



SLOVENSKI STANDARD
oSIST prEN 1757:2021
01-januar-2021

Varnost vozil za talni transport - Ročno gnana vozila z visokim dvigom

Safety of industrial trucks - Pedestrian controlled manual platform trucks

Sicherheit von Flurförderzeugen - Mitgänger-Plattformwagen

Sécurité des chariots de manutention - Chariots manuels à plateforme à conducteurs à pied

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Ta slovenski standard je istoveten z: prEN 1757

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ICS:

53.060 Industrijski tovornjaki Industrial trucks

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en,fr,de

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

DRAFT
prEN 1757

November 2020

ICS 53.060

Will supersede EN 1757-3:2002

English Version

Safety of industrial trucks - Pedestrian controlled manual platform trucks

Sécurité des chariots de manutention - Chariots manuels à plateforme à conducteurs à pied

Sicherheit von Flurförderzeugen - Mitgänger-Plattformwagen

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.

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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.

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

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

Contents	Page
European foreword	3
Introduction	4
Annex A (normative) Method for measurement of forces (F)	13
A.1 Conditions for test	13
A.2 Measurement of starting force and rolling force	13
A.3 Measurement of the steering force	13
Annex B (normative) Stability tests for pedestrian propelled industrial platform trucks	15
B.1 Conditions of validity	15
B.2 Acceptance conditions	15
B.3 Description of tests	15
Annex C (informative) List of significant hazards	19
Bibliography	21

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[oSIST prEN 1757:2021](https://standards.iteh.ai/catalog/standards/sist/188f7691-cbee-4f2b-9157-53d749234d82/osist-pren-1757-2021)

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European foreword

This document (prEN 1757:2020) 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 1757-3:2002.

In comparison with the previous edition, the following technical modifications have been made:

- application changed to pedestrian propelled industrial platform trucks as defined in 3.1 with a rated capacity up to and including 500 kg (in the previous edition 1 000 kg);
- example given for trucks that are intended to be towed by powered vehicles;
- reference made to EN ISO 3691-1:2015 and ISO 5053-1;
- definition 3.1 and 3.2 revised;
- definition 3.5 (operator) deleted;
- minimum span of tiller changed into 200 mm for each hand (alignment with EN ISO 3691-5);
- Bibliography updated.

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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 applies to pedestrian propelled industrial platform trucks as defined in 3.1 with a rated capacity up to and including 500 kg, hereinafter referred to as “trucks” and designed for general purposes.

This document does not apply to:

- shopping trolleys referred to in EN 1929, Parts 1 to 4 and 7 (CEN/TC 291);
- roll containers referred to in EN 12674, Parts 1 to 4 (CEN/TC 261);
- trucks that are intended to be towed by powered vehicles, e.g. milk-run-trains/trailer trains/tugger trains.

This document deals with the technical requirements to minimize the hazards listed in Clause 4 which can arise during commissioning, operation and maintenance of trucks when carried out in accordance with the specifications as intended by the manufacturer.

This document does not establish the additional requirements for:

- operation in severe conditions (e.g. extreme environmental conditions such as: freezer applications, high temperatures, corrosive environment);
- operation subject to special rules (e.g. potentially explosive atmospheres);
- handling of loads the nature of which could lead to dangerous situations (e.g. molten metal, acids/alkalis, radiating materials, especially brittle loads);
- hazards occurring during construction, transportation, decommissioning and disposal;
- direct contact with foodstuffs;
- operation on gradients or on surfaces other than smooth, level, hard surfaces;
- trucks designed for special applications: trucks used in hospitals, dinner, trolley;
- trucks fitted with hinged or sliding doors.

Other possible limitations of the scope of other standards referred to that also apply to this document.

Hazards relevant to noise, vibration, visibility and static electricity are not dealt with in this document.

This document applies to trucks manufactured after the date of issue.

