

---

---

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

**Part 2:  
User requirements**

**iTeh STANDARD PREVIEW** —  
*Chariots tout-terrain — Élément central —*  
*(standards.iteh.ai) Partie 2: Exigences pour l'utilisateur*

[ISO 18479-2:2016](https://standards.iteh.ai/catalog/standards/sist/88169bc1-38cf-40f6-b530-27d93b34b1fc/iso-18479-2-2016)

<https://standards.iteh.ai/catalog/standards/sist/88169bc1-38cf-40f6-b530-27d93b34b1fc/iso-18479-2-2016>



**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

ISO 18479-2:2016

<https://standards.iteh.ai/catalog/standards/sist/88169bc1-38cf-40f6-b530-27d93b34b1fc/iso-18479-2-2016>



**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2016, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
Ch. de Blandonnet 8 • CP 401  
CH-1214 Vernier, Geneva, Switzerland  
Tel. +41 22 749 01 11  
Fax +41 22 749 09 47  
copyright@iso.org  
www.iso.org

# Contents

	Page
<b>Foreword</b> .....	<b>iv</b>
<b>Introduction</b> .....	<b>v</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>1</b>
<b>4 General safety requirements</b> .....	<b>2</b>
4.1 Principles.....	2
4.2 Requirements for the truck when fitted with a non-integrated PWP.....	2
4.2.1 General.....	2
4.2.2 Operator's manual.....	2
4.2.3 Modifications or alterations.....	2
4.2.4 Manufacturer's bulletins.....	3
4.2.5 Truck operator qualifications.....	3
4.2.6 Truck operator's responsibility for training.....	3
4.2.7 Truck operator training.....	3
4.2.8 Testing, retraining and enforcement.....	5
4.2.9 Inspection and maintenance.....	6
4.2.10 Hazardous environments.....	8
<b>5 Operating safety rules and precautions</b> .....	<b>8</b>
5.1 Truck operator's responsibility for safety.....	8
5.2 Visual inspection and functional tests.....	9
5.3 General operating instructions.....	10
5.3.1 Travelling.....	11
5.3.2 Positioning the non-integrated PWP.....	12
5.4 Requirements for use of the non-integrated PWP.....	12
5.4.1 Approved use of the non-integrated PWP.....	12
5.4.2 Capacity of the non-integrated PWP.....	12
5.4.3 Conditions for use.....	13
5.4.4 Operator's manual.....	13
5.4.5 Non-integrated PWP design requirements.....	13
5.4.6 Use of overhead protection.....	13
5.4.7 Attachment of the non-integrated PWP.....	13
5.4.8 Damaged non-integrated PWPs.....	13
5.4.9 Training.....	13
5.4.10 Truck operator's responsibility for the protection of occupants in the non-integrated PWP.....	13
5.4.11 Occupants in the non-integrated PWP's responsibility while in the non-integrated PWP.....	14
<b>Bibliography</b> .....	<b>16</b>

## 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](http://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](http://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 World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

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

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*).

Rough-terrain trucks, when permitted, may be fitted with an integrated or non-integrated personnel work platforms which is designed to elevate occupants and materials to elevated work heights.

See ISO 11525-5 for user requirements for the interface between a rough-terrain truck and an integrated personnel work platform.

## iTeh STANDARD PREVIEW (standards.iteh.ai)

[ISO 18479-2:2016](https://standards.iteh.ai/catalog/standards/sist/88169bc1-38cf-40f6-b530-27d93b34b1fc/iso-18479-2-2016)

<https://standards.iteh.ai/catalog/standards/sist/88169bc1-38cf-40f6-b530-27d93b34b1fc/iso-18479-2-2016>

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

ISO 18479-2:2016

<https://standards.iteh.ai/catalog/standards/sist/88169bc1-38cf-40f6-b530-27d93b34b1fc/iso-18479-2-2016>

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

## Part 2: User requirements

### 1 Scope

This part of ISO 18479, intended to be used together with ISO 18479-1 and ISO 10896-1, defines user requirements for rough-terrain trucks when fitted with a non-integrated personnel work platform (PWP) as an attachment. This includes non-integrated PWPs that have a means of being affixed to the truck forks.

NOTE National or local requirements can apply, which could be more stringent.

