

This is a preview of "BS EN 1915-1:2013". [Click here to purchase the full version from the ANSI store.](#)

BS EN 1915-1:2013



BSI Standards Publication

Aircraft ground support equipment — General requirements

Part 1: Basic safety requirements

NO COPYING WITHOUT BSI PERMISSION EXCEPT AS PERMITTED BY COPYRIGHT LAW

raising standards worldwide™



This is a preview of "BS EN 1915-1:2013". [Click here to purchase the full version from the ANSI store.](#)

This British Standard is the UK implementation of EN 1915-1:2013. It supersedes BS EN 1915-1:2001+A1:2009 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee ACE/57, Air cargo and ground support equipment.

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 2013. Published by BSI Standards Limited 2013

ISBN 978 0 580 70182 5

ICS 49.100

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 31 January 2013.

Amendments issued since publication

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

This is a preview of "BS EN 1915-1:2013". [Click here to purchase the full version from the ANSI store.](#)

EUROPÄISCHE NORM

January 2013

ICS 49.100

Supersedes EN 1915-1:2001+A1:2009

English Version

Aircraft ground support equipment - General requirements - Part 1: Basic safety requirements

Matériels au sol pour aéronefs - Exigences générales -
Partie 1 : Exigences fondamentales de sécurité

Luftfahrt-Bodengeräte - Allgemeine Anforderungen - Teil 1:
Grundlegende Sicherheitsanforderungen

This European Standard was approved by CEN on 24 November 2012.

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



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

Management Centre: Avenue Marnix 17, B-1000 Brussels

This is a preview of "BS EN 1915-1:2013". [Click here to purchase the full version from the ANSI store.](#)

Contents	Page
Foreword.....	4
Introduction	6
1 Scope.....	7
2 Normative references.....	8
3 Terms and definitions	9
4 List of hazards.....	11
5 Safety requirements and/or protective measures.....	11
5.1 General	11
5.2 Accommodation for driver and other persons.....	12
5.3 Driver's cabin	12
5.4 Controls.....	13
5.5 Safety related parts.....	15
5.6 Monitoring devices and displays.....	15
5.7 Steering devices.....	15
5.8 Brakes for travelling purposes or equivalent devices.....	16
5.9 Wheel assemblies - Centre split rims.....	17
5.10 Touchable surfaces - Exhaust.....	17
5.11 Lights and reflectors for traffic purposes	17
5.12 Auditory signal devices	18
5.13 Standing areas and walkways on GSE.....	18
5.14 Means of access.....	20
5.15 Crushing and shearing points	20
5.16 Securing of load.....	21
5.17 Moveable bodies, assemblies and attachments	21
5.18 Hydraulic and pneumatic systems	21
5.19 Stability and strength.....	22
5.20 Lifting systems.....	23
5.21 Lifting devices.....	23
5.22 Lifting/work platforms.....	24
5.23 Operating speeds.....	24
5.24 Towing couplings, drawbars and towbars.....	25
5.25 Service connections	25
5.26 Electrical design, components and batteries	25
5.27 Fire protection.....	26
5.28 Lasers.....	26
6 Information for use.....	26
6.1 Marking.....	26
6.2 Instructions	28
7 Verification of safety requirements and/or measures	28
7.1 General	28
7.2 Guard rails.....	29
7.3 Ladders.....	29
Annex A (normative) List of hazards.....	30
Annex B (informative) Trilingual list of GSE	34
Annex C (normative) Design of service brakes	35
C.1 Self-propelled GSE.....	35

This is a preview of "BS EN 1915-1:2013". [Click here to purchase the full version from the ANSI store.](#)

C.2	GSE trains	36
Annex D	(normative) Types of access to GSE	37
D.1	Rung type and ladder steps	37
D.2	Stepladders	40
D.3	Stairs	41
D.4	Footholds	42
Annex E	(informative) Examples of safety measures to reduce the risk of crushing and shearing under the load carrier when it is not possible to meet the requirements in 5.15	44
Annex F	(informative) Examples for hose and fittings installation	45
F.1	General	45
F.2	Avoidance of external damage	47
F.3	Reducing bending stress	47
F.4	Avoidance of torsional stress	47
F.5	Installation aids	48
F.6	Protection against external temperature rises	49
Annex G	(normative) Falling hazard symbol	50
Annex ZA	(informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC on machinery	51
	Bibliography	52

This is a preview of "BS EN 1915-1:2013". Click here to purchase the full version from the ANSI store.

Foreword

This document (EN 1915-1:2013) has been prepared by Technical Committee CEN/TC 274 "Aircraft ground support equipment", 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 July 2013, and conflicting national standards shall be withdrawn at the latest by July 2013.

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

This document supersedes EN 1915-1:2001+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.

EN 1915, *Aircraft ground support equipment — General requirements*, consists of the following parts:

- *Part 1: Basic safety requirements* (the present document);
- *Part 2: Stability and strength requirements, calculations and test methods*;
- *Part 3: Vibration measurement methods and reduction*;
- *Part 4: Noise measurement methods and reduction*.

