Wood-based panels - Determination of formaldehyde release - Part 3: Formaldehyde release by the flask method

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 717-3:2003 sisaldab Euroopa standardi EN 717-3:1996 ingliskeelset teksti. Käesolev dokument on jõustatud 14.08.2003 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 717-3:2003 consists of the English text of the European standard EN 717-3:1996. This document is endorsed on 14.08.2003 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: 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	**Scope:** 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

ICS 79.060.01

Võtmesõnad: analysis, chemical analysis and, chemical analysis and testin, determination, emission protection, emissions, formaldehyde, formaldehyde emissions, inspection, materials, pollution control, testing, wood, wood based products, woodbased sheet materials, wooden boards

EUROPEAN STANDARD
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EN 717-3

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Descriptors: Wood-based panel products, testing, formaldehyde release.

English version

Wood-based panels

Determination of formaldehyde release
Part 3: Formaldehyde release by the flask method

Panneaux à base de bois; détermination du dégagement de formaldéhyde.
Partie 3: Dégagement de formaldéhyde par la méthode au bocal

Holzwerkstoffe; Bestimmung der Formaldehydabgabe. Teil 3: Formaldehydabgabe nach der Flaschen-Methode

This European Standard was approved by CEN on 1995-12-22.

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, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 112 "Wood-based panels" , 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 1996, and conflicting national standards shall be withdrawn at the latest by september 1996.

This standard is one of a series which specifies methods for determining formaldehyde potential in or formaldehyde release from wood-based panels.

The other standards in this series are:

EN 120
Wood-based panels – Determination of formaldehyde content – Extraction method called the perforator method

EN 717-1
Wood-based panels – Determination of formaldehyde release – Part 1: Formaldehyde release by the chamber method[1])

EN 717-2
Wood-based panels – Determination of formaldehyde release – Part 2: Formaldehyde release by the gas analysis method

No existing European Standard is superseded.

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

Introduction

The principle of the flask method for measuring the formaldehyde release has been published by Wilhelm-Klauditz-Institute (Roffael 1975). Thereafter, the method has been modified in different ways by many authors in several countries. After consideration of published work focusing on the method and its reliability, a temperature of 40 °C and a period of 3 h have been selected for this standard.

[1]) At present at the draft stage

1 Scope

This European Standard specifies a method, known as the flask method, for determination of formaldehyde release from uncoated wood-based panels.

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.

EN 322
Wood-based panels – Determination of moisture content

EN 323
Wood-based panels – Determination of density

EN 326-1
Wood-based panels – Sampling, cutting and inspection – Part 1: Sampling and cutting of test pieces and expression of test results

3 Principle

Formaldehyde release is determined by suspending test pieces of known mass over water in a closed container, maintained at a constant temperature. Formaldehyde released from the test pieces during a defined period of time is absorbed by the water. The formaldehyde content of the water is determined photometrically by the acetylacetone method, and the result is expressed in milligrammes formaldehyde per kilogramme of dry board.

4 Reagents

4.1 General

Reagents of recognized analytical purity and distilled or demineralised water (referred to below as distilled water) shall be used for the analysis.

4.2 Acetylacetone of analytical grade

4.3 Ammonium acetate of analytical grade

NOTE: Commercially prepared reagents may be used, provided it can be shown that they give an equivalent result.

5 Apparatus

5.1 Test apparatus

Test apparatus consisting of the following main components:

5.1.1 Polypropylene, or polyethylene flask-container of type 1 or 2 (see figures 1 and 2) of 500 mℓ volume with tightly fitting lid of the same material.

5.1.2 Metal test piece holder or rubber band and hook. Metal parts shall be of stainless steel (see figures 1 and 2).