User requirements for rough-terrain trucks fitted with a personnel work platform having controls which affect travel or movement of the rough-terrain truck are not covered by this part of ISO 18479 (see ISO 18893).

iTeh STANDARD PREVIEW

### 2 Normative references (standards.iteh.ai)

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 5057, *Industrial trucks — Inspection and repair of fork arms in service on fork-lift trucks*

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

ISO 18479-1, *Rough-terrain trucks — Non-integrated personnel work platforms — Part 1: Design, safety requirements and verification*

### 3 Terms and definitions

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

#### 3.1 personal fall protection equipment PFPE

personal safety system consisting of a full-body harness and lanyard

Note 1 to entry: A *full-body harness* typically is a body support designed to contain the torso and distribute the fall arrest forces over at least the upper thighs, pelvis, chest and shoulders.

Note 2 to entry: A *lanyard* is a component consisting of a flexible rope, wire rope, or strap, which typically has a connector at each end for connecting to the body support and to a fall arrester, energy absorber, anchorage connector, or anchorage.

#### 3.2 truck operator

competent and authorized person who controls the operation of the truck

## 4 General safety requirements

### 4.1 Principles

This part of ISO 18479 shall be supplemented by good management practices, safety controls and application of sound principles of safety, training, inspection, maintenance, application selection and operation. All data available regarding the parameters of intended use and expected environment shall be considered. Those with direct control over the application and operation of the truck and occupants in the non-integrated PWP shall be responsible for the conformance with good safety practices.

NOTE Different operating conditions can require additional safety precautions, training, and special safe operating procedures.

The operation of any truck as well as the non-integrated PWP is subject to certain hazards that can be protected against only by the exercise of care and common sense. It is essential to have competent persons trained in the intended use, safe operation, maintenance and service of this equipment.

The user shall ensure that the operator understands that safe operation of the truck as well as the use of the non-integrated PWP is also the truck operator's responsibility.

The user shall ensure that the truck operator's mental or physical condition will not impair his/her ability to operate the truck.

### 4.2 Requirements for the truck when fitted with a non-integrated PWP

#### 4.2.1 General

The user shall ensure that the precautions as given in 4.2 are taken when using a non-integrated PWP with a rough-terrain truck.

#### 4.2.2 Operator's manual

The user shall ensure that the operator's manual and any additional safety manual provided by the manufacturer with the truck are always available to the truck operator and maintenance personnel.

#### 4.2.3 Modifications or alterations

Except as provided below, no modifications or alterations to a truck or a non-integrated PWP that may affect its capacity, stability or safe operation of the truck fitted with a non-integrated PWP shall be made without the prior written approval of the original truck manufacturer or its successor. When the truck manufacturer or its successor approves a modification or alteration, the user shall be responsible, prior to operation, for ensuring that appropriate changes are made to information plate(s), documents, certificates, labels, tags, and operator's manual(s).

If the truck manufacturer is no longer in business and there is no successor, modifications or alterations to the truck shall be carried out under the following conditions:

- a) the design, testing and implementation of the modification or alteration is made in accordance with ISO 18479-1 by a competent person;
- b) a permanent record is kept of the design, tests and implementation of the modification or alteration;
- c) appropriate changes are made to the information plate(s), documents, certificates, labels, tags, and operator's manual(s);
- d) a permanent and readily visible label is affixed to the truck or non-integrated PWP stating the manner in which the truck or the non-integrated PWP has been modified or altered, together with the date of the modification or alteration, and the name of the person or organization responsible for the design, testing and implementation of the modifications.



#### 4.2.4 Manufacturer's bulletins

The user shall comply with the applicable bulletins as directed by the responsible entity.

#### 4.2.5 Truck operator qualifications

Users shall allow only competent and authorized persons to operate a truck. Truck operators shall be competent to operate the equipment safely, in addition to being trained in accordance with this part of ISO 18479.

#### 4.2.6 Truck operator's responsibility for training

Before operating any truck, the truck operator shall be trained in accordance with 4.2.7 and 5.4.9, and shall have read and be familiar with the operator's manual(s) and any other safety information provided by the manufacturer and user on the particular truck being operated, the application and the environment in which the truck is to be used and any attachments used.

#### 4.2.7 Truck operator training

##### 4.2.7.1 Operator training programme

Personnel who are not considered competent to operate a truck shall operate the truck only as part of the operator training programme. This training shall be conducted under the direct supervision of a trainer.

The operator training programme shall be based on user policies, industry standards, local regulations and policies, operating conditions and the manufacturer's instructions.

NOTE Information on operator training is available from sources including users, truck manufacturers, government agencies dealing with employee safety, trade organizations of truck users, public and private organizations and safety consultants.

The training programme shall emphasize safe and proper operation that avoids injury to the truck operator and others and prevent property damage. The training program shall include the following items.

