



BSI Standards Publication

Earth-moving machinery — Safety

Part 1: General requirements

This is a preview of "BS EN 474-1:2006+A6:...". [Click here to purchase the full version from the ANSI store.](#)

National foreword

This British Standard is the UK implementation of EN 474-1:2006+A6:2019, incorporating corrigendum March 2014. It supersedes BS EN 474-1:2006+A5:2018, which is withdrawn.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to CEN text carry the number of the CEN amendment. For example, text altered by CEN amendment A1 is indicated by A1 A1.

The start and finish of text introduced or altered by corrigendum is indicated in the text by tags. Text altered by CEN corrigendum March 2014 is indicated in the text by AC AC.

The UK participation in its preparation was entrusted to Technical Committee B/513/1, Earth moving machinery (International).

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 2019
Published by BSI Standards Limited 2019

ISBN 978 0 580 98916 2

ICS 53.100

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

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 28 February 2007.

Amendments/corrigenda issued since publication

Date	Text affected
31 July 2009	Implementation of CEN amendment A1:2009
31 October 2013	Implementation of CEN amendment A3:2013 and A4:2013
31 May 2014	Implementation of CEN corrigendum March 2014: Subclause G.2.5.3 updated
31 May 2018	Implementation of CEN amendment A5:2018
30 November 2019	Implementation of CEN amendment A6:2019

This is a preview of "BS EN 474-1:2006+A6:...". Click here to purchase the full version from the ANSI store.

EUROPÄISCHE NORM

October 2019

ICS 53.100

Supersedes EN 474-1:2006+A5:2018

English Version

Earth-moving machinery - Safety - Part 1: General requirements

Engins de terrassement - Sécurité - Partie 1:
Prescriptions générales

Erdbaumaschinen - Sicherheit - Teil 1: Allgemeine
Anforderungen

This European Standard was approved by CEN on 1 October 2017 and includes Amendment 6 approved by CEN on 9 August 2019.

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. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.





This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, 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

Contents	Page
European foreword	3
Introduction	5
1 Scope	6
2 Normative references	7
3 Terms and definitions	10
4 List of significant hazards	12
5 Safety requirements and/or measures	12
6 Verification of safety requirements/measures	30
7 Information for use	31
Annex A (normative) List of significant hazards	36
Annex B (normative)  Requirements for attachment and quick coupler 	41
Annex C (informative) Requirements for no-text safety signs	42
Annex D (normative) Requirements for elevating operator's station	44
Annex E (normative) Requirements for lifting device(s) used for object handling application	46
Annex F (normative) Requirements for earth-moving machinery used in underground working in non-explosive atmosphere	52
Annex G (normative)  Demolition machinery	55
Annex ZA (informative)  Relationship between this European Standard and the essential requirements of Directive 2006/42/EC machinery, and amending Directive 95/16/EC (recast) [2006 L157] aimed to be covered	60
Bibliography	65

This is a preview of "BS EN 474-1:2006+A6:...". Click here to purchase the full version from the ANSI store.

European foreword

This document (EN 474-1:2006+A6:2019) 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 European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2020, and conflicting national standards shall be withdrawn at the latest by April 2020.

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.

This document includes Corrigendum 1 issued by CEN on 2014-03-05, Amendment 1, approved by CEN on 2009-01-04, Amendment 3, approved by CEN on 2013-01-06, Amendment 4, approved by CEN on 2013-08-10, Amendment 5, approved by CEN on 2017-10-01 and Amendment 6, approved by CEN on 2019-08-09.

This document supersedes A6 EN 474-1:2006+A5:2018 A6.

The start and finish of text introduced or altered by amendment is indicated in the text by tags A1 A1 and A3 A3 and A4 A4 and A5 A5 and A6 A6.

The modifications of the related CEN Corrigendum have been implemented at the appropriate places in the text and are indicated by the tags AC AC.

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.

A1 For relationship with EU Directive(s), see A3 informative Annex ZA A3, which is an integral part of this document. A1

EN 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 pipe-layers*
- *Part 10: Requirements for trenchers*

This is a preview of "BS EN 474-1:2006+A6:...". [Click here to purchase the full version from the ANSI store.](#)

— *Part 11: Requirements for earth and landfill compactors*

— *Part 12: Requirements for cable excavators*

For specific machines covered by other parts of the standard, this European Standard is intended for use in combination with relevant other parts of the series.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

This is a preview of "BS EN 474-1:2006+A6:...". [Click here to purchase the full version from the ANSI store.](#)

Introduction

This part of EN 474 is a type C standard as stated in EN ISO 12100-1:2003.

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

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 **A3** European Standard **A3** specifies the general safety requirements for earth-moving machinery¹⁾ described in EN ISO 6165:2006, except rollers and horizontal directional drill.

NOTE 1 Rollers are covered by EN 500.

NOTE 2 Horizontal directional drills are covered by EN 791.

This **A3** European Standard **A3** also applies to derivative machinery (see 3.1.2) designed primarily for use with equipment to loosen, pick-up, move, transport, distribute and grade earth and rock.

This **A3** European Standard **A3** gives the common safety requirements for earth-moving machinery families and is intended to be used in conjunction with one of the EN 474 parts 2 to 12. These machine specific parts (EN 474-2 to -12) do not repeat the requirements from **A1** EN 474-1:2006+A1:2009 **A1**, but add or replace the requirements for the family in question.

NOTE 3 The requirements specified in this part of the standard are common to two or more families of earth-moving machinery.

A4 This part gives specific requirements for demolition machinery. **A4**

Specific requirements in EN 474 parts 2 to 12 take precedence over the respective requirements of **A1** EN 474-1:2006+A1:2009 **A1**.

For multipurpose machinery the parts of the standard that cover the specific functions and applications have to be used e.g. a compact loader also used as a trencher shall use the relevant requirements of EN 474 parts 1, 3 and 10.

The standard also covers general requirements for attachments intended to be used with earth moving machine families covered in the scope.

A1 Except for part 12 this European Standard does not deal **A1** with the electrical hazards related to the main circuits and drives of machinery when the principal source of energy is electrical.

A1 This European Standard does not deal with towing of trailers. **A1**

This European Standard deals with all significant hazards, hazardous situations and events relevant to earth-moving machinery, when used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard 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 earth-moving machinery.

This European Standard is not applicable to earth moving machines, which are manufactured before the date of publication of this European Standard by CEN.

¹⁾ For travelling on public roads the national traffic regulations apply until harmonised requirements are available. (A CEN-standard is under preparation.)