Õhusõidukite maapealsed teenindusseadmed . Üldnõuded. Osa 2: Stabiilsuse ja tugevusnõuded, arvutused ja katsemeetodid

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

EESTI STANDARDI EESSÕNA

Käesolev Eesti standard EVS-EN 1915-2:2001 sisaldab Euroopa standardi EN 1915-2:2001 ingliskeelset teksti. Käesolev dokument on jõustatud 16.11.2001 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 1915-2:2001 consists of the English text of the European standard EN 1915-2:2001. This document is endorsed on 16.11.2001 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

NATIONAL FOREWORD

Käsitlusala: This Part of EN 1915 specifies the conditions to be taken into consideration when calculating the strenght and the stability of GSE according to EN 1915-1:2001 and the EN 12312 series under intended use conditions. It also specifies general test methods.	**Scope:** This Part of EN 1915 specifies the conditions to be taken into consideration when calculating the strenght and the stability of GSE according to EN 1915-1:2001 and the EN 12312 series under intended use conditions. It also specifies general test methods.

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Võtmesõnad: earth stati, ground equipment, hazards, lifting appliance, machines, mathematical calculations, mechanical components, safety requirements, space transport, specification (approval), specifications, stability, steel construction, strength of materials, testing

EUROPEAN STANDARD

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

Matériel au sol pour aéronefs - Exigences générales - Partie 2: Prescriptions de stabilité et de résistance mécanique, calculs et méthodes d'essai

Luftfahrt-Bodengeräte - Allgemeine Anforderungen - Teil 2: Standsicherheits- und Festigkeitsanforderungen, Berechnungen und Prüfverfahren

This European Standard was approved by CEN on 6 January 2001.

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

Management Centre: rue de Stassart, 36 B-1050 Brussels

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Contents

Foreword

This European Standard 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 September 2001, and conflicting national standards shall be withdrawn at the latest by September 2001.

This European Standard 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(s).

For relationship with EC Directive(s), see informative Annex Z, which is an integral part of this standard.

EN 1915 - Aircraft ground support equipment - General requirements consists of:

Part 1: Basic safety requirements

Part 2: Stability and strength requirements, calculations and test methods

Part 3: Vibration measurement methods

Part 4: Noise measurement methods.

This is the first edition of this Part of EN 1915.

A further European Standard (EN 12312) in several parts covering specific requirements for different aircraft ground support equipment is in preparation.

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: Oxygen/Nitrogen units
Part 19: Aircraft jacks, axle jacks and hydraulic tail stanchions
Part 20: Ground power equipment.

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

0 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:

- components without specific requirements are:

  a) designed in accordance with the usual engineering practices, welding and calculation codes including all failure modes;
  b) made of materials with adequate strength and of suitable quality;
  c) made of materials free of defects;

- components are kept in good repair and working order, so that the required characteristics remain despite wear;

– 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;

– a negotiation took place between the user and the manufacturer concerning particular conditons for the use and places of use of the GSE;

– 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.

The minimum essential criteria are considered to be of primary importance in providing safe, economical and usable GSE. Deviation from the recommended methods and conditions should occur only after careful consideration, extensive testing and thorough in service evaluation have shown alternative methods or conditions to be satisfactory.

This European Standard is a Type C standard as defined in EN 1070 : 1998.

1 Scope

This Part of EN 1915 specifies the conditions to be taken into consideration when calculating the strength and the stability of GSE according to EN 1915-1 : 2001 and the EN 12312 series under intended use conditions. It also specifies general test methods.

NOTE The methods given in this standard demonstrate one way of achieving an acceptable safety level. Methods that produce comparable results may be used.

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

– operation elsewhere than in an airport environment;

– operation in severe conditions, e.g. ambient temperature below -20 °C or over 50 °C, tropical or saturated salty atmospheric environment;

– hazards caused by wind velocity in excess of the figures given in this European Standard;

– earthquake, flood, landslide, lightning and more generally any natural catastrophe.

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

2 Normative references

This European Standard incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 292-1 : 1991
Safety of machinery - Basic concepts, general principles for design - Part 1: Basic terminology, methodology

EN 292-2 : 1991/A1 : 1995
Safety of machinery - Basic concepts, general principles for design - Part 2: Technical principles and specifications

EN 729-1
Quality requirements for welding - Fusion welding of metallic materials - Part 1: Guidelines for selection and use

EN 729-2
Quality requirements for welding - Fusion welding of metallic materials - Part 2: Comprehensive quality requirements

EN 729-3
Quality requirements for welding - Fusion welding of metallic materials - Part 3: Standard quality requirements

EN 729-4
Quality requirements for welding - Fusion welding of metallic materials - Part 4: Elementary quality requirements

EN 1070 : 1998
Safety of machinery – Terminology

EN 1915-1 : 2001
Aircraft ground support equipment – General requirements – Part 1: Basic safety requirements

EN 25817
Arc-welded joints in steel; guidance on quality levels for imperfections (ISO 5817:1992)

ISO 2408 : 1985
Steel wire ropes for general purposes – Characteristics

ISO 8625-1 : 1993
Aerospace – Fluid systems – Vocabulary – Part 1: General terms and definitions relating to pressure

3 Terms and definitions

For the purposes of this Part of EN 1915 the terms and definitions of EN 1070 : 1998 and EN 1915-1 : 2001 apply. Additional terms and definitions are:

3.1

component mass

mass of that part of the GSE, for which the strength is to be calculated

3.2

rated load

maximum mass (including persons) a GSE or a part of it is intended to carry