



SLOVENSKI STANDARD

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Podporna oprema na tleh za letalski promet – Posebne zahteve – 8. del: Stopnice in odri za vzdrževalna dela

Aircraft ground support equipment - Specific requirements - Part 8: Maintenance stairs and platforms

Luffahrt-Bodengeräte - Besondere Anforderungen - Teil 8: Wartungstreppen und -bühnen

Matériel au sol pour aéronefs - Exigences particulières - Partie 8: Escabeaux et plateformes de maintenance

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49.100

Oprema za servis in vzdrževanje na tleh

Ground service and maintenance equipment

SIST EN 12312-8:2005

en

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English version

Aircraft ground support equipment - Specific requirements - Part 8: Maintenance stairs and platforms

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Wartungstreppen und -bühnen

This European Standard was approved by CEN on 25 March 2005.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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Foreword

This European Standard (EN 12312-8:2005) 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of an identical text or by endorsement, at the latest by November 2005, and conflicting national standards shall be withdrawn at the latest by November 2005.

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 Directives, see informative Annex ZA, which is an integral part of this document.

The Parts of EN 12312 — *Aircraft ground support equipment* — *Specific requirements* — are:

- 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: 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 equipment
- 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: Ground power equipment

This European Standard includes a Bibliography.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Introduction

This European Standard specifies health and safety requirements, as well as some functional and performance requirements for maintenance stairs and platforms including a built-in source of power (see Clause 1, Scope) intended for maintenance purposes 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 maintenance stairs and platforms. 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.

This European Standard is a Type C standard as stated in EN ISO 12100:2003.

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 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.

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1 Scope

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 maintenance stairs and platforms when carried out in accordance with the specifications given by the manufacturer or his authorised representative. It also takes into account some performance requirements recognised as essential by authorities, aircraft and ground support equipment (GSE) manufacturers as well as airlines and maintenance and handling agencies.

This European Standard applies to:

- self-propelled maintenance stairs and platforms;
- towable maintenance stairs and platforms equipped with powered means, e.g. for height adjustment, stabilizers,

designed for aircraft maintenance purposes including access to the aircraft (Examples see Annex A).

NOTE 1 Powered should be also understood as manual effort stored in springs or hydraulic accumulators, etc., the dangerous action of which can be produced or can continue after the manual effort has ceased or directly applied manual effort for lifting or lowering loads.

NOTE 2 Those clauses of this European Standard that can apply may also be used as a guideline for the design of towable maintenance stairs and platforms without powered means.

This European Standard does not apply to:

- maintenance docks either fixed to the ground or moveable only for docking procedure.

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

Noise and vibration are dealt with respectively in EN 1915-4 and EN 1915-3.

This European Standard does not deal with hazards in respect to a standard automotive chassis and from other vehicles on the apron.

This Part of EN 12312 is not applicable to maintenance stairs and platforms which are manufactured before the date of publication of this standard by CEN.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 418:1992, *Safety of machinery — Emergency stop equipment, functional aspects — Principles for design*

EN 1050:1996, *Safety of machinery — Principles for risk assessment*

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

EN 1386, *Aluminium and aluminium alloys — Tread plate — Specifications*

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

EN 1915-1:2001, *Aircraft ground support equipment — General requirements — Part 1: Basic safety requirements*

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

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EN ISO 12100-1:2003, *Safety of machinery — Basic concepts, general principles for design — Part 1: Basic terminology, methodology (ISO 12100-1:2003)*

EN ISO 12100-2:2003, *Safety of machinery — Basic concepts, general principles for design — Part 2: Technical principles (ISO 12100-2:2003)*

3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in EN ISO 12100:2003 and EN 1915-1:2001 and the following apply.

3.1

maintenance stair

stair designed for:

- entering and leaving the aircraft for maintenance purposes;
- reaching and/or access to elevated parts of the aircraft;
- carrying out maintenance work on aircraft

3.2

maintenance platform

elevating work platform designed for:

- reaching and/or access to elevated parts of the aircraft;
- carrying out maintenance work on aircraft

3.3

maintenance dock

installed assembly, either fixed to the ground or moveable only for the docking procedure, designed for:

- reaching elevated parts of the aircraft;
- carrying out maintenance work on defined aircraft types

3.4

stair flight

series of steps between ground level and platform or between two platforms

3.5

riser height (R)

distance between the surface of the tread of one step and the surface of a step above or below when measured perpendicularly between the tread surfaces

3.6

tread depth (T)

distance from one step nosing to the adjacent step nosing when measured parallel to the tread surface

3.7

step width

maximum usable width measured along the nose of the step

3.8

handrail height

distance to the top surface of the handrail as measured at the nose of the step or platform and perpendicular to the tread surface

3.9**incline**

angle of stair flight to a horizontal plane, measured across the noses of the steps

3.10**inclination**

angle of platform and steps to a horizontal plane, measured at a right angle to the noses of the steps

4 List of hazards

The list of risks and hazards (see Annex B) is based on EN 1050 and contains the hazards and hazardous situations, as far as they are dealt with in this document, identified by risk assessment as significant for maintenance stairs and platforms and which require action to eliminate or reduce risks.

5 Safety requirements and/or measures**5.1 General requirements**

5.1.1 Maintenance stairs and platforms shall conform to the relevant requirements of EN 1915-1, unless otherwise specified in this European Standard. They shall also conform to the specific requirements of this European Standard.

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

5.1.3 Stability calculations shall be carried out according to EN 1915-2.

For maintenance stairs and platforms intended only for indoor use, the stability calculation may be carried out without regard to wind and snow loads.

NOTE For special purposes the wind speed used for stability calculation may be different from 20,58 m/s (40 knots; see Clause 0 of EN 1915-1:2001-negotiations)

5.1.4 Self-propelled maintenance stairs and platforms shall be equipped with driver accommodation.

NOTE This clause is not valid for pedestrian controlled self-propelled maintenance stairs and platforms.

5.1.5 Parking brakes or equivalent devices of maintenance stairs and platforms shall be dimensioned so as to take into account the forces induced during work under intended use conditions in accordance with EN 1915-1:2001, 5.7.2, requirement to hold on a slope of at least 7 %.

5.1.6 Deviating from the requirements of EN 1915-1 lights and reflectors for traffic purposes according to 5.10 of EN 1915-1:2001 are not required on equipment intended only for indoor use.

5.1.7 Where working lights are provided they shall conform to EN 1837. The minimum electrical power of lamps shall be 25 W.

5.1.8 Where maintenance platforms are intended to be moved with persons on the platform, adequate safety means, e.g. seats with safety belts and/or fixing points for safety harnesses shall be provided.

5.1.9 Maintenance stairs shall be equipped with a work platform (see also 5.3).

5.1.10 Maintenance platforms shall be equipped with means for safe access to and from the platform in lowered position.

5.1.11 In all intended working positions step and platform inclination shall not exceed $\pm 3^\circ$ (5 %) when the maintenance stair or platform rests on a horizontal plane.