

**Õhusõidukite maapealsed teenindusseadmed.
Erinõuded. Osa 14: Sõidukid puuetega reisijatele**

**Aircraft ground support equipment - Specific
requirements - Part 14: Disabled/incapacitated
passenger boarding vehicles**

This document is a preview generated by EVS

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 12312-14:2014 sisaldab Euroopa standardi EN 12312-14:2014 inglisekeelset teksti.	This Estonian standard EVS-EN 12312-14:2014 consists of the English text of the European standard EN 12312-14:2014.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 18.06.2014.	Date of Availability of the European standard is 18.06.2014.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 49.100

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:
Aru 10, 10317 Tallinn, Eesti; www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:
Aru 10, 10317 Tallinn, Estonia; www.evs.ee; phone 605 5050; e-mail info@evs.ee

English Version

Aircraft ground support equipment - Specific requirements - Part 14: Disabled/incapacitated passenger boarding vehicles

Matériel au sol pour aéronefs - Exigences particulières -
Partie 14: Matériel d'accès à bord des passagers à mobilité
réduite

Luftfahrt-Bodengeräte - Besondere Anforderungen - Teil 14:
Behinderten-Transportgeräte

This European Standard was approved by CEN on 6 March 2014.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

	Page
Foreword.....	3
Introduction.....	5
1 Scope	6
2 Normative references	7
3 Terms and definitions	8
4 List of significant hazards	9
5 Safety requirements and/or measures	10
5.1 General requirements.....	10
5.2 Van body or main platform	11
5.3 Boarding platform.....	12
5.4 Safeguards against falling	14
5.5 Means of access	15
5.6 Lifting device and stability.....	16
5.7 Speeds	17
5.8 Controls, monitoring devices and displays	17
5.9 Lights	18
5.10 Transfer plate	18
5.11 Canopy.....	19
5.12 Half width cabin	19
5.13 Tail-lift	20
5.14 Auxiliary means for emergency operation.....	20
5.15 Electrical equipment.....	21
5.16 Options	21
6 Information for use	21
6.1 Marking	21
6.2 Safety signs	21
6.3 Warning.....	21
6.4 Instructions	22
7 Verification of requirements	22
Annex A (normative) List of hazards.....	24
Annex B (normative) Critical area between van body and loading platform.....	28
Annex C (informative) Loading control.....	30
C.1 Machinery Directive requirements	30
C.2 Demonstration of absence of risk of overloading/overturning.....	30
Annex D (normative) Minimum space requirements for a wheelchair	31
D.1 Clear floor space.....	31
D.2 Clear pathway.....	31
D.3 Transfer plate	32
Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC	33
Bibliography.....	34

Foreword

This document (EN 12312-14:2014) 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 December 2014, and conflicting national standards shall be withdrawn at the latest by December 2014.

This document supersedes EN 12312-14:2006+A1:2009.

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 has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EC Directive 2006/42/EC on machinery.

For relationship with EC Directive 2006/42/EC on machinery, see informative Annex ZA, which is an integral part of this document.

EN 12312, *Aircraft ground support equipment - Specific requirements* is comprised 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/anti-icing equipment;*
- *Part 7: Aircraft 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;*
- *Part 12: Potable water service equipment;*
- *Part 13: Lavatory service equipment;*
- *Part 14: Disabled/incapacitated passenger boarding vehicles (the present document);*
- *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.*

Compared with EN 12312-14:2006+A1:2009, the following changes have been made:

- a) the Amendment A1:2009 was incorporated;
- b) the Introduction was updated;
- c) the Scope was updated;
- d) Clause 2, *Normative references*, was updated;
- e) Clause 3, *Terms and definitions*, was updated and six terms and definitions were added;
- f) the list of hazards was moved to Annex A and updated;
- g) Clause 5, *Safety requirements and/or measures*, was completely revised and changed, with the addition of 5.5, *Means of access*, 5.6, *Lifting device and stability*, 5.10 *Transfer plate*, 5.11 *Canopy*, 5.12 *Half-width cabin*, 5.14 *Auxiliary means for emergency operation*, 5.15 *Electrical equipment*, thus making it necessary to re-number the following subclauses;
- h) Clause 6, *Information for use*, was changed;
- i) Clause 7, *Verification of requirements*, was changed;
- j) informative Annex C, *Loading control*, was re-worded to be in alignment with the Machinery Directive 2006/42/EC;
- k) normative Annex D, *Minimum space requirements for a wheelchair* was added;
- l) Annex ZA referring to the Machinery Directive 98/37/EC was replaced by Annex ZA referring to the new Machinery directive 2006/42/EC;
- m) the Bibliography was updated.

According to the CEN-CENELEC Internal Regulations, the national standards organizations 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.

Introduction

This European Standard defines health and safety requirements, as well as some functional and performance requirements for transport and boarding vehicles intended for moving disabled or incapacitated passengers on an airfield between the terminal building and the aircraft. Major factors in the design of the equipment, with relevance to safety, are the consideration of psychological aspects, i.e. feelings of well-being and security, and the physical comfort of the passenger and the avoidance of panic.

The minimum essential criteria are considered to be of primary importance in providing safe, serviceable, economical and usable disabled/incapacitated passenger boarding vehicles. 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 stated in EN ISO 12100.

The machinery concerned and the extent to which hazards, hazardous situations and 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. Deviations from requirements do not fall within the presumption of conformity given by the standard.

1 Scope

This European Standard specifies the technical requirements to minimize the hazards listed in Clause 4 which can arise during the commissioning, operation and maintenance of disabled/incapacitated passenger boarding vehicles 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 recognized as essential by authorities, aircraft and ground support equipment (GSE) manufacturers as well as airlines and handling agencies.

