SLOVENSKI STANDARD
oSIST prEN 1459-9:2020

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Vozila za talni transport - Terenska vozila - Varnostne zahteve in preverjanje - 9. del: Vozila z mehanizmom za dviganje s spremenljivim dosegom, opremljena z delovnimi ploščadmi, ki imajo prednjo zaščito, ki se lahko odpira

Rough-terrain trucks - Safety requirements and verification - Part 9: Variable-reach trucks equipped with work platforms having a front guard that can be opened

Geländegängige Stapler - Sicherheitstechnische Anforderungen und Verifizierung - Teil 9: Anforderungen an Stapler mit veränderlicher Reichweite mit Arbeitsbühnen, deren Frontschutzbügel geöffnet werden können

Chariots tout-terrain - Prescriptions de sécurité et vérification - Partie 9 : Chariots à portée variable équipés de plateformes de travail munies d'un protecteur avant qui peut être ouvert

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53.060	Industrijski tovornjaki	Industrial trucks

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Rough-terrain trucks - Safety requirements and verification - Part 9: Variable-reach trucks equipped with work platforms having a front guard that can be opened

Geländegängige Stapler - Sicherheitstechnische Anforderungen und Verifizierung - Teil 9: Anforderungen an Stapler mit veränderlicher Reichweite mit Arbeitsbühnen, deren Frontschutzbügel geöffnet werden können

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

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European foreword

This document (prEN 1459-9:2020) 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 has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

EN 1459 consists of the following parts, under the general title Rough-terrain trucks — Safety requirements and verification:

— Part 1: Variable-reach trucks

— Part 2: Slewing variable-reach trucks

— Part 3: Interface between the variable-reach truck and the work platform

— Part 4: Additional requirements for variable-reach trucks handling freely suspended loads

— Part 5: Attachment interface

— Part 6: Application of EN ISO 13849-1 to slewing and non-slewing variable-reach rough-terrain trucks (Technical Report)

— Part 8: Variable-reach tractors (Technical Specification)

— Part 9: Variable-reach trucks equipped with work platforms having a front guard that can be opened

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.

All quantities are in metric units.

For work platforms with front guards that can be opened, restraint devices (harness and lanyard) are intended to be the primary protection against the risk of falling. Protective measures are consequently provided in this document assuming that not connecting harness to lanyard or lanyard to anchorage on the work platform is a foreseeable misuse. It is also assumed that not wearing harness is a foreseeable misuse, and warnings and information for use are required accordingly.

1 Scope

This document specifies the safety requirements for slewing and non-slewing rough-terrain variable-reach trucks defined by ISO 5053-1 (hereafter referred to as trucks) and their integrated interchangeable work platforms having front guards that can be opened for particular operations at height (hereafter referred to as work platform).

Controls can be also provided under specific circumstances at the operating position in the enclosed cab of the truck.

This document deals with the significant hazards, hazardous situations and events relevant to the combination when it is used as intended and under conditions of misuse which are reasonably foreseeable. The significant hazards covered by this document are listed in Annex A.

This document does not address hazards which may occur:

a) when using non-integrated work platforms or other attachments not designed for lifting persons;

b) when handling suspended work platforms which may swing freely;

c) when operating underground or in potentially explosive atmospheres.

This document does not cover trucks equipped with work platforms intended for leaving and re-entering at height.

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.

prEN 280-1:2018, *Mobile elevating work platforms — Part 1: Design calculations — Stability criteria — Construction — Safety — Examinations and tests*

EN 1459-3:2015, *Rough-terrain trucks — Safety requirements and verification — Part 3: Interface between the variable-reach truck and the work platform*

ISO 7010, *Graphical symbols — Safety colours and safety signs — Registered safety signs*

ISO 15870, *Powered industrial trucks — Safety signs and hazard pictorials — General principles*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in prEN 280-1:2018, EN 1459-3:2015 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 http://www.iso.org/obp

3.1
work platform
integrated platform which can be moved under load to the required working position and where guard-rails are absent on the front side or can be opened to facilitate particular operations at height (e.g. retrieving bulky loads like asbestos roof panels)

3.2
front side
side of the work platform opposite to the rear side

3.3
rear side
side of the work platform where means to mechanically assemble the truck and the work platform are positioned

3.4
integrated work platform
work platform with controls

4 Safety requirements

4.1 General

The combination of the truck and the interchangeable work platform shall comply with EN 1459-3, prEN 280-1:2018 and the following requirements.

Work platforms shall comply with prEN 280-1:2018, 5.6.3 and 5.6.2 on all sides except that front side guards may be removed by the persons on the work platform. Effort for manual opening shall be limited to 20 kg per person. Means shall be provided to prevent uncontrolled movement of the guard-rails during opening and closure.

When the front guards are closed, the work platform in its entirety shall comply with prEN 280-1:2018, 5.6.2.

When the front guards are removed, the toe guards shall be removed.

The floor of the work platform shall be flat and clear from permanent obstacles to prevent trip of persons.

