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SIST EN 12312-2:2003+A1:2009

Podporna oprema na tleh za letalski promet - Posebne zahteve - 2. del: Vozila za preskrbo

Aircraft ground support equipment - Specific requirements - Part 2: Catering vehicles

Luftfahrt-Bodengeräte - Besondere Anforderungen - Teil 2: Catering-Hubfahrzeuge

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Matériel au sol pour aéronefs - Exigences particulières - Partie 2: Camions commissariat

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49.100	Oprema za servis in vzdrževanje na tleh	Ground service and maintenance equipment

SIST EN 12312-2:2014 **en**

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English Version

Aircraft ground support equipment - Specific requirements - Part 2: Catering vehicles

Matériel au sol pour aéronefs - Exigences particulières - Partie 2: Camions commissariat

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This European Standard was approved by CEN on 3 February 2014.

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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.

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Foreword

This document (EN 12312-2:2014) 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of an identical text or by endorsement, at the latest by October 2014, and conflicting national standards shall be withdrawn at the latest by October 2014.

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 12312-2:2002+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 12312, *Aircraft ground support equipment — Specific requirements*, consists of the following parts:

— *Part 1: Passenger stairs*;

— *Part 2: Catering vehicles* (this document);

— *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*;

— *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*;

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— *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 version are the following:

a) 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) List of hazards was moved to Annex A, consequently the following annexes have been renumbered;

g) Clause 5, *Safety requirements and/or measures*, was completely revised and changed;

h) 5.10, *Lifting loading platform for upper deck operation*, was deleted;

i) 5.5, *Safeguards against falling*, and 5.6, *Means of access*, and 5.10, *Transfer plate*, were inserted, consequently the following subclauses have been renumbered;

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j) Clause 6, *Information for use*, was changed;

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k) Clause 7, *Verification of requirements*, was changed;

l) Annex A, *Examples of different catering vehicles*, was deleted and replaced with Annex A, *List of Hazards*;

m) Annex C, *Critical area between van body and loading platform*, was re-numbered Annex B;

n) Annex D, *Loading control*, was re-numbered Annex C;

o) Annex ZA referring to the Machinery directive 98/37/EC was replaced by Annex ZA referring to the new Machinery directive 2006/42/EC;

p) 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.

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Introduction

This European Standard specifies health and safety requirements, as well as some functional and performance requirements, for catering vehicles intended for cabin re-supply and servicing or loading and unloading of catering equipment and supplies on all aircraft types commonly in service in civil air transport.

The minimum essential criteria are considered to be of primary importance in providing safe, serviceable, economical, and practical catering vehicles. Deviations from the recommended criteria should occur only after careful consideration, extensive testing, risk assessment and thorough 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 hazardous events are covered are indicated in the scope of this document.

When provisions of this Type C standard are different from those 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.

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1 Scope

This European Standard specifies the technical requirements to minimize the hazards listed in Clause 4 which can arise during the commissioning, the operation and the maintenance of catering 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 authorized 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 applies to self-propelled catering vehicles, with seated driver, equipped with a liftable van body.

This European Standard may be applied to catering vehicles used for other purposes provided that a suitable risk assessment is carried out to identify additional hazards or limitations in the requirements of this standard for a particular application. Similar vehicles e.g. cleaning equipment, equipment used for the exchange of aircraft seats, are also covered by this European Standard.

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

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

This European Standard does not apply to pneumatic systems.

This European Standard does not apply to unmodified automotive parts approved for public vehicles in the EU and EFTA., when used on a catering vehicle for the purpose for which they are designed.

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This part of EN 12312 is not applicable to catering vehicles which are manufactured before the date of publication of this standard by CEN.

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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 catering 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 1756-1, *Tail lifts — Platform lifts for mounting on wheeled vehicles — Safety requirements — Part 1: Tail lifts for goods*

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 equipmentGeneral requirementsPart 3: Vibration measurement methods and reduction*

EN 1915-4, *Aircraft ground support equipmentGeneral requirementsPart 4: Noise measurement methods and reduction*

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EN 12195-1, *Load restraining on road vehicles - Safety - Part 1: Calculation of securing forces*

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

EN ISO 13732-1, *Ergonomics of the thermal environment - Methods for the assessment of human responses to contact with surfaces - Part 1: Hot surfaces (ISO 13732-1)*

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 13857:2008, *Safety of machinery - Safety distances to prevent hazard zones being reached by upper and lower limbs (ISO 13857:2008)*

ISO 4116, *Air cargo equipment — Ground equipment requirements for compatibility with aircraft unit load devices*

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*

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

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

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DIN 51130:2004, *Testing of floor coverings — Determination of the anti-slip property — 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
van body
enclosed body for carrying loads

3.2
loading platform
elevating platform for transhipment between van body and aircraft

3.3
walking area
safe areas where walking is permitted

3.4
restraint device
components for preventing movement of load inside the van body

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3.5
trolley
cart for carrying food or equipment for use aboard the aircraft

Note 1 to entry: It can be either an aircraft galley cart, or a ground device used to move other galley components.

