## SLOVENSKI PREDSTANDARD

## OSIST prEN 1501-4:2004

maj 2004

Refuse collection vehicles and their associated lifting devices - General requirements and safety requirements - Part 4: Noise measurement protocol for refuse collection vehicles

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ICS 43.160

Referenčna številka OSIST prEN 1501-4:2004(en)

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## EUROPEAN STANDARD NORME EUROPÉENNE EUROPÄISCHE NORM

## DRAFT prEN 1501-4

February 2004

ICS

English version

### Refuse collection vehicles and their associated lifting devices -General requirements and safety requirements - Part 4: Noise measurement protocol for refuse collection vehicles

Bennes à ordures ménagères et leurs lève-conteneurs associés - Exigences générales et exigences de sécurité -Partie 4 : Protocole de mesurage du bruit des bennes

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If this draft becomes a European Standard, 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.

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

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Ref. No. prEN 1501-4:2004: E

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#### SIST EN 1501-4:200

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### Foreword

This document (prEN 1501-4:2004) has been prepared by Technical Committee CEN/TC 183 "Waste management", the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

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, B, C or D, which is an integral part of this document.

The annexes A and B are normative, the annexes C and ZA are informative.

### Introduction

## **iTeh Standards**

This European Standard deals with the measurement of noise emitted by refuse collection vehicles (RCVs) in view of the declaration and marking of the noise emission level to fulfill the requirements of EU Directive 2000/14 on the approximation of the laws of the Member states relating to the noise emission in the environment by equipment for use outdoors. It also covers the noise information requirements of EU Directive 98/37 on the approximation of the laws of the Member states relating to machinery.

#### SIST EN 1501-4:2008

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This European Standard defines the measurement of noise emitted by refuse collection vehicles (RCVs). Its goal is to obtain the sound pressure level at the operator's position and the sound power level of RCVs.

The test results obtained in accordance with this standard are also applicable to the evaluation of the hazards generated by noise from RCVs.

This standard deals with the noise measurement conditions for the types of refuse collection vehicles defined and described in the standards of the series EN 1501.

This standard addresses the uncertainties due to measurement procedures.

This standard does not address the discharge operation as this operation is short in time (1 % of the working period) with a sound pressure level equivalent to the sound pressure level of the main operation.

In view of the wide variety of RCVs, it could be appropriate to refer to individual RCVs as falling into classes or groups (model of equipment within a given type of equipment) having in common specific features regarding noise measurements and characteristics. A possible classification is proposed in an informative annex, enabling both producers and users to address a limited number of well defined classes/groups suitable for determination of noise emission values.

### 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 292-2:1996, Safety of machinery — Basics concepts, general principles for design — Part 2: Technical principles and specifications.

prEN 840-1:2001, Mobile waste containers — Part 1: Containers with 2 wheels with a capacity up to 400 I for comb lifting devices — Dimensions and design.

EN 1452-2:1999, Plastics piping systems for water supply — Unplasticized poly (vinyl chloride) (PVC-U) — Part 2: Pipes.

EN 1501-1:1998, Refuse collection vehicles and their associated lifting devices — General requirements and safety requirements — Part 1: Rear-end loaded refuse collection vehicles.

prEN 1501-2:2000, Refuse collection vehicles and their associated lifting devices — General requirements and safety requirements — Part 2: Side loaded refuse collection vehicles.

prEN 1501-3:<sup>1)</sup>, Refuse collection vehicles and their associated lifting devices — General requirements — Part 3: Front-end loaded refuse collection vehicles

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.

EN ISO 4871:1997, Acoustics — Declaration and verification of noise emission values of machinery and equipment.

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

### 3 Terms and definitions

For the purposes of this European Standard the terms and definitions given in EN ISO 3744:1995, EN ISO 4871:1995, EN ISO 11201:1995 and in the series standards of EN 1501 apply, together with the following:

#### 3.1

A-weighted emission sound pressure level at the operator's position for a series of operating conditions,  $L_{pAZ}$ 

the average sound pressure level at the operator's position from different operating conditions, determined in accordance with the equation

 $L_{pAZ} = 10 \log \left\{ \left[ \frac{1}{(a+b+c+d)} \right] \times \left[ (a \times 10^{0.1 L} p_{Aa} + b \times 10^{0.1 L} p_{Ab} + c \times 10^{0.1 L} p_{Ac} + d \times 10^{0.1 L} p_{Ad} \right] \right\} dB$ 

where

*ap* is the proportion factor – chassis operation (5.3);

<sup>1)</sup> Under elaboration