurité et vérification - Partie 3: Exigences supplémentaires pour chariots avec poste de conduite élevable et pour chariots spécialement conçus pour une conduite avec des charges en élévation (exigences complémentaires à l'EN 16307 1)

**Ta slovenski standard je istoveten z: EN 16307-3:2023**

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EUROPEAN STANDARD

EN 16307-3

NORME EUROPÉENNE

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ICS 53.060

English Version

**Industrial trucks - Safety requirements and verification -  
Part 3: Supplementary requirements for trucks with  
elevating operator position and trucks specifically  
designed to travel with elevated loads (additional  
requirements to EN 16307-1)**

Chariots de manutention - Exigences de sécurité et  
vérification - Partie 3 : Exigences supplémentaires pour  
chariots avec poste de conduite éleuable et pour  
chariots spécialement conçus pour une conduite avec  
des charges en élévation (exigences complémentaires à  
l'EN 16307-1)

Flurförderzeuge - Sicherheitstechnische  
Anforderungen und Verifizierung - Teil 3: Zusätzliche  
Anforderungen für Flurförderzeuge mit hebbarem  
Fahrerplatz und Flurförderzeuge, die zum Fahren mit  
angehobener Last ausgelegt sind (zusätzliche  
Anforderungen zu EN 16307-1)

This European Standard was approved by CEN on 9 January 2023.

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.

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

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## European foreword

This document (EN 16307-3:2023) 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 September 2023, and conflicting national standards shall be withdrawn at the latest by September 2024.

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.

The EN 16307 series, under the general title *Industrial trucks — Safety requirements and verification*, consists of the following parts:

- *Part 1: Supplementary requirements for self-propelled industrial trucks, other than driverless trucks, variable-reach trucks and burden-carrier trucks;*
- *Part 2: Supplementary requirements for self-propelled variable-reach trucks;*
- *Part 3: Supplementary requirements for trucks with elevating operator position and trucks specifically designed to travel with elevated loads (additional requirements to EN 16307-1);*
- *Part 5: Supplementary requirements for pedestrian-propelled trucks;*
- *Part 6: Supplementary requirements for burden and personnel carriers.*

This document is intended to be used with:

- EN ISO 3691-1:2015<sup>1</sup>, *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)*; and
- EN ISO 3691-3:2016<sup>2</sup>, *Industrial trucks — Safety requirements and verification — Part 3: Additional requirements for trucks with elevating operator position and trucks specifically designed to travel with elevated loads (ISO 3691-3:2016)*; and
- EN 16307-1:2020, *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.*

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

**EN 16307-3:2023 (E)****Introduction**

This document is a type-C standard as stated in EN ISO 12100:2010.

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).

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

The machines 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.

The EN 16307 series of standards covers safety requirements and their verification for industrial trucks as defined in ISO 5053-1:2020 that are not covered exhaustively by the EN ISO 3691 series.

## 1 Scope

This document specifies requirements for the types of industrial trucks specified in the scope of EN ISO 3691-3:2016<sup>2</sup>.

This document is intended to be used in conjunction with EN ISO 3691-3:2016<sup>2</sup>. These requirements are supplementary to those stated in EN ISO 3691-3:2016<sup>2</sup>.

This document deals with the following significant hazards, hazardous situations or hazardous events relevant when it is used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer:

- acceleration, deceleration (kinetic energy);
- machinery mobility.

This document specifies supplementary requirements to EN ISO 3691-1:2015<sup>1</sup>, EN ISO 3691-3:2016<sup>2</sup> and EN 16307-1:2020:

- brakes operation without guidance system;
- operator fall protection;
- information for use (instruction handbook and marking).

Annex A (informative) contains the list of significant hazards covered by this document.

## 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.

EN 360, *Personal protective equipment against falls from a height — Retractable type fall arresters*

EN 361, *Personal protective equipment against falls from a height — Full body harnesses*

EN 363, *Personal fall protection equipment — Personal fall protection systems*

EN ISO 3691-1:2015<sup>1</sup>, *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)*

EN ISO 3691-3:2016<sup>2</sup>, *Industrial trucks — Safety requirements and verification — Part 3: Additional requirements for trucks with elevating operator position and trucks specifically designed to travel with elevated loads (ISO 3691-3:2016)*

ISO 5053-1:2020, *Industrial trucks — Vocabulary — Part 1: Types of industrial trucks*

ISO 6292:2020, *Powered industrial trucks and tractors — Brake performance and component strength*

<sup>1</sup> As impacted by EN ISO 3691-1:2015/A1:2020.

<sup>2</sup> As impacted by EN ISO 3691-3:2016/A1:2023.