3.6
canopy
cover or body fitted over the loading platform to provide weather protection

3.7
tail lift / tail gate lift
moveable platform at the rear of a vehicle used for assisting the entry into, or exit from, the vehicle of goods or persons from the ground level

3.8
supporting screen
front wall of the van body fixed to the chassis and supporting the loading platform in the lowered position

3.9
under-run guard
rigid or flexible bumper device which is designed to prevent another vehicle from becoming entrapped underneath the rear of a vehicle when the vehicle is struck from behind

3.10
side-guard
rigid device which is designed to prevent another vehicle from becoming entrapped underneath the side of a vehicle when the vehicle is struck from either side

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3.11
barrier
movable element to prevent access into an area

3.12
transfer plate
movable accessory used to bridge the aircraft door sill to smoothly roll in and out trolleys

3.13
very large capacity aircraft
VLCA
main line aircraft with three decks and a maximum ramp mass over 453 600 kg (1 000 000 lb)

3.14
safety shoe
pressure-sensitive switch placed underneath the open door of an aircraft to detect excessive downward motion of the aircraft

3.15
auto-levelling
automatic vertical adjustment of the loading platform, corresponding to vertical movement of the aircraft

3.16
module handling system
rollerised system for transhipment of catering modules into/ from a cargo compartment

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4 List of hazards

The list of risks and hazards (given at Annex A) is based on EN ISO 12100:2010 and contains the hazards and hazardous situations, as far as they are dealt with in this European Standard, identified by risk assessment as significant for catering vehicles and which require action to eliminate or reduce risks. Hazards due to the traffic and repair are not covered.

5 Safety requirements and/or measures

5.1 General requirements

5.1.1 Catering vehicles shall conform to the relevant requirements of EN 1915-1, EN 1915-2, EN 1915-3 and EN 1915-4 unless otherwise specified in this standard. They shall also conform to the specific requirements of this standard.

Machinery shall comply with the safety requirements and/or protective measures of this clause. In addition, the machine shall be designed according to the principles of EN ISO 12100 for relevant but not significant hazards, which are not dealt with by this document.

NOTE 1 General functional requirements for catering vehicles for large capacity aircraft see ISO 10841, and those for very large capacity aircraft in ISO 27470, see Bibliography.

NOTE 2 A loading control is not required for catering vehicles. A justification is given in Annex C.

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5.1.2 Strength calculations shall be carried out in accordance with EN 1915-2.

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5.1.3 For catering vehicles to be moved on public roadways, the dimensions, laden mass and other characteristics shall meet all applicable government regulations.

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NOTE Applicable government regulations are dependent on the airport of use.

5.1.4 Catering vehicles shall be equipped with a fully enclosed van body and a loading platform capable of reaching the door sill height of the aircraft.

NOTE See 6.4, Instructions, for listing by the manufacturer of the aircraft types and doors the vehicle is intended to serve.

5.1.5 The catering vehicle chassis at ground level shall be surrounded by a protective structure in order to prevent any possibility of inadvertent access of persons under the van body while elevated (see also EN 1915-1:2013, Annex E).

5.1.6 The width of gaps between the different floors of van body, loading platform and tail lift or parts thereof in the load transfer position shall be less than 10 mm. Height variation between the van body floor, loading platform and the tail lift or parts thereof shall not exceed 5 mm. Where the difference in height is more than 5 mm in the load transfer position, a ramp inclined at a maximum angle of 15° shall be provided.

5.1.7 Van body and loading platform shall have illumination of a non-glare quality. A minimum illumination of 150 lx shall be provided at any point 0,8 m above the floor.

5.1.8 Catering vehicles shall be equipped with a driver's cabin.

5.1.9 All seats shall be provided with seat belts as used on standard automotive vehicles.

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5.2 Dimensions and loads

5.2.1 The overall height of the catering vehicle, with the van body fully lowered, shall not exceed 4 m.

NOTE Depending on the airport of use, lower heights can be necessary (see EN 1915–1:2013, Introduction, f) — negotiation).

5.2.2 The overall width of the catering vehicle in the driving condition shall not exceed 2,6 m.

NOTE Local road traffic regulations can require narrower widths.

5.2.3 For the strength calculation of the structure a minimum distributed load of 3 000 N/m^2 on the areas intended by the manufacturer for the storage of loads and/or walking areas shall be applied.

5.2.4 The floor plates of the van body and the loading platform shall be capable of supporting the following loads:

a) floor plate of the van body 5 000 N/m^2;

b) floor plate of the loading platform 3 000 N/m^2.

With a minimum local single load at the leading edge of the loading platform of 1 000 N, the allowed maximum of sag relative to the platform floor is 20 mm.

EN 1915-2:2001+A1:2009, 5.2.2.4 does not apply to these loads.

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5.2.5 All areas to be driven on with a trolley shall be designed for a minimum floor contact pressure of 10 N/mm^2. No permanent deflection is allowable.

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5.3 Van body

5.3.1 The minimum clear height at any point above walking areas shall be not less than 2,0 m.

5.3.2 Parts of the van body front wall not used for loading procedures shall provide protection against falling of persons and loads.

5.3.3 Van sidewalls shall be equipped with protective devices to avoid deterioration by impact from trolleys or loads.

5.3.4 The van body shall be equipped with a load securing system, preventing sliding, rolling, tilting, and dropping of catering equipment, i.e.:

a) fixed storage racks;

b) attachments for restraint devices.

The strength of attachment points shall be calculated according to EN 12195-1.

5.3.5 It shall be possible to store restraint devices when not in use such that they are readily available. The storage facility shall not create risks of tripping and shall protect the devices against damage and dirt.

5.3.6 The interior of the van body shall be fully lined with a smooth, non-moisture absorbent, non-toxic material, hygienically approved by the authorities for use in vehicles carrying food for human consumption.

5.3.7 The lining material shall be compatible with repeated cleaning with strong detergents and disinfecting agents, as well as suitable for repeated water pressure cleaning and steam cleaning. Joints or appurtenances