

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.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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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*¹

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)*²

¹ Under preparation. Stage at time of publication: prEN 1459-5:2018.

EN 62061, *Safety of machinery - Functional safety of safety-related electrical, electronic and programmable electronic control systems (IEC 62061)*

EN ISO 3449:2008, *Earth-moving machinery - Falling-object protective structures - Laboratory tests and performance requirements (ISO 3449:2005)*

EN ISO 3457, *Earth-moving machinery - Guards - Definitions and requirements (ISO 3457)*

EN ISO 3471:2008, *Earth-moving machinery - Roll-over protective structures - Laboratory tests and performance requirements (ISO 3471:2008)*

EN ISO 4413:2010, *Hydraulic fluid power - General rules and safety requirements for systems and their components (ISO 4413:2010)*

EN ISO 5353, *Earth-moving machinery, and tractors and machinery for agriculture and forestry - Seat index point (ISO 5353)*

EN ISO 12100:2010, *Safety of machinery - General principles for design - Risk assessment and risk reduction (ISO 12100:2010)*

EN ISO 13849-1, *Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design (ISO 13849-1)*

EN ISO 13850, *Safety of machinery - Emergency stop function - Principles for design (ISO 13850)*

EN ISO 13857, *Safety of machinery - Safety distances to prevent hazard zones being reached by upper and lower limbs (ISO 13857)*

ISO 5053-1:2015, *Industrial trucks — Terminology and classification — Part 1: Types of industrial trucks*

ISO 6011:2003, *Earth-moving machinery — Visual display of machine operation*

ISO 7000, *Graphical symbols for use on equipment — Registered symbols*

ISO 9533, *Earth-moving machinery — Machine-mounted audible travel alarms and forward horns — Test methods and performance criteria*

ISO 10263-2, *Earth-moving machinery — Operator enclosure environment — Part 2: Air filter element test method*

ISO 10263-3, *Earth-moving machinery — Operator enclosure environment — Part 3: Pressurization test method*

ISO 10263-4, *Earth-moving machinery — Operator enclosure environment — Part 4: Heating, ventilating and air conditioning (HVAC) test method and performance*

ISO 13333, *Earth-moving machinery — Dumper body support and operator's cab tilt support devices*

ISO 15817:2012, *Earth-moving machinery — Safety requirements for remote operator control systems*

² This European Standard is impacted by the amendments EN 60529:1991/A1:2000 and EN 60529:1991/A2:2013.

ISO 15818, *Earth-moving machinery - Lifting and tying-down attachment points - Performance requirements*

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

ISO 16528-1, *Boilers and pressure vessels — Part 1: Performance requirements*

ISO 16528-2, *Boilers and pressure vessels — Part 2: Procedures for fulfilling the requirements of ISO 16528-1*

ISO 21507, *Earth-moving machinery — Performance requirements for non-metallic fuel tanks*

ISO 22915-10, *Industrial trucks — Verification of stability — Part 10: Additional stability test for trucks operating in the special condition of stacking with load laterally displaced by powered devices*

ISO 22915-14, *Industrial trucks — Verification of stability — Part 14: Rough-terrain variable-reach trucks*

ISO 22915-20, *Industrial trucks — Verification of stability — Part 20: Additional stability test for trucks operating in the special condition of offset load, offset by utilization*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 12100:2010, ISO 5053-1:2015 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

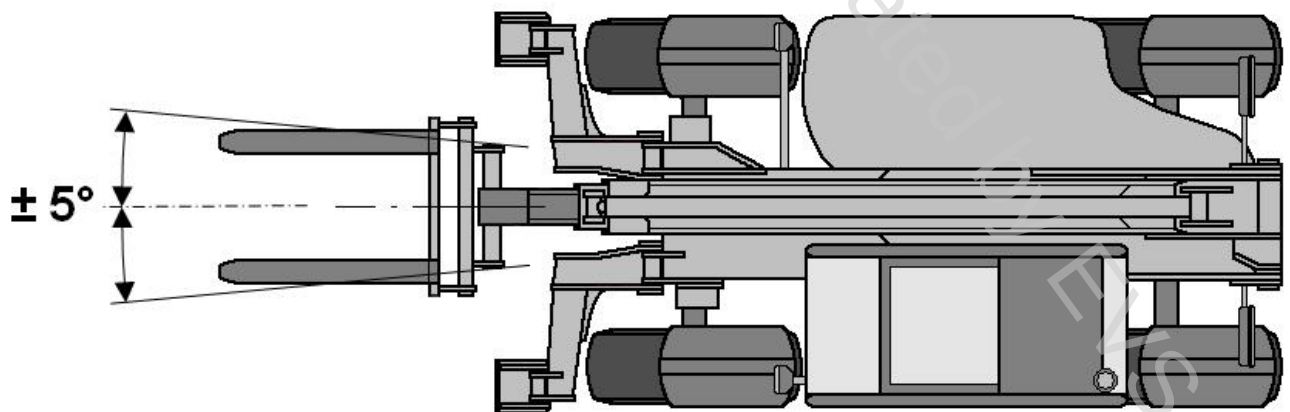
- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1

rough-terrain variable-reach tractor

RTVR tractor

tractor with a permanently mounted telescopic material handler non-slewing or having a slewing movement of not more than 5° either side of the longitudinal axis of the tractors used for stacking loads with or without stabilizers



a)