- a) Information about the truck(s), the trainee will operate:
  - 1) characteristics of the truck(s), including possible variations between truck/non-integrated work platform combinations in the workplace;
  - 2) similarities to, and differences from, other mobile equipment and lifting devices, i.e. an aerial work platform;
  - 3) significance of information plates, load charts, warnings and instructions affixed to the truck;
  - 4) operating and safety instructions in the operator's manual for the truck and for the non-integrated PWP;
  - 5) instructions for inspections and maintenance to be performed by the operator;
  - 6) engine operation;
  - 7) type of drive system and its characteristics;
  - 8) methods of steering and manoeuvring;
  - 9) braking methods and characteristics;
  - 10) visibility, with and without loads;

- 11) load charts for trucks fitted with a non-integrated PWP, how to read and comprehend them and the limitations;
  - 12) explanation of the stability triangle and other stability characteristics affected by stabilizers (if equipped), speed, acceleration, braking, raising or lowering a non-integrated PWP;
  - 13) operation/manoeuvring with a non-integrated PWP affixed, sharp cornering, height, attachments, grade/ramps, centre of gravity of the non-integrated PWP and truck, counterbalance principle;
  - 14) controls and instrumentation, including their location, function and method of operation and the identification of symbols;
  - 15) load-handling capabilities and proper use of forks and other attachments;
  - 16) refuelling and battery charging;
  - 17) guards and protective devices for the specific type of truck;
  - 18) how and when to use stabilizing devices, chassis levelling and other stability-related functions, and examples of improper operation and the risks associated with them;
  - 19) how to correctly use the truck's operator restraints, e.g. seat belt, and other safety devices;
  - 20) how to use personal fall protection equipment (PFPE) in the non-integrated PWP;
  - 21) basic steps to take in the event of a tip-over, e.g. bracing for impact;
  - 22) wheel loadings when loaded and unloaded;
  - 23) when entering and exiting the operator's station, the need to always maintain three points of contact, i.e. one hand and two feet or two hands and one foot;
  - 24) types of attachments and their applications/limitations, and;
  - 25) other characteristics, if any, of the specific truck.
- b) Operation and worksite-related topics:
- 1) surface conditions on which the truck is to be operated, loaded and unloaded, e.g. floor and ground conditions, ramps and inclines, trailers;
  - 2) rules regarding non-integrated PWP positioning at height including ensuring that the truck chassis is level and that the truck is not to be driven with occupants in the non-integrated PWP;
  - 3) pedestrian traffic in areas where the truck is to be used;
  - 4) narrow-aisle and other confined-area operations;
  - 5) potentially hazardous locations where the truck will be operated;
  - 6) overhead obstructions that could crush occupants in the non-integrated PWP if contacted;
  - 7) energized conductors;
  - 8) ramps and gradients and how the stability of the truck could be affected by them;
  - 9) enclosed environments and other areas where insufficient ventilation could result in a concentration of carbon monoxide gas from the engine exhaust;

- 10) other unique or potentially hazardous environmental conditions at the worksite that could affect other workers and the safe operation of the truck.
- c) Information about the non-integrated PWP that occupants will occupy:
- 1) characteristics of the non-integrated PWP;
  - 2) significance of information plates, load charts, warnings and instructions affixed to the non-integrated PWP;
  - 3) operating and safety instructions in the operator's manual for the non-integrated PWP;
  - 4) how to use personal fall protection equipment (PFPE) in the non-integrated PWP;
  - 5) when entering and exiting the non-integrated PWP, the need to always maintain three points of contact, i.e. one hand and two feet or two hands and one foot;
  - 6) instructions for inspections and maintenance to be performed by occupants in the non-integrated PWP.

## 4.2.8 Testing, retraining and enforcement

### 4.2.8.1 Testing

During training, performance and oral and/or written tests, these shall be given by the examiner to measure the skill and knowledge of the trainee in meeting the requirements of the operator training programme based on this part of ISO 18479. Examiners shall establish a pass/fail requirement for such tests. The user shall verify that the testing has been satisfactorily performed.

Following the completion of instruction and practice, all trainees shall be evaluated.

The evaluation shall be conducted on the specific work tasks including the following items:

- a) preoperational inspection;
- b) function test;
- c) start-up;
- d) travelling (including pedestrian safety);
- e) non-integrated PWP selection and its proper securement to the attachment and forks;
- f) non-integrated PWP positioning;
- g) attachment of personal fall protection equipment (PFPE);
- h) handling specific to docks, trucks, and rail cars;
- i) driving on ramps and grades;
- j) proper use of the truck's safety features;
- k) shutdown;
- l) refuelling/recharging;
- m) operational maintenance.

Records shall be retained in accordance with [4.2.8.4](#).