4.2 Movements of the truck and the boom

Means shall be provided to prevent movements of the truck and the boom when:

a) the guardrails are not fastened in the closed position given in prEN 280-1:2018, 5.6.2; or

b) one or more persons permitted on the work platform is not positioned on the rear side. In this case the position of every permitted persons shall be controlled and the rear side of the platform shall be the most distant from the front side.

Guardrails and persons position shall be interlocked by means of a safety device complying with requirements given in prEN 280-1:2018, 5.11 for 5.6.3.

4.3 Restraint devices

4.3.1 Personal protective equipment

The work platform shall be provided with personal protective equipment to restraint each permitted person within the work platform.

NOTE EN 360, EN 361 and EN 363 provide requirements for lanyard and harness.

4.3.2 Connection of harnesses and lanyards

Means shall be provided to prevent movements of the truck and the boom if any of the harnesses or lanyards are not connected to the anchorages provided on the work platform according to prEN 280-1:2018, 5.6.14.

An audible and visual warning shall be provided on the truck and the work platform when any of the lanyards or harnesses are disconnected.

There shall be no provisions for the operator to cancel a warning.

4.3.3 Fix harnesses and lanyards

4.3.2 is not required if harness and lanyard cannot be disconnected without tools between each other and from the anchorages provided on the work platform.

In this case an audible and visual warning marked according to 6.2.1 shall be provided at the control position on the work platform each time the MEWP function mode given in EN 1459-3:2015, 4.1 is activated.

Means shall be provided to cancel this warning only by means of a control device on the work platform (see Clause 6 for information for use).

NOTE Cancelling a warning is required to involve a voluntary action by the operator because no connection of the restraint device is carried out in this case.

4.4 Duplicate controls

Duplicate controls for the truck and the boom movements may be provided at the operating position in the cab of the truck. The duplicate and the platform controls shall be interlocked so it is possible to operate from only one control position at the same time.

Means shall be provided so that the truck and the boom movements can be operated from the cab only when a hold-to-run control device is actuated from the control position in the work platform. This device shall be designed to prevent unintended actuation and sustained involuntary operation.

This mode of operation shall be set using a safety device situated in the work platform complying with the requirements given in prEN 280-1:2018, 5.11 for 5.7.4 and shall not disable the MEWP function mode given in EN 1459-3:2015, 4.1.

If the platform is designed to be used also with less than the maximum number of persons allowed, means shall be provided for the operator in the cab to select the number of persons in the work platform. The selection shall be possible only when the platform is at the access position. If no selection is made, the platform shall not move from the access position.

5 Verification

5.1 General

Verification shall be carried out on each type of truck and work platform combination.

6 Information for use

6.1 General

The instruction handbook shall include the following additional information:

a) prohibition of leaving and entering the work platform where guard-rails are opened or absent if the platform is out of the access position;

b) information on the maximum permitted length of restraint devices and their approved replacements;

c) specification that cancelling the warning in 4.3.3 shall be made only after the operator has checked that each permitted persons on the work platform has worn the restraint device.

6.2 Marking

6.2.1 General

The following symbol, ISO 7010 no. M 018, Figure 1, shall be used to signify that safety harness and lanyard shall be used by each person permitted on the work platform.

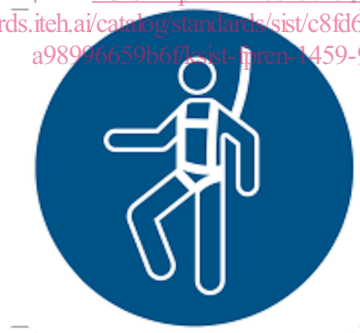

Figure 1 — Safety harness and lanyard

6.2.2 Residual risks

Where residual risks exist despite inherent safe design measures, they shall be legibly and indelibly (e.g. weather proof, profiled letters) marked in accordance with ISO 15870.

Annex A
(informative)

List of significant hazards

This annex contains in Table A.1 all the significant hazards, hazardous situations and events identified by risk assessment as significant for interchangeable equipment and which require action to eliminate or reduce the risk.

Table A.1 — Correspondence of significant hazards

Group	**Significant hazard in accordance with** EN ISO 12100:2010, Table B.1	**Clause(s)/subclause(s) of this EN**
General, for many machines relevant		
1 Mechanical hazards		
1.1	Due to machine parts or workpieces, e.g. — by potential energy (falling objects, height from the ground, gravity)	
	— by kinetic energy (acceleration, deceleration, moving/rotating elements)	
	— by mechanical strength (break-up)	
1.2	by stored energy, e.g.: — elastic elements (springs)	
1.3	Crushing	4.1
1.4	Shearing	
1.5	Cutting or severing	
1.6	Entanglement	
1.7	Drawing-in or trapping	
1.8	Impact	
1.9	Stabbing or puncture	
1.10	Friction or abrasion	
1.11	Injection	
1.12	Slipping, tripping and falling	4.1
1.13	Instability	