This European Standard defines specific safety requirements for transporters/boarding vehicles for transporting/boarding incapacitated or disabled passengers as defined under 3.1, hereafter referred to as boarding vehicles.

This European Standard applies to pedestrian controlled self-propelled boarding vehicles, self-propelled boarding vehicles with integrated driver's accommodation and towable boarding vehicles, used for moving disabled or incapacitated passengers at an airport between the terminal building and the aircraft ramp and to board and disembark those passengers to and from civil aircraft.

This European Standard assumes that a disabled or incapacitated passenger may be accompanied by an attendant and may be seated in a wheelchair or reclining on a stretcher trolley.

This European Standard also assumes that the types of wheelchairs which may be employed could be:

- a) standard type wheelchairs, e.g. in accordance with EN 12183;
- b) wheelchairs with or without occupant self-restraint system;
- c) aircraft aisle-width wheelchairs;
- d) non-standard wheelchairs used at airports;
- e) non occupant propelled wheelchairs;
- f) battery powered wheelchairs, e.g. in accordance with EN 12184.

NOTE 1 It is assumed that battery powered wheelchairs would not be taken into the cabin of an aircraft.

This European Standard does not apply to other forms of aircraft loaders not specifically designed for boarding of incapacitated or disabled passengers, e.g. mobile lounges, boarding bridges or externally mounted pods such as used on helicopters.

This European Standard does not apply to pneumatic systems.

This European Standard does not establish requirements for hazards caused by noise and vibration.

NOTE 2 EN 1915-3 and EN 1915-4 provide the general GSE vibration and noise requirements.

This European Standard does not apply to unmodified automotive parts approved for public vehicles in the EU and E.F.T.A., when used on a disabled/incapacitated passenger boarding vehicle for the purpose for which they are designed.

This European Standard does not deal with hazards from other vehicles on the apron.

This part of EN 12312 is not applicable to disabled/incapacitated passenger boarding equipment which was manufactured before the date of publication by CEN of this standard.

This part of EN 12312 when used in conjunction with EN 1915-1, EN 1915-2, EN 1915-3 and EN 1915-4 provides the requirements for disabled/incapacitated passenger boarding vehicles.

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.

EN 1175-1, *Safety of industrial trucks — Electrical requirements — Part 1: General requirements for battery powered trucks*

EN 1756-2, *Tail lifts — Platform lifts for mounting on wheeled vehicles — Safety requirements — Part 2: Tail lifts for passengers*

EN 1837, *Safety of machinery — Integral lighting of machines*

EN 1915-1:2013, *Aircraft ground support equipment — General requirements — Part 1: Basic safety requirements*

EN 1915-2:2001+A1:2009, *Aircraft ground support equipment — General requirements — Part 2: Stability and strength requirements, calculations and test methods*

EN 1915-3, *Aircraft ground support equipment — General requirements — Part 3: Vibration measurement methods and reduction*

EN 1915-4, *Aircraft ground support equipment — General requirements — Part 4: Noise measurement methods and reduction*

EN 12183, *Manual wheelchairs — Requirements and test methods*

EN 12184, *Electrically powered wheelchairs, scooters and their chargers — Requirements and test methods*

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

EN ISO 13849-1:2008, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design (ISO 13849-1:2006)*

EN ISO 13850:2008, *Safety of machinery — Emergency stop — Principles for design (ISO 13850:2006)*

EN ISO 14122-3:2001, *Safety of machinery — Permanent means of access to machinery — Part 3: Stairs, stepladders and guard-rails (ISO 14122-3:2001)*

ISO 7000, *Graphical symbols for use on equipment — Index and synopsis*

ISO 7718-1, *Aircraft — Passenger doors interface requirements for connection of passenger boarding bridge — Part 1: Main deck doors*

ISO 7718-2, *Aircraft — Passenger doors interface requirements for connection of passenger boarding bridge — Part 2: Upper deck doors*

ISO 10542-1, *Technical systems and aids for disabled or handicapped persons — Wheelchair tiedown and occupant-restraint systems — Part 1: Requirements and test methods for all systems*

ISO 11228-1, *Ergonomics — Manual handling — Part 1: Lifting and carrying*

ISO 11532, *Aircraft ground equipment — Graphical symbols*

ISO 16004, *Aircraft ground equipment — Passenger boarding bridge or transfer vehicle — Requirements for interface with aircraft doors*

DIN 51130:2004, *Testing of floor coverings — Determination of the anti-slip properties — Workrooms and fields of activities with slip danger, walking method — Ramp test*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 12100:2010 and EN 1915-1:2013 and the following apply.

3.1 disabled passenger
person with one or more impairments, one or more disabilities, one or more handicaps or a combination of impairment, disability and/or handicap which restricts their mobility

3.2 incapacitated passenger
person whose mobility is temporarily impaired

Note 1 to entry: Mobility impairments range from persons having difficulty walking due to use of a prosthetic to a quadriplegic.

**3.3 person with reduced mobility
PRM**
person meeting definitions 3.1 or 3.2 above and who can move by themselves, or on a wheelchair or a stretcher

3.4 wheelchair
wheeled chair, either occupant-propelled, pushed or power operated (which may be capable of being folded or dismantled) and fitted with or without an occupant restraint system

3.5 stretcher trolley
wheeled trolley with integral or removable stretcher (which may be capable of being folded or dismantled) attendant operated, non self-propelled

3.6 attendant
person who assists a disabled/incapacitated person

Note 1 to entry: Examples of the ways in which attendants assist disabled persons are e.g. pushing wheelchairs, operating hoists, assisting with entering and leaving seats, beds and wheelchairs.

3.7 restraint device
device for preventing movement of a person or load

3.8 boarding platform
platform for transshipment between van body or main platform and aircraft