



NSAI
Standards

Irish Standard
I.S. EN ISO 15791-1:2013

Plastics - Development and use of intermediate-scale fire tests for plastics products - Part 1: General guidance (ISO 15791-1:2014)

I.S. EN ISO 15791-1:2013

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 15791-1:2013

Published:

2013-12-18

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

2014-02-24

ICS number:

13.220.40

83.080.01

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

EUROPEAN STANDARD

EN ISO 15791-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2013

ICS 13.220.40; 83.080.01

Supersedes EN ISO 15791-1:2004

English Version

Plastics - Development and use of intermediate-scale fire tests
for plastics products - Part 1: General guidance (ISO 15791-
1:2014)

Plastiques - Développement et utilisation des essais au feu
à une échelle intermédiaire pour les produits plastiques -
Partie 1: Lignes directrices générales (ISO 15791-1:2014)

Kunststoffe - Entwicklung und Anwendung von
Brandprüfungen im mittleren Maßstab für
Kunststoffzeugnisse - Teil 1: Allgemeine Anleitung (ISO
15791-1:2014)

This European Standard was approved by CEN on 30 November 2013.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, 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: Avenue Marnix 17, B-1000 Brussels

EN ISO 15791-1:2013 (E)

Contents	Page
Foreword.....	3

Foreword

This document (EN ISO 15791-1:2013) has been prepared by Technical Committee ISO/TC 61 "Plastics" in collaboration with Technical Committee CEN/TC 249 "Plastics" the secretariat of which is held by NBN.

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 June 2014, and conflicting national standards shall be withdrawn at the latest by June 2014.

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

This document supersedes EN ISO 15791-1:2004.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 15791-1:2014 has been approved by CEN as EN ISO 15791-1:2013 without any modification.

This page is intentionally left blank

INTERNATIONAL STANDARD

ISO 15791-1

Second edition
2014-01-15

Plastics — Development and use of intermediate-scale fire tests for plastics products —

Part 1: General guidance

*Plastiques — Développement et utilisation des essais au feu à une
échelle intermédiaire pour les produits plastiques —*

Partie 1: Lignes directrices générales



Reference number
ISO 15791-1:2014(E)

© ISO 2014

ISO 15791-1:2014(E)



COPYRIGHT PROTECTED DOCUMENT

© ISO 2014

All rights reserved. Unless otherwise specified, 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
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Types of plastics and typical products	2
4.1 Generic types.....	2
4.2 Typical applications.....	2
4.3 Composites.....	3
4.4 End-use conditions.....	3
5 Fire scenarios	3
5.1 General.....	3
5.2 Ignition stage.....	3
5.3 Fire growth stage.....	3
5.4 Large room fire.....	4
6 Thermal characteristics of ignition sources	5
7 Design requirements	10
8 Guidance for intermediate scale tests	11
9 Examples of intermediate-scale tests for plastics products	12
9.1 IEC 61034-2 — 3 m cube test.....	12
9.2 ISO 5658-4 — Vertical flame spread test.....	12
9.3 ISO 14696 — Intermediate-scale calorimeter (ICAL) test.....	12
9.4 EN 13823 — Single burning item (SBI) test.....	12
9.5 ISO 24473 — Open calorimetry.....	13
9.6 ISO 21367 — Medium scale fire test for plastics.....	13
10 Test report	13
Annex A (normative) Different scale fire tests for obtaining information on fire performance of material and product	14
Annex B (informative) Example of reference scenarios	17
Bibliography	18

ISO 15791-1:2014(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. 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. 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 on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 61, *Plastics*, Subcommittee SC 4, *Burning behaviour*.

This second edition cancels and replaces the first edition (ISO 15791-1:2002), which has been technically revised.

ISO 15791 consists of the following parts, under the general title *Plastics — Development and use of intermediate-scale fire tests for plastics products*:

— *Part 1: General guidance*

Guidance on product fire testing for semi-finished and finished products is to form the subject of a future part 2.

Introduction

Products for many applications are made of or contain substantial proportions of plastics. The fire performance of a product depends on the materials from which it is made, the design of the product and its environment.

Industry needs to test products used for different applications for regulatory, quality control, development and pre-selection purposes.

Numerous regulations and regional, state and local codes make reference to combustibility tests and standards, and ranking of products derived from these tests are the most commonly available means of comparing the various combustion characteristics of products. More than one test and possibly intermediate- or full-scale tests may be necessary to qualify products containing plastics for intended or proposed use or representative product end-use conditions.

Plastics — Development and use of intermediate-scale fire tests for plastics products —

Part 1: General guidance

1 Scope

This part of ISO 15791 provides a framework guide for the development and use of intermediate-scale fire tests for products made of or containing plastics.

The guidance identifies typical applications of plastics products and possible fire scenarios that can arise involving products in these applications. The development and use of intermediate-scale tests is described to ensure their relevance to the end use of the product.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 13943, *Fire safety — Vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 13943 and the following apply.

3.1

fire scenario

qualitative description of the course of a fire with respect to time, identifying key events that characterize the studied fire and differentiate it

[SOURCE: of ISO 13943:2008, definition 4.129, modified.]

3.2

intermediate-scale fire test

fire test performed on a test specimen of medium dimensions

[SOURCE: ISO 13943:2008, definition 4.200, modified — The note has been omitted.]

3.3

large-scale fire test

fire test that cannot be carried out in a typical laboratory chamber, performed on a test specimen of large dimensions

[SOURCE: ISO 13943:2008, definition 4.205, modified — The note has been omitted.]

3.4

product

manufactured article ready for end use

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](#)
-