



BSI Standards Publication

## Rough-terrain trucks - Safety requirements and verification

---

Part 8: Variable-reach tractors

## National foreword

This Published Document is the UK implementation of CEN/TS 1459-8:2018.

The UK participation in its preparation was entrusted to Technical Committee MHE/7, Industrial trucks.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

© The British Standards Institution 2018  
Published by BSI Standards Limited 2018

ISBN 978 0 580 96478 7

ICS 53.060

**Compliance with a British Standard cannot confer immunity from legal obligations.**

This Published Document was published under the authority of the Standards Policy and Strategy Committee on 30 September 2018.

### Amendments/corrigenda issued since publication

Date	Text affected
------	---------------

---

TECHNICAL SPECIFICATION  
 SPÉCIFICATION TECHNIQUE  
 TECHNISCHE SPEZIFIKATION

**CEN/TS 1459-8**

September 2018

ICS 53.060

English Version

**Rough-terrain trucks - Safety requirements and  
 verification - Part 8: Variable-reach tractors**

Chariots tout-terrain - Prescriptions de sécurité et  
 vérification - Partie 8 : Tracteurs à portée variable

Geländegängige Flurförderzeuge -  
 Sicherheitsanforderungen und Verifizierung - Teil 8:  
 Traktoren mit veränderlicher Reichweite

This Technical Specification (CEN/TS) was approved by CEN on 6 May 2018 for provisional application.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

CEN members are required to announce the existence of this CEN/TS in the same way as for an EN and to make the CEN/TS available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force (in parallel to the CEN/TS) until the final decision about the possible conversion of the CEN/TS into an EN is reached.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

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

<b>Contents</b>	<b>Page</b>
<b>European foreword</b> .....	<b>3</b>
<b>Introduction</b> .....	<b>4</b>
<b>1 Scope</b> .....	<b>5</b>
<b>2 Normative references</b> .....	<b>5</b>
<b>3 Terms and definitions</b> .....	<b>7</b>
<b>4 Safety requirements and/or protective measures</b> .....	<b>12</b>
4.1 General.....	12
4.2 Starting/moving .....	13
4.3 Brakes.....	14
4.4 Electrical and electronic systems.....	14
4.5 Controls.....	15
4.6 Power systems and accessories .....	18
4.7 Stabilizing devices .....	19
4.8 Design requirements for maintenance purposes.....	22
4.9 Systems for lifting, tilting and reaching .....	22
4.10 Operator's station .....	25
4.11 Operator access.....	29
4.12 Protective measures and devices .....	29
4.13 Stability requirements .....	30
4.14 Visibility.....	30
4.15 Lighting.....	30
4.16 Fire protection .....	31
4.17 Retrieval, transportation and lifting.....	31
4.18 Noise .....	31
4.19 Electromagnetic compatibility.....	32
<b>5 Verification of requirements and safety measures</b> .....	<b>32</b>
5.1 General.....	32
5.2 Functional verification.....	32
5.3 Structural verification .....	32
5.4 Load holding verification .....	33
<b>6 Information for use</b> .....	<b>33</b>
6.1 General.....	33
6.2 Signals and warning.....	34
6.3 Instruction handbook.....	38
6.4 Marking for the permanently mounted equipment .....	41
6.5 Load chart .....	42
<b>Annex A (informative) List of significant hazards</b> .....	<b>44</b>
<b>Annex B (informative) Consistency of motions</b> .....	<b>50</b>
<b>Annex C (informative) Rules for the construction and layout of pedals</b> .....	<b>51</b>
C.1 Definitions .....	51
C.2 Requirements .....	51
C.3 Design and manufacture.....	52
<b>Bibliography</b> .....	<b>54</b>

## European foreword

This document (CEN/TS 1459-8:2018) has been prepared by Technical Committee CEN/TC 150 "Industrial trucks - Safety", the secretariat of which is held by BSI.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

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 suspended loads*
- *Part 5: Additional requirements for attachments and attachment interface*
- *Part 6: Application of EN ISO 13849-1 to slewing and non-slewing variable-reach rough-terrain trucks (Technical Report)*
- *Part 7: Test method and determination of noise emission (in preparation) for variable-reach trucks*
- *Part 8: Variable-reach tractors (Technical Specification)*

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## Introduction

This document is applicable to rough-terrain variable-reach trucks homologated as tractors according to 167/2013, called rough-terrain variable-reach tractors (RTVR tractors).

This document is also intended to highlight and explain the requirements of the Machinery Directive 2006/42/EC applicable to the permanently mounted equipment on a RTVR tractor.

It is based on EN 1459-1:2017.

The two following regulations apply to those RTVR tractors with permanently mounted equipment:

Tractor regulation 167/2013

Machinery directive 2006/42/CE for the permanently mounted equipment.

As a consequence, the two following documents accompany each piece of equipment:

- COC certificate of conformity
- DOC declaration of conformity for permanently mounted equipment

The permanently mounted equipment bears the CE marking.

All quantities are in SI units, and this includes metric units.

This document is a type C standard as stated in EN ISO 12100.

The machinery concerned and the extent to which hazards, hazardous situations and hazardous events are covered are indicated in the scope of this document.

When provisions of this type C standard are different from those which are stated in type A or B standards, the provisions of this type C standard take precedence over the provisions of the other standards, for machines that have been designed and built according to the provisions of this type C standard.

## 1 Scope

This document specifies requirements related to permanent mounted equipment for rough-terrain variable-reach tractors (here-after referred to as “RTVR tractors”) and additional requirements for the combination.

This document does not apply to:

- machines designed primarily for earth moving, even if their buckets and blades are replaced with forks (see EN 474 series);
- attachments.

This document does not address hazards which may occur

- a) when handling suspended loads which may swing freely;
- b) when using RTVR tractors on public roads;
- c) when operating in potentially explosive atmospheres;
- d) when operating underground;
- e) when towing trailers;
- f) when fitted with a personnel work platform (additional requirements are given in EN 1459-3);
- g) when using cruise-control.

This document does not provide a method of calculation for fatigue and strength of material.

This document is not applicable to RTVR tractors manufactured before the date of its publication.

## 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 1175-2:1998+A1:2010, *Safety of industrial trucks - Electrical requirements - Part 2: General requirements of internal combustion engine powered trucks*

EN 1459-5, *Rough terrain trucks - Safety requirements and verification - Part 5: Attachments and attachment interface*<sup>1</sup>

EN 15000:2008, *Safety of industrial trucks - Self propelled variable reach trucks - Specification, performance and test requirements for longitudinal load moment indicators and longitudinal load moment limiters*

EN 15830:2012, *Rough-terrain variable reach trucks - Visibility - Test methods and verification*

EN 60529:1991, *Degrees of protection provided by enclosures (IP Code) (IEC 60529:1989)*<sup>2</sup>

---

<sup>1</sup> Under preparation. Stage at time of publication: prEN 1459-5:2018.