

## **Laboratory measurement of noise from waste water installations**

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## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 14366:2005 sisaldab Euroopa standardi EN 14366:2004 ingliskeelset teksti.	This Estonian standard EVS-EN 14366:2005 consists of the English text of the European standard EN 14366:2004.
Käesolev dokument on jõustatud 25.01.2005 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.	This document is endorsed on 25.01.2005 with the notification being published in the official publication of the Estonian national standardisation organisation.
Standard on kättesaadav Eesti standardiorganisatsioonist.	The standard is available from Estonian standardisation organisation.

<b>Käsitlusala:</b> The present draft European Standard : - specifies methods for the measurement of airborne and structure-borne sound produced in waste water and rain water installations under laboratory conditions ; - defines the expression of the results	<b>Scope:</b> The present draft European Standard : - specifies methods for the measurement of airborne and structure-borne sound produced in waste water and rain water installations under laboratory conditions ; - defines the expression of the results
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**ICS** 17.140.20, 91.140.80

**Võtmesõnad:** acoustic properties, drainage, piping, sewage disposal, test cond, testing, testing conditions, valves, waste- water drainage, water inlet, water pipelines, water supply and waste systems (bui, water supply and waste systems (buildings), water supply installations

ICS 17.140.20; 91.140.80

English version

## Laboratory measurement of noise from waste water installations

Mesurage en laboratoire du bruit émis par les installations  
d'évacuation des eaux usées

Messung der Geräusche von Abwasserinstallationen im  
Prüfstand

This European Standard was approved by CEN on 23 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.



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## Contents

	Page
Foreword.....	3
Introduction .....	4
1 Scope .....	5
2 Normative references .....	5
3 Terms and definitions .....	5
4 Notations .....	7
5 Principle of the test method .....	8
6 Equipment .....	8
7 Test facilities .....	9
8 Test specimen .....	9
9 Test procedure and evaluation.....	12
10 Calculation of single number quantities .....	15
11 Precision .....	15
12 Expression of results .....	16
13 Test report .....	16
Annex A (normative) Wall structural sensitivity measurement .....	17
A.1 Measurement procedure .....	17
A.2 Applicability of the method.....	17
Annex B (informative) Background ; application of reciprocity for calibrating the test wall .....	18
Bibliography .....	20

## Foreword

This document (EN 14366:2004) has been prepared by Technical Committee CEN/TC 126 "Acoustic properties of building elements and of buildings", the secretariat of which is held by AFNOR.

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.

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

Noise from wastewater installations is generated by the flow and fall of water in the piping system. There are many different ways to install such systems in buildings, depending on national building codes. They may be firmly cemented into walls and floors, fixed by clips in walls and covered slabs, or hung exposed in the plenum above a suspended ceiling. It seems advisable, therefore, to define measuring methods for both structure-borne and airborne sound.

Important noise sources are bends after vertical sections, but also discontinuities, e.g. inlets, couplings and sleeves. Apart from that the noise impact on the inhabitants of a building strongly depends on the material properties of the pipes, on the methods used in joining and fastening them and on the local building practice.

## 1 Scope

This document:

- specifies methods for the measurement of airborne and structure-borne sound produced in waste water and rain water installations under laboratory conditions;
- defines the expression of the results.

It is applicable to waste water piping systems and parts thereof, but not to the actual sources of the wastewater, e.g. lavatories, toilets and bathtubs or any active units. It applies to pipes with natural ventilation and made of any common material in commonly used diameters (up to 150 mm).

The results obtained can be used for the comparison of products and materials. It may serve in estimating the behaviour of waste water systems in a building under certain conditions. Nevertheless, this standard does not provide a normalized procedure for calculating the acoustical properties of such installations in a building.

## 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 61672-1, *Electroacoustics - Sound level meters - Part 1: Specifications* (IEC 61672-1:2002).

EN ISO 140-3:1995, *Acoustics – Measurement of sound insulation in buildings and of building elements – Part 3: Laboratory measurements of airborne sound insulation of building elements* (ISO 140-3:1995).

EN ISO 354, *Acoustics – Measurement of sound absorption in a reverberation room* (ISO 354:2003).

EN ISO 6926, *Acoustics – Requirements for the performance and calibration of reference sound sources used for the determination of sound power levels* (ISO 6926:2000).

ISO 5348, *Mechanical vibration and shock – Mechanical mounting of accelerometers*.

ISO 16063-21, *Methods for the calibration of vibration and shock transducers -- Part 21: Vibration calibration by comparison with a reference transducer*.

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

### 3.1

#### **waste water**

any type of water including rainwater evacuated from buildings into the sewer system

### 3.2

#### **waste water installation**

the total of pipes and all fixing components, used to evacuate waste water, but excluding the actual sources of the waste water, e.g. sinks, toilets, bathtubs, gutter or any active units (pumps...)

### 3.3

#### **specimen**

object of tests according to this standard. Specimens are simple wastewater installation systems with a single path of water flow. Any combination of commercial elements may be assembled to form a specimen