

Lighters — Safety specification

The European Standard EN ISO 9994:2002 has the status of a British Standard

ICS 97.180

National foreword

This British Standard is the official English language version of EN ISO 9994:2002. It is identical with ISO 9994:2002. It supersedes BS EN ISO 9994:1996 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee CW/32, Matches and lighters, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this committee can be obtained on request to its secretary.

Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the BSI Standards Catalogue under the section entitled “International Standards Correspondence Index”, or