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Rough-terrain trucks — Non-integrated personnel work platforms —

Part 1: Design, safety requirements and verification

Chariots tout-terrain — Plate-formes de personnel non-integrées — Partie 1: Conception, exigences de sécurité et vérification

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 110, *Industrial trucks*, Subcommittee SC 4, *Rough-terrain trucks*.

ISO 18479 consists of the following parts, under the general title *Rough-terrain trucks — Non-integrated personnel work platforms*:

— *Part 1: Design, safety requirements and verification*

— *Part 2: User requirements*

Introduction

This part of ISO 18479 is one of a set of International Standards produced by ISO/TC 110/SC 4 as part of its program of work regarding standardization of terminology, general safety, performance and user requirements for rough-terrain trucks (hereafter also referred to as *trucks*).

This part of ISO 18479 only addresses the design and safety requirements for non-integrated personnel work platforms and does not address the rough-terrain truck itself. See ISO 10896-1.

This part of ISO 18479 is a type-C standard as stated in ISO 12100.

Rough-terrain trucks — Non-integrated personnel work platforms —

Part 1: Design, safety requirements and verification

1 Scope

This part of ISO 18479 defines design criteria and safety requirements for non-integrated personnel work platforms (PWPs) which, if approved for use on the rough-terrain truck, can be fitted and secured to the forks, carriage or attachment bracket of a rough-terrain truck to elevate occupants with or without materials and tools to raised work positions without any controls in the platform to control movement.

Design, safety requirements and test methods for variable-reach rough-terrain trucks are covered in ISO 10896-1.

Personnel work platforms equipped with controls which affect movement of the rough-terrain truck are excluded from this part of ISO 18479.

The requirements of this part of ISO 18479 shall apply except where national or local regulations are more stringent.

This part of ISO 18479 is not applicable to non-integrated personnel work platforms manufactured before the date of its publication.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 2867, *Earth-moving machinery — Access systems*

ISO 10896-1, *Rough-terrain trucks — Safety requirements and verification — Part 1: Variable-reach trucks*

ISO 12100, *Safety of machinery — General principles for design — Risk assessment and risk reduction*

ISO 16368, *Mobile elevating work platforms — Design, calculations, safety requirements and test methods*

ISO 18479-2, *Rough-terrain trucks — Non-integrated personnel work platforms — Part 2: User requirements*[1)]

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 10896-1, ISO 12100, ISO 16368, ISO 18479-2 and the following apply.

1) To be published.

3.1
non-integrated personnel work platform
non-integrated PWP
attachment used to lift occupants, tools and materials to elevated work heights without any controls in the platform to control movement fitted to a rough-terrain truck

3.2
ductile material
material that has a minimum elongation before failure of 10 % and adequate notch impact strength at the lowest operating temperature for which the non-integrated PWP is rated

3.3
non-ductile material
brittle material
fibreglass-reinforced plastic material or other materials that do not meet the requirement for ductile materials

3.4
occupant(s)
competent and authorized personnel in the non-integrated PWP who provide direction to the truck operator regarding the positioning of the non-integrated PWP

4 Safety requirements and/or protective/risk reduction measures

4.1 General

Non-integrated PWPs shall comply with the safety requirements and/or protective/risk reduction measures of this Clause.

In addition, the non-integrated PWP shall be designed according to the principles of ISO 12100 for relevant but not significant hazards which are not dealt with by this part of ISO 18479.

If the rough-terrain truck manufacturer approves the use of a non-integrated PWP with a rough-terrain truck, the truck manufacturer shall indicate the non-integrated PWPs which are approved for use formally to the user (i.e., the operators manual or in an official communication).

4.2 Compliance

The manufacturer of the rough-terrain truck shall ensure that the requirements detailed in this Clause are met as part of its approval for use process.

4.3 Actual capacity

The combined mass of the non-integrated PWP, occupants, equipment and materials shall not exceed the truck's actual capacity as indicated on the load chart of the truck for which the non-integrated PWP is approved for use by the truck manufacturer.

Where a non-integrated PWP is used on a truck for which there is no load chart, the combined mass of the non-integrated PWP, occupants, equipment and materials shall not exceed one-third of the actual capacity of the truck.

The non-integrated PWP shall be marked in accordance with 6.2.

4.4 Non-integrated PWP design requirements

4.4.1 Non-integrated PWP materials and dimensions

The work platform shall be made of non-flammable material(s), i.e. materials that will not sustain a flame after the ignition source has been removed.

The work platform floor dimensions which shall not exceed two times the load centre distance listed on the truck nameplate, measured parallel to the longitudinal centre plane of the truck, nor have a transport width greater than the overall width of the truck (measured across the load bearing tires) plus 250 mm on either side.

4.4.2 Guardrail systems

4.4.2.1 Protection

Protection means shall be provided on all sides of the non-integrated PWP to prevent the fall of occupant(s) or materials. The protection means shall be securely fastened to the non-integrated PWP and shall, as a minimum, consist of guardrails at least 1,0 m high, toeguards at least 0,1 m high and intermediate guardrails not further than 0,55 m from either guardrail or toeguards.

Non-integrated PWPs fitted to rough-terrain trucks in those countries where national regulations allow, a minimum of 0,9 m may be applied instead of 1,0 m for the guardrail height [this recognizes national variations in physical stature of occupant(s)].

Vertical posts can be used instead of an intermediate guardrail if the clear horizontal distance between those posts is no more than 180 mm maximum. Clear horizontal space between guardrail segments shall not exceed 120 mm.

Clear horizontal space between toeguard segments shall not exceed 15 mm.

The guardrails shall be constructed to withstand a concentrated load of 890 N, applied at the least favourable position in the least favourable direction without causing permanent deformation of the guardrails.

Guardrails may be folding provided that they remain securely fastened to the non-integrated PWP and are equipped with locking pins secured against unintentional disengagement and loss, or an equally effective means of locking.

4.4.2.2 Anchorage(s)

Anchorage(s) for the connection of a lanyard(s) shall be provided on the non-integrated PWP. These anchorage(s) shall meet the following requirements:

— Each arrest anchorage used as part of a fall arrest system or fall restraint system shall be capable of withstanding a static force of 16 kN without reaching ultimate strength. For anchorages rated for more than one occupant, the strength requirement shall be increased by 20 % for each additional occupant. This strength requirement shall only apply to the anchorage and its attachment to the non-integrated PWP in all possible load directions and shall not be taken into account for the stability calculation and test.

— Each restraint anchorage used as part of a fall arrest system or fall restraint system shall be capable of withstanding a static force of 3 kN without reaching ultimate strength. For anchorages rated for more than one occupant, the strength requirement shall be multiplied by the number of occupants. This strength requirement shall only apply to the anchorage and its attachment to the non-integrated PWP in all possible load directions and shall not be taken into account for the stability calculation and test.

The number of anchorages provided on the non-integrated PWP shall equal or exceed the number of occupants allowed on the platform as determined by the non-integrated PWP manufacturer. More than one occupant may attach to a single anchorage if the anchorage is rated for more than one occupant.