EN 12312, *Aircraft ground support equipment — Specific requirements*, consists of the following parts:

- *Part 1: Passenger stairs*;
- *Part 2: Catering vehicles*;
- *Part 3: Conveyor belt vehicles*;
- *Part 4: Passenger boarding bridges*;
- *Part 5: Aircraft fuelling equipment*;
- *Part 6: Deicers and deicing/antiicing equipment*;
- *Part 7: Air-craft movement equipment*;
- *Part 8: Maintenance stairs and platforms*;
- *Part 9: Container/Pallet loaders*;
- *Part 10: Container/Pallet transfer transporters*;
- *Part 11: Container/Pallet dollies and loose load trailers*;

This is a preview of "BS EN 1915-1:2013". [Click here to purchase the full version from the ANSI store.](#)

- *Part 12: Potable water service equipment;*
- *Part 13: Lavatory service equipment;*
- *Part 14: Disabled/incapacitated passenger boarding vehicles;*
- *Part 15: Baggage and equipment tractors;*
- *Part 16: Air start equipment;*
- *Part 17: Air conditioning equipment;*
- *Part 18: Nitrogen or Oxygen units;*
- *Part 19: Aircraft jacks, axle jacks and hydraulic tail stanchions;*
- *Part 20: Electrical ground power units.*

The main changes compared to the previous edition are:

- a) Amendment A1:2009 was incorporated;
- b) the Scope was updated;
- c) Clause 2, Normative references, was updated;
- d) more terms and definitions were added;
- e) List of hazards was moved to Annex A (the following Annexes were re-numbered);
- f) 5.2, 5.3, 5.4 were changed;
- g) 5.5, Safety related parts, was inserted, thus making it necessary to re-number the following clauses;
- h) 5.6 to 5.28 were changed and re-numbered;
- i) 6.2 was changed;
- j) Clause 7 was changed;
- k) a term was added to the trilingual list of GSE in Annex B;
- l) Clauses D.2, D.3 and D.4 were added;
- m) Annex G was added;
- n) Annex ZA referring to the Machinery directive 98/37/EC was replaced by Annex ZA referring to the new Machinery directive 2006/42/EC;
- o) the Bibliography was updated.

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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

This is a preview of "BS EN 1915-1:2013". [Click here to purchase the full version from the ANSI store.](#)

Introduction

The abbreviation GSE means a complete item of aircraft ground support equipment in the context of this European Standard.

When compiling this European Standard it was assumed that:

- a) GSE is operated only by competent persons on the airport ramp;
- b) components without specific requirements are:
 - 1) designed in accordance with good engineering practice and calculation codes;
 - 2) of sound mechanical and electrical construction;
 - 3) made of materials with adequate strength and of suitable quality;
 - 4) made of materials free of defects;
- c) materials known to be harmful, such as asbestos, are not used as part of GSE;
- d) components are kept in good repair and working order, so that the required characteristics remain despite wear;
- e) by design of the load bearing elements, a safe operation of the machine is assured for loading ranges from zero to 100 % of the rated possibilities and during tests;
- f) the particular conditions of use and place of use have been established;
- g) the place of operation allows a safe use of GSE.

The extent to which hazards are covered is indicated in the scope of this European Standard.

Enumerations in this European Standard are not to be considered exclusive, they are compiled according to the present state of the art.

The minimum essential criteria are considered to be of primary importance in providing safe, economical and usable GSE. Deviations should occur only after careful consideration, extensive testing and thorough in service evaluation have shown alternative methods or conditions to be satisfactory. Such deviations are outside the scope of this standard and a manufacturer should be able to demonstrate an equivalent level of protection.

This European Standard is a Type C standard as defined in EN ISO 12100.

This is a preview of "BS EN 1915-1:2013". [Click here to purchase the full version from the ANSI store.](#)

1 Scope

This European Standard applies to GSE when used in civil air transport as intended by the manufacturer and contains safety requirements relating to the equipment in general.

This European Standard specifies the technical requirements to minimise the hazards listed in Clause 4 which can arise during the commissioning, operation and maintenance of GSE when used as intended including misuse reasonably foreseeable by the manufacturer, when carried out in accordance with the specifications given by the manufacturer or his authorised representative. It also takes into account some requirements recognised as essential by authorities, aircraft and ground support equipment (GSE) manufacturers as well as airlines and handling agencies.

This part of EN 1915 is intended to be used in conjunction with EN 1915-2, EN 1915-3 (for self-propelled GSE) and EN 1915-4, and with the relevant part of EN 12312 to give the requirements for the types of GSE within the scope of EN 12312.

When EN 12312 does not contain a relevant part for a GSE, EN 1915 (all parts) gives general requirements that may apply, although additional machine specific requirements, to be determined by the manufacturer, are likely to be required.

This part of EN 1915 does not apply to automotive parts approved for public vehicles in the EU and EFTA, when used on GSE for the purpose for which they are designed.

This part of EN 1915 does not establish additional requirements for the following:

- a) operation elsewhere than in an airport environment;
- b) operation in severe conditions, e.g. ambient temperature below -20 °C or over 50 °C, tropical or saturated salty atmospheric environment, strong magnetic or radiation field;
- c) operation subject to special rules, e.g. potentially explosive atmosphere except as regards operation in the vicinity of an aircraft fuel tank during fuelling operation;
- d) hazards caused by power supply other than from electrical networks;
- e) hazards occurring during construction, transportation, commissioning and decommissioning of the GSE;
- f) hazards caused by wind velocity in excess of the figures given in this European Standard;
- g) direct contact with food stuffs;
- h) earthquake, flood, landslide, lightning and more generally any exceptional natural event;
- i) electromagnetic compatibility (EMC);
- j) hazards caused by noise and vibration, see EN 1915-3 and EN 1915-4.

While this standard gives some basic requirements for wireless remote controls, additional requirements will be necessary.

This part of EN 1915 is not applicable to GSE which are manufactured before the date of publication by CEN of this Standard.