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 ISO 3691-1:2015,¹ *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)*

EN 12532, *Castors and wheels - Castors and wheels for applications up to 1,1 m/s (4 km/h)*

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

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 5053-1 and the following 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 <https://www.iso.org/obp>

3.1

pedestrian-propelled industrial platform truck

industrial truck with at least 3 wheels and fitted with a non-lifting load-carrying platform and possibly with one or several shelves, designed to be manually, pushed, pulled and steered by a pedestrian operator by means of a bar or tiller handle to move loads from one place to another one on a smooth, level, hard surface

3.2

rated capacity

load in kilograms given by the manufacturer, which is defined for a load uniformly and equally distributed over the load carrying platform and the shelves if any

3.3

intended operating position

position in which the operator can control all operational functions as intended by the manufacturer

3.4

intended operation

use for which the truck is designed according to the manufacturer's instructions

¹ This document is impacted by the corrigendum EN ISO 3691-1:2015/AC:2016 and the amendment EN ISO 3691-1:2015/A1:2020.

4 Requirements

4.1 Design and construction forces for truck

The design and construction of the truck shall be such that the maximum forces required for truck function (propelling, steering) shall not exceed the values given in Table 1 (see 5.2.3).

Table 1 — Maximum allowed forces

Test load kg	Propelling		Steering N
	Starting N	Rolling N	
250	150	75	150
500	200	100	200

The values in Table 1 are pure design values for the truck and should not be confused with actual operating forces in the work place (see 6.1.3).

4.2 Propelling, steering

4.2.1 General

Push/pull handle(s) either vertical or horizontal and/or a tiller shall be provided to allow an operator to push, pull and steer the truck.

4.2.2 Tiller

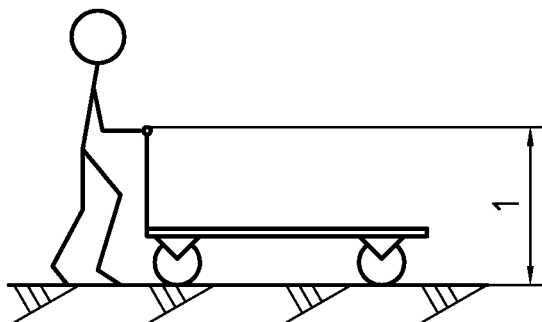
The tiller shall be provided with a handle of the closed loop type or otherwise designed to ensure lateral protection of the operator's hands.

The hand grips shall be of a cross section enclosed within the space between two concentric circles of 25 mm inside diameter and 35 mm outside diameter and provide a minimum span of 200 mm for each hand.

The upper part of the tiller handle shall conform to the dimensions shown in Figure 1 and Figure 2.

When pulling the horizontal distance between the end of the tiller and the front of the wheel (Figure 2) shall be more than 500 mm, the handle axis being positioned within 700 mm to 1 000 mm height.

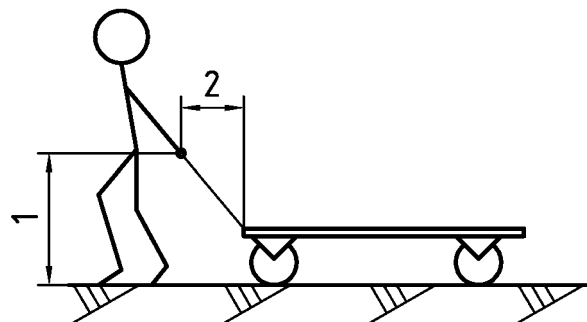
The tiller shall automatically and gently return to the upper rest position when released.



Key

1 1 100 mm to 1 300 mm

Figure 1 — Tiller (Pushing)



Key

1 700 mm to 1 000 mm

2 500 mm minimum

Figure 2 — Tiller (Pulling)

prEN 1757:2020(E)

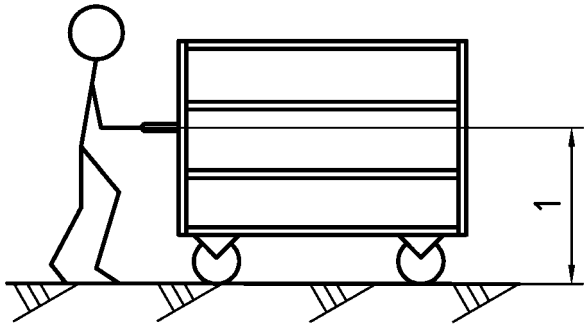
4.2.3 Push/pull bars

The height from ground to centre of push/pull bar shall be 1 100 mm to 1 300 mm, see Figure 3 and Figure 4.

Vertical bars shall have a vertical length of at least 300 mm.

A minimum distance of 50 mm shall be provided between the outside of the push/pull bars and the lateral extremities of the truck.

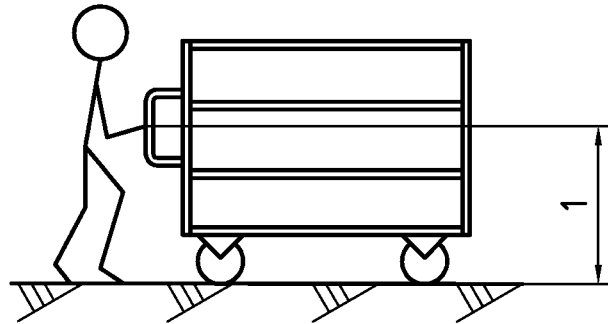
The hand grips shall be of a cross section enclosed within the space between two concentric circles of 25 mm inside diameter and 35 mm outside diameter.



Key

1 1 100 mm to 1 300 mm

Figure 3 — Horizontal push/pull handle



Key

1 1 100 mm to 1 300 mm

Figure 4 — Vertical push/pull handle

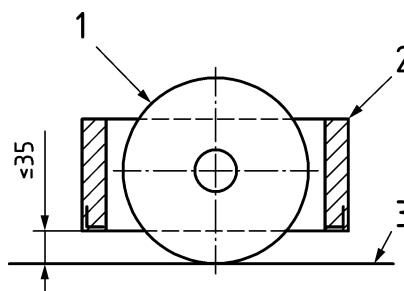
4.3 Wheels and castors

4.3.1 Specifications

Wheels and castors of the truck shall comply with EN 12532.

4.3.2 Wheel guards

Trucks fitted with push-pull handles shall have a chassis profile which conforms to EN ISO 3691-1:2015, Figure 6 or shall be provided with devices to protect the operator's feet when he is in his intended operating position (see Figure 5).



Key

- 1 wheel
- 2 deflector
- 3 ground (floor)

Figure 5 — Example of wheel guard

4.4 Parking brake

The truck shall be provided with a parking brake which shall be controlled by e.g.: a lever located on the tiller or by a foot pedal, and be able to maintain the truck at a standstill on a level ground.

4.5 Stability

The truck shall be designed and constructed in order to restrict hazards of forward, backward and lateral overturning during intended operation.

4.6 Protection against crushing and shearing points

Relative moving parts on the truck within reach of operator in his intended operating position shall be adequately guarded or shall comply with the following minimum distance requirements:

- places where the operator's fingers can be 25 mm trapped:
- places where the operator's hands or feet can 50 mm be trapped:
- places where the operator's arms or legs can 100 mm be trapped:

4.7 Edges and angles

External parts of the truck which can impact parts of the body shall be free of sharp edges and sharp angles.

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5 Verifications of safety requirements and/or measures

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5.1 General

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The manufacturer shall verify and record that the requirements of Clause 4 are complied with.

The verification of safety requirements shall be carried out by design verification on truck type plus manufacturing arrangements (not described here) plus functional routine verification on each truck to verify its fitness for purpose.

The verifications may be as follows:

- by design e.g. for verification of drawings and documents;
- by measures e.g. of propelling and steering forces as shown in Table 1 and Annex A and tests described in 5.2.2 and 5.3.

Tests shall either be performed by operating the truck in the manner prescribed below or, where practicable, be simulated by any method giving an equivalent effect and producing substantially the same results.

The test load, where applicable, shall be applied as follows. The centre of gravity of the load on each level shall be on the centre line of the truck and 200 mm above the geometrical centre of the platform or the shelf except if specified differently here under.