



SLOVENSKI STANDARD
oSIST prEN 474-7:2017
01-junij-2017

Stroji za zemeljska dela - Varnost - 7. del: Zahteve za grabilnike (skreperje)

Earth-moving machinery - Safety - Part 7: Requirements for scrapers

Engins de terrassement - Sécurité - Partie 7 : Prescriptions applicables aux décapeuses

Ta slovenski standard je istoveten z: prEN 474-7

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ICS:

53.100 Stroji za zemeljska dela Earth-moving machinery

oSIST prEN 474-7:2017

en,fr,de

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

DRAFT
prEN 474-7

March 2017

ICS 53.100

Will supersede EN 474-7:2006+A1:2009

English Version

Earth-moving machinery - Safety - Part 7: Requirements for scrapers

Engins de terrassement - Sécurité - Partie 7 :
Prescriptions applicables aux décapeuses

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 151.

If this draft becomes a European Standard, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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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 474-7:2017) has been prepared by Technical Committee CEN/TC 151 “Construction equipment and building material machines - Safety”, the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 474-7:2006+A1:2009.

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).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

For bibliographic references, see prEN 474-1:2017.

prEN 474 “Earth-moving machinery — Safety” comprises the following parts:

- Part 1: General requirements
- Part 2: Requirements for tractor-dozers
- Part 3: Requirements for loaders
- Part 4: Requirements for backhoe-loaders
- Part 5: Requirements for hydraulic excavators
- Part 6: Requirements for dumpers
- Part 7: Requirements for scrapers
- Part 8: Requirements for graders
- Part 9: Requirements for pipelayers
- Part 10: Requirements for trenchers
- Part 11: Requirements for earth and landfill compactors
- Part 12: Requirements for cable excavators
- Part 13: Requirements for rollers

This European Standard is intended for use in combination with part 1 of the series.

prEN 474-7:2017 (E)**Introduction**

This part of prEN 474-1 deals with all significant hazards, hazardous situations and events relevant to wheel and crawler scrapers except towed scrapers as defined in EN ISO 6165:2012, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4).

The requirements of this part are complementary to the common requirements formulated in prEN 474-1:2017.

This part does not repeat the requirements from prEN 474-1:2017, but adds or replaces the requirements for application for scrapers.

This part specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards, hazardous situations and events during commissioning, operation and maintenance of scrapers.

This European Standard is not applicable to scrapers manufactured before the date of publication of this European Standard by CEN.

1 Scope

This part of EN 474 deals with all significant hazards, hazardous situations and events relevant to wheel and crawler scrapers except towed scrapers as defined in EN ISO 6165:2012, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4).

The requirements of this part are complementary to the common requirements formulated in prEN 474-1:2017.

This part does not repeat the requirements from prEN 474-1:2017, but adds or replaces the requirements for application for scrapers.

This part specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards, hazardous situations and events during commissioning, operation and maintenance of scrapers.

This European Standard is not applicable to scrapers manufactured before the date of publication of this European Standard by CEN. Pedestrian controlled dumpers are excluded from scope of this European Standard.

This European Standard is not applicable to dumpers, manufactured before the date of publication of this European Standard by CEN.

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.

prEN 474-1:2017, *Earth-moving machinery — Safety — Part 1: General requirements*

EN ISO 7096:2008, *Earth-moving machinery — Laboratory evaluation of operator seat vibration (ISO 7096:2000)*

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

ISO 6393:2008, *Earth-moving machinery — Determination of sound power level — Stationary test conditions*

ISO 6394:2008, *Earth-moving machinery — Determination of emission sound pressure level at operator's position — Stationary test conditions*

ISO 10268:1993, *Earth-moving machinery — Retarders for dumpers and tractor-scrappers — Performance tests*

3 Terms and definitions

For the purposes of this document, the terms and definitions for prEN 474-1:2017, EN ISO 12100:2010 and the following apply.

Note 1 to entry: Terminology for scrapers is specified in ISO 7133:2013 and illustrated in Annex B of this European Standard.

Note 2 to entry: Crawler scrapers are not covered in ISO 7133:2013 but are illustrated in Annex B of this European Standard.

Note 3 to entry: Definitions used in EN and ISO standards referred to in this European Standard are also valid for this document.

3.1

scraper

self-propelled or towed crawler or wheeled machine, which has a bowl with a cutting edge positioned between the axles and which cuts, loads, transports, discharges and spreads material through a forward motion (ISO 6165:2012)

Note 1 to entry: The loading through a forward motion can be assisted by a powered mechanism (elevator) fixed to the scraper bowl.

3.2

towed scraper

scraper (3.1) that is not self-propelled but which is propelled instead by a towing machine on which the operator's station is located List of additional significant hazards

4 List of additional significant hazards

See Annex A.

NOTE Annex A (normative) contains all the significant hazards, hazardous situations and events, as far as they are dealt with in this document, identified by risk assessment as significant for this type of machinery and which require action to eliminate or reduce the risk.

5 Safety requirements and/or measures

5.1 General

Scrapers shall comply with the requirements of prEN 474-1:2017, as far as not modified or replaced by the requirements of this part.

5.2 Operator's seat

prEN 474-1:2017, 5.4.1 shall apply with the addition that the seat shall meet the input spectral class EM2 according to EN ISO 7096:2008 for scrapers without axle or frame suspension.

prEN 474-7:2017 (E)**5.3 Retarder**

If a retarder system is installed it shall meet the requirements of ISO 10268:1993.

5.4 Articulated frame lock

prEN 474-1:2017, 5.14.5 does not apply to scrapers.

