

**Õhusõidukite maapealsed  
teenindusseadmed. Üldnõuded. Osa 4:  
Mürataseme mõõtmise ja vähendamise  
meetodid**

Aircraft ground support equipment - General  
requirements - Part 4: Noise measurement methods  
and reduction

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 1915-4:2005 sisaldab Euroopa standardi EN 1915-4:2004 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 25.01.2005 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 1915-4:2005 consists of the English text of the European standard EN 1915-4:2004.</p> <p>This document is endorsed on 25.01.2005 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p><b>Käsitlusala:</b> This Part of EN 1915 deals with noise reduction as a safety requirement and describes the methods for determining the sound pressure level at workstations, other specified positions and the sound power level of GSE during intended use. The test results are not applicable to the determination of daily exposure to noise for the operator</p>	<p><b>Scope:</b> This Part of EN 1915 deals with noise reduction as a safety requirement and describes the methods for determining the sound pressure level at workstations, other specified positions and the sound power level of GSE during intended use. The test results are not applicable to the determination of daily exposure to noise for the operator</p>
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**Võtmesõnad:** materials handling, no, occupational safety, operating stations, safety, safety requirements, sound level, sound power, sound pressure level, space transport, specification (approval), specifications, testing, working places, workplace safety

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ICS 17.140.20; 49.100

English version

## Aircraft ground support equipment - General requirements - Part 4: Noise measurement methods and reduction

Matériel au sol pour aéronefs - Exigences générales -  
Partie 4 : Bruit, réduction et méthodes de mesure

Luffahrt-Bodengeräte - Allgemeine Anforderungen - Teil 4:  
Lärmessverfahren und -minderung

This European Standard was approved by CEN on 30 September 2004.

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.



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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## Foreword

This document (EN 1915-4:2004) 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 May 2005, and conflicting national standards shall be withdrawn at the latest by May 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.

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 and reduction
- Part 4: Noise measurement methods and reduction

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: Nitrogen or Oxygen 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, 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

The aim of this European Standard is to deal with noise as a hazard and to provide methods for the measurement and reduction of noise emission of GSE. A further aim of this European Standard is, despite the variety of GSE, to obtain representative and comparable information on the noise emissions of this category of equipment. It should be possible to determine and verify this information with justifiable effort.

General standards for the determination of the noise emissions at the operator's position and of the sound power levels of machines already exist. Because of specific applications these existing standards cannot be applied directly to GSE without supplement of specific machinery and operating conditions as given in this European Standard.

The idle condition is included for some machines because it is representative of those conditions in which the GSE has low noise emission as well as waiting between tasks.

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

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.

## 1 Scope

This document deals with noise reduction as a safety requirement. It also specifies the methods for determining the sound pressure level at workstations, other specified positions and the sound power level of GSE during intended use.

The test results are not applicable to the determination of daily exposure to noise for the operator.

## 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 1070:1998, *Safety of machinery — Terminology*.

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

EN ISO 3744:1995, *Acoustics — Determination of sound power levels of noise sources using sound pressure — Engineering method in an essentially free field over a reflecting plane (ISO 3744:1994)*.

EN ISO 4871:1996, *Acoustics — Declaration and verification of noise emission values of machinery and equipment (ISO 4871:1996)*.

EN ISO 11201:1995, *Acoustics — Noise emitted by machinery and equipment — Measurement of emission sound pressure levels at a workstation and at other specified positions — Engineering method in an essentially free field over a reflecting plane (ISO 11201:1995)*.

## 3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in EN 1070:1998, EN 1915-1:2001, EN ISO 3744:1995, EN ISO 4871:1996, and EN ISO 11201:1995 and the following apply.

### 3.1

#### **operator's position**

area where operators stay during normal operation, e.g. driver/co-driver seats, control panels, walkways, stairs, ladders, platforms

### 3.2

#### **exterior position**

position for measurements located in the vicinity of the GSE

## 4 Noise reduction

Noise emission is in general a significant hazard, which shall be reduced to the lowest level taking into account the technical progress and the available technical measures for noise control.

GSE can contain many components emitting noise. Typical noise sources are:

- propulsion- and auxiliary engines, their cooling (fans) and exhaust systems;
- hydraulic systems with pumps, motors, relief valves, etc.;
- heaters with their fans and exhaust systems;
- rolling noise due to wheels/ground contact;
- vibration and shocks between mobile mechanical parts.