



DPC: 25/30491453 DC

BSI Group Headquarters

389 Chiswick High Road London W4 4AL

Tel: +44 (0)20 8996 9000

Fax: +44 (0)20 8996 7400

www.bsigroup.com

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Interested committees:

Title: Draft BS 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.

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Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

For national standards, comments will be reviewed by the relevant UK national committee and the resulting standards published as a British Standard.

UK Vote

Please indicate whether you consider the UK should submit a negative (with supporting technical reasons) or positive vote on this draft. Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.

Submission of Comments

- **Annotated drafts are not acceptable and will be rejected.**
- All comments should be submitted online at <https://standardsdevelopment.bsigroup.com/>. You will need to register in order to comment.

Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
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1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/ Figure/Table/Note	Type of comment	Comment (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	

English Version

**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**

Chariots de manutention - Exigence de sécurité et
vérifications - Partie 1 : Exigences supplémentaires
pour les chariots autres que les chariots sans
conducteur, les chariots à portée variable et les
chariots porteurs de charge

Flurförderzeuge - Sicherheitstechnische
Anforderungen und Verifizierung - Teil 1: Zusätzliche
Anforderungen für motorkraftbetriebene
Flurförderzeuge mit Ausnahme von fahrerlosen
Flurförderzeugen, Staplern mit veränderlicher
Reichweite und Lasten- und
Personentransportfahrzeugen

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 150.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN 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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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (prEN 16307-1:2025) has been prepared by Technical Committee CEN/TC 150 “Industrial trucks - Safety”, the secretariat of which is held by BSI.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 16307-1:2020.

prEN 16307-1:2025 includes the following significant technical changes with respect to EN 16307-1:2020:

- requirements in respect of visibility (see 4.10) and verification of safety requirements and/or protective measures (see Clause 5) have been changed;
- requirements in respect of travel speed, protection against crushing, shearing and trapping and lifting machinery have been deleted because they were added to prEN ISO 3691-1:2025;
- requirements in respect of the overhead guards for double-stacker trucks have been added;
- requirements in respect of loading control have been added;
- requirements for automatic battery charging have been added;
- Annex B Verification of safety requirements has been added;
- Annex ZA has been revised;
- Annex ZB has been added;
- requirements for interlocking of the operator restraint system have been added.

This document has been prepared under a standardization request addressed to CEN by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

For the relationship with EU Legislation, see informative Annex ZA and ZB, which are an integral part of this document.

The EN 16307 series consists of the following parts, under the general title *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;*
- *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, *Industrial trucks — Safety requirements and verification — Part 1: Self-propelled industrial trucks, other than driverless trucks, variable-reach trucks and burden-carrier trucks*.

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 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.

The EN 16307 series of standards covers safety requirements and their verification for industrial trucks as defined in ISO 5053-1 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 prEN ISO 3691-1:2025.

This document is intended to be used in conjunction with prEN ISO 3691-1:2025. These requirements are supplementary to those stated in prEN ISO 3691-1:2025.

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:

- electrical requirements;
- noise emissions;
- vibration;
- visibility.

This document defines supplementary requirements to prEN ISO 3691-1:2025:

- brakes;
- travel and braking controls - additional operation from alongside pedestrian-controlled and stand-on trucks;
- lift chains;
- overhead guard;
- operator's seat;
- operator restraint system;
- automatic battery charging;
- 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 1175:2020, *Safety of industrial trucks — Electrical/electronic requirements*

EN 12053:2001+A1:2008, *Safety of industrial trucks — Test methods for measuring noise emissions*

EN 13059:2002+A1:2008, *Safety of industrial trucks — Test methods for measuring vibration*

EN 13490:2001+A1:2008, *Mechanical vibration — Industrial trucks — Laboratory evaluation and specification of operator seat vibration*

EN 16203:2014, *Safety of Industrial Trucks — Dynamic tests for verification of lateral stability — Counterbalanced Trucks*