5.5 Towing device

prEN 474-1:2017, 5.15.5 shall apply with the following exception:

Attachment points (push plates, arc equipment etc.) on scrapers that are there only to permit two scrapers to assist each other in loading, are not deemed to be towing devices as defined in prEN 474-1:2017, 5.15.5.

5.6 Noise**5.6.1 Sound power level**

prEN 474-1:2017, 5.13.2.1 shall apply and the sound power level for scrapers shall be measured according to ISO 6393:2008.

5.6.2 Emission sound pressure level at operator's station

prEN 474-1:2017, 5.13.2.2 shall apply and the emission sound pressure level at operator's station for scrapers shall be measured according to ISO 6394:2008.

6 Information for use

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prEN 474-1:2017, 7.2 shall apply with the following additions:

- instructions for the use of push-blades;
- instructions for use and maintenance for elevator and auger.

Annex A (normative)

List of additional significant hazards – Scrapers

The list of hazards in prEN 474-1:2017, Annex A, applies with the following additions:

Table A.1 — List of additional significant hazards

No. ^a	Hazard	Relevant clauses of this European Standard
	Hazards, hazardous situations and hazardous events	
1	Mechanical hazards due to:	
	— machine parts or working tools, e.g.: mass and stability, mechanical strength.	5.5
4	Hazards generated by noise	5.6
	Additional hazards, hazardous situations and hazardous events due to mobility	
18	Relating to travelling functions	
18.4	Travelling functions	5.5
18.6	Insufficient stability of machinery to be slowed down, stopped and immobilised	5.3
19	Linked to operator's station on the machine	
19.7	Inadequate seating	5.2
24	Insufficient instructions for the operator (operation manual, signs, warnings and markings)	Clause 6
^a Number refers to prEN 474-1:2017, Annex A.		

Annex B (informative)

Illustrations

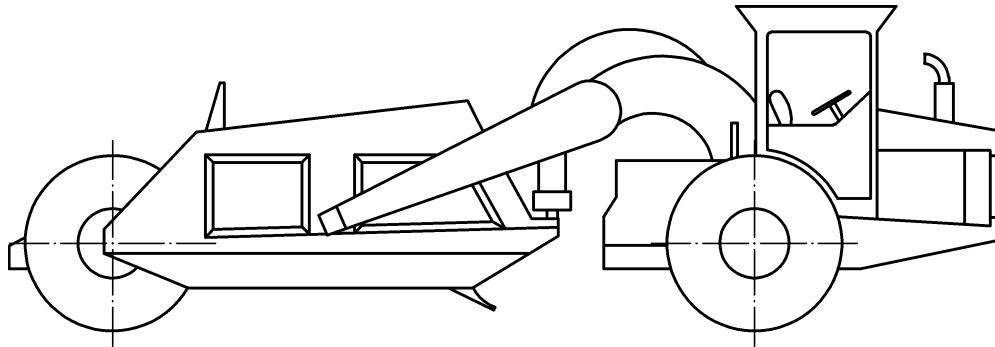


Figure B.1 — Wheel scraper without elevator

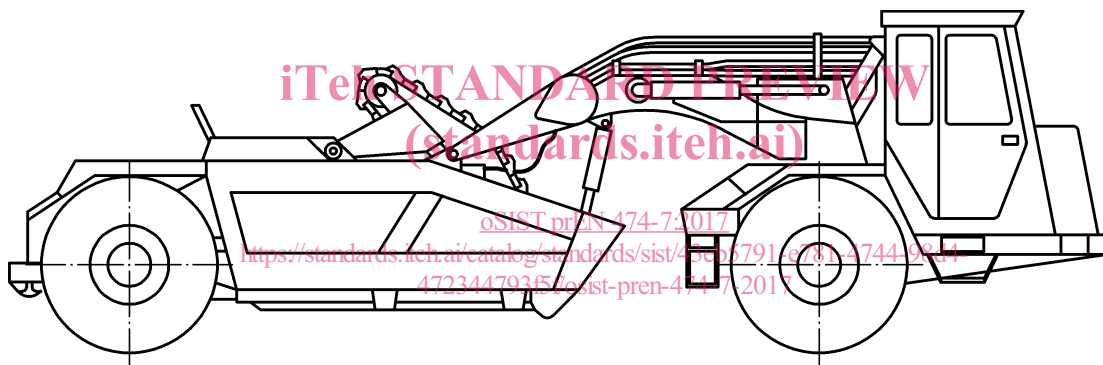


Figure B.2 — Wheel scraper with elevator

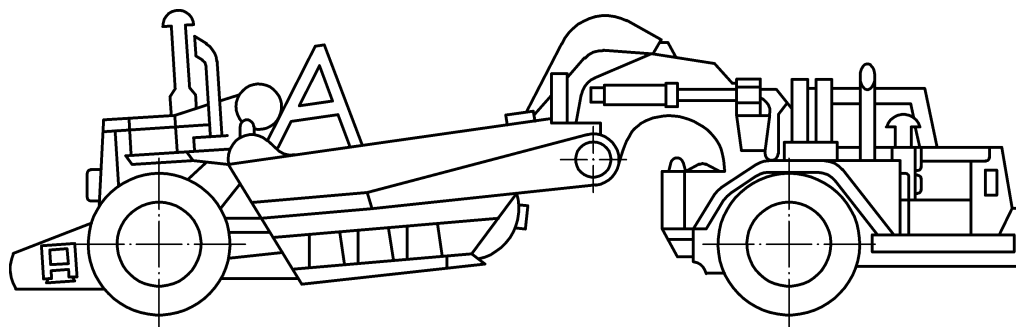


Figure B.3 — Wheel scraper with two engines