## EN 16307-3:2023 (E)

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 5053-1:2020, EN ISO 3691-1:2015<sup>1</sup> and EN ISO 3691-3:2016<sup>2</sup> apply.

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

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

### 4 Safety requirements and/or protective measures

#### 4.1 General

The following applies to self-propelled industrial trucks with elevating operator position and trucks specifically designed to travel with elevated load, dealt with in EN ISO 3691-3:2016<sup>2</sup>. These are additional to the requirements of EN ISO 3691-3:2016<sup>2</sup> and, in certain instances, replace them.

#### 4.2 Brakes – Operation without guidance systems

The requirements of EN ISO 3691-3:2016<sup>2</sup>, 4.3 shall apply with the following modification.

EN ISO 3691-3:2016<sup>2</sup> 4.3.1, 2nd paragraph shall be replaced by the following:

For trucks travelling at more than 9 km/h, the braking capacity shall comply with ISO 6292:2020, Table 2, Group A1 or, alternatively, the travel speed shall be automatically reduced to not more than 9 km/h and braking capacity shall comply with ISO 6292:2020, Table 2, group C.

#### 4.3 Operator fall protection

The requirements of EN ISO 3691-3:2016<sup>2</sup>, 4.4.5 shall apply with the following exception:

For trucks with extended or supplementary platform as shown in EN ISO 3691-3:2016<sup>2</sup>, Figures 2 to 4 that are intended for handling of bulky loads which prevent the use of guard rails in accordance with EN ISO 3691-3:2016<sup>2</sup>, 4.4.5.1 on one or more sides of the platform, the operator platform may be equipped with a personal fall protection system instead of guard rails for the extended or supplementary platform including the mechanical guard between the operator platform and the load handling device.

NOTE 1 In this context, bulky loads are loads that cannot be lifted by the operator in a safe and/or ergonomic manner due to the load dimension and/or the weight of the load, e.g. insulation materials, furniture, bicycles.

NOTE 2 The handling of bulky loads prevents the use of guard rails when the risk associated with handling the load over the guard rail and/or the stress due to ergonomic deficiency is considered as greater than the risk of the negligent misuse of not applying the fall protection device.

The fall protection device shall consist of a full body harness and retractable type fall arrester, automatically locking tether system in accordance with EN 363, a full body harness in accordance with EN 361, and a retractable type fall arrester in accordance with EN 360.

The anchorage point(s) of fall protection device(s) shall be tested in accordance to EN ISO 3691-3:2016<sup>2</sup>, 4.4.5.6.

### 5 Verification of the safety requirements and/or protective/risk reduction measures

The requirements specified in Clause 4 shall be verified in accordance with the referenced standard and the principles specified in EN ISO 3691-3:2016<sup>2</sup>, Clause 5.



## 6 Information for use

### 6.1 Instruction handbooks

The requirements of EN ISO 3691-3:2016<sup>2</sup>, 6.2 shall apply with the following addition:

- o) Information on intended use where operator fall protection is provided by a fall protection system instead of guard rails on one or more sides of the extended or supplementary platform to enable the handling of bulky loads in accordance with 4.3.

### 6.2 Marking

#### 6.2.1 Fall protection devices

Platforms equipped with a fall protection system shall have *a mandatory action sign* to wear a full body harness clearly and permanently marked at each point of access to the platform.

NOTE A suggestion for a sign could be "Wear a safety harness No. M018 of EN ISO 7010".

#### 6.2.2 Fall hazard

Platforms with a lift height of more than 1 200 mm from the ground that do not have guard rails on one or more sides shall have a warning of the fall hazard clearly and permanently marked in close proximity to the hazard.

NOTE A suggestion for a sign could be "Warning; Drop (fall) No. W008 of EN ISO 7010".

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## Annex A (informative)

### List of significant hazards

This annex contains all the significant hazards, hazardous situations and events, as far as they are dealt with in this part of EN 16307, identified by risk assessment for industrial trucks and which require action to eliminate or reduce the risk. See Table A.1.

NOTE The structure of the table is based on that of EN ISO 12100:2010, Table B.1. The order of lines within a group corresponds to the truck functionalities.

**Table A.1 — List of significant hazards**

| No.      | Type or group/origin                          | Potential consequences | Corresponding requirement                       |
|----------|---|------------------------|---|
| <b>1</b> | <b>Mechanical hazards</b>                     |                        |   |
|          | — Acceleration, deceleration (kinetic energy) | — Being run over       | 4.2 Brakes – Operation without guidance systems |
|          | — Machinery mobility                          | — Crushing             | 4.3 Operator fall protection                    |
|          |   | — Impact               | 6.1 Instruction handbooks                       |
|          |   |                        | 6.2 Marking                                     |

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