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

EN 16842-2:2018, *Powered industrial trucks — Visibility — Test methods and verification — Part 2: Sit-on counterbalance trucks and rough terrain masted trucks up to and including 10 000 kg capacity*

EN 16842-3:2018, *Powered industrial trucks — Visibility — Test methods and verification — Part 3: Reach trucks up to and including 10 000 kg capacity*

EN 16842-4:2019, *Powered industrial trucks — Visibility — Test methods and verification — Part 4: Industrial variable reach trucks up to and including 10 000 kg capacity*

EN 16842-5:2021, *Powered industrial trucks — Visibility — Test methods and verification — Part 5: Industrial variable-reach trucks greater than 10 000 kg capacity*

EN 16842-6:2018, *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*

EN 16842-7:2018, *Powered industrial trucks — Visibility — Test methods and verification — Part 7: Variable-reach and masted container trucks handling freight containers of 6 m (20 ft) length and longer*

EN 16842-8:2021, *Powered industrial trucks — Visibility-Test methods and verification — Part 8: Stand-on counterbalance trucks up to and including 10 000 kg capacity*

EN 16842-9:2019,¹⁾ *Powered industrial trucks — Visibility — Test method for verification — Part 9: Order-picking, lateral- and front-stacking trucks with elevating operator position*

EN 16842-10:2020, *Powered industrial trucks — Visibility — Test methods and verification — Part 10: Towing and Pushing tractors and Burden carrier*

prEN ISO 3691-1:2025, *Industrial trucks — Safety requirements and verification — Part 1: Self-propelled industrial trucks, other than driverless trucks, variable-reach trucks and burden-carrier trucks*

EN ISO 11688-1:2009, *Acoustics — Recommended practice for the design of low-noise machinery and equipment — Part 1: Planning (ISO/TR 11688-1:1995)*

EN ISO 12100:2010, *Safety of machinery — General principles for design — Risk assessment and risk reduction (ISO 12100:2010)*

EN ISO 13849-1:2023, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design (ISO 13849-1:2023)*

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*

¹⁾ As impacted by EN 16842-9/AC:2020

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 12100:2010, ISO 5053-1:2020 and prEN ISO 3691-1:2025 and the following applies.

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/>

3.1

operator restraint system

device or system that is permanently installed to keep the operator within the protective structure of the truck

EXAMPLE Seat belt, cabin door.

[SOURCE: EN 17314:2020, 3.1, modified – Note 1 “The restraint system can be composed of several parts” replaced with “EXAMPLE: Seat belt, cabin door” and Note 2 deleted.]

4 Safety requirements and/or protective measures

4.1 General

Machinery shall comply with the safety requirements and/or protective measures of 4.2 to 4.14. In addition, the machine shall be designed according to the principles of EN ISO 12100:2010 for relevant but not significant hazards which are not dealt with by this document.

The following applies to the self-propelled industrial trucks, other than driverless trucks, variable-reach trucks and burden-carrier trucks, dealt with in prEN ISO 3691-1:2025. These are additional to the requirements of prEN ISO 3691-1:2025 and, in certain instances, replace them.

4.2 Electrical/electronic requirements

Electrical systems and equipment and where applicable the required performance levels (PLr) thereof shall be in accordance with EN 1175:2020.

4.3 Brakes

The requirements of prEN ISO 3691-1:2025, 4.3.1 shall apply, except the reference to ISO/TS 3691-8, with the following addition:

The parking and service brakes of trucks that can travel with an elevated operator position and/or elevated load above 500 mm, and up to and including 1 200 mm, are subject to the following requirements:

- for travel speeds up to and including 9 km/h, parking brakes shall be in accordance with ISO 6292:2020, 6.2.2 a), and service brakes shall comply with the specifications of ISO 6292:2020, Table 2, Group C;
- for travel speeds above 9 km/h, parking brakes shall be in accordance with ISO 6292:2020, 6.2.2 b) and service brakes shall comply with the specifications of ISO 6292:2020, Table 2, Group A1.