



NSAI
Standards

Irish Standard
I.S. EN ISO 12460-3:2020

Wood-based panels - Determination of formaldehyde release - Part 3: Gas analysis method (ISO 12460-3:2020)

I.S. EN ISO 12460-3:2020

Incorporating amendments/corrigenda/National Annexes issued since publication:

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation — recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):

NOTE: The date of any NSAI previous adoption may not match the date of its original CEN/CENELEC document.

This document is based on:

EN ISO 12460-3:2020

Published:

2020-10-21

This document was published under the authority of the NSAI and comes into effect on:

2020-11-09

ICS number:

79.060.01

NOTE: If blank see CEN/CENELEC cover page

NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

National Foreword

I.S. EN ISO 12460-3:2020 is the adopted Irish version of the European Document EN ISO 12460-3:2020, Wood-based panels - Determination of formaldehyde release - Part 3: Gas analysis method (ISO 12460-3:2020)

This document does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

For relationships with other publications refer to the NSAI web store.

Compliance with this document does not of itself confer immunity from legal obligations.

In line with international standards practice the decimal point is shown as a comma (,) throughout this document.

This page is intentionally left blank

EUROPEAN STANDARD

EN ISO 12460-3

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2020

ICS 79.060.01

Supersedes EN ISO 12460-3:2015

English Version

Wood-based panels - Determination of formaldehyde release - Part 3: Gas analysis method (ISO 12460-3:2020)

Panneaux à base de bois - Détermination du dégagement de formaldéhyde - Partie 3: Méthode d'analyse de gaz (ISO 12460-3:2020)

Holzwerkstoffe - Bestimmung der Formaldehydabgabe - Teil 3: Gasanalyse-Verfahren (ISO 12460-3:2020)

This European Standard was approved by CEN on 2 October 2020.

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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

EN ISO 12460-3:2020 (E)

Contents	Page
European foreword.....	3

European foreword

This document (EN ISO 12460-3:2020) has been prepared by Technical Committee ISO/TC 89 "Wood-based panels" in collaboration with 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 April 2021, and conflicting national standards shall be withdrawn at the latest by April 2021.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 12460-3:2015.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 12460-3:2020 has been approved by CEN as EN ISO 12460-3:2020 without any modification.

This page is intentionally left blank

**INTERNATIONAL
STANDARD**

**ISO
12460-3**

Third edition
2020-10

**Wood-based panels — Determination
of formaldehyde release —**

**Part 3:
Gas analysis method**

*Panneaux à base de bois — Détermination du dégagement de
formaldéhyde —*

Partie 3: Méthode d'analyse de gaz



Reference number
ISO 12460-3:2020(E)

© ISO 2020

ISO 12460-3:2020(E)



COPYRIGHT PROTECTED DOCUMENT

© ISO 2020

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Principle	1
5 Reagents	1
6 Apparatus	2
6.1 Main composites of test apparatus (see Figure 1).....	2
6.2 Laboratory equipment.....	3
7 Sampling and preparation of test pieces	4
7.1 Preparation of test pieces.....	4
7.2 Selection of test pieces for factory production control.....	5
7.3 Selection of test pieces for other purposes.....	5
7.4 Preparation of test pieces in case of dispute.....	5
8 Procedure	5
8.1 Number of determinations.....	5
8.2 Determination of moisture content.....	5
8.3 Determination of formaldehyde release.....	5
8.3.1 General.....	5
8.3.2 Determination of formaldehyde release — Option 1.....	7
8.3.3 Determination of formaldehyde release — Option 2.....	7
8.3.4 Determination of formaldehyde release — Option 3.....	7
8.3.5 Determination of formaldehyde release — Option 4.....	7
8.4 Determination of formaldehyde content of the absorber solutions.....	7
8.4.1 General.....	7
8.4.2 Principle.....	8
8.4.3 Analytical procedure.....	8
8.4.4 Calibration curve.....	8
9 Expression of results	10
9.1 Gas analysis value.....	10
9.2 Calculation of results.....	10
9.2.1 Calculation of results of test pieces.....	10
9.2.2 Calculation of emission report value.....	11
9.3 Moisture content.....	11
10 Test report	11
Bibliography	13

ISO 12460-3:2020(E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 89, *Wood based panels*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 112, *Wood based panels*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 12460-3:2015), which has been technically revised in order to improve the detection limit and the reproducibility of the method with regard to boards with low formaldehyde content.

The main changes compared to the previous edition are as follows:

- test period can be reduced from 4 h to 3 h;
- in [8.3](#) four different options to determine the formaldehyde release are introduced;
- conditioning procedure for decor finish foils specified in [7.1](#).

A list of all parts in the ISO 12460 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Wood-based panels — Determination of formaldehyde release —

Part 3: Gas analysis method

1 Scope

This document specifies a procedure for determination of accelerated formaldehyde release from uncoated and coated wood-based panels using the gas analysis method. The procedure is also suitable for the testing of other materials (e.g. edge bands, floor coverings, foams, foils, laminated wood products, veneered wood products, coated wood products).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

ISO 16979, *Wood-based panels — Determination of moisture content*

ISO 16999, *Wood-based panels — Sampling and cutting of test pieces*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

4 Principle

A test piece of known surface area is placed in a closed chamber in which the temperature, humidity, airflow, and pressure are controlled to defined values. Formaldehyde released from the test pieces mixes with the air in the chamber. This air is continually drawn from the chamber and passes through gas wash bottles, containing water, which absorbs the released formaldehyde. At the end of the test, the formaldehyde concentration is determined photometrically or fluorimetrically. The formaldehyde release is calculated from this concentration, the sampling time, and the exposed area of the test pieces and is expressed in milligrams per square meter and hour (mg/m²h).

5 Reagents

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

5.1 4 ml acetylacetone solution are added to a 1 000 ml volumetric flask and made up to the mark with distilled water.

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- [Looking for additional Standards? Visit Intertek Inform Infostore](#)
 - [Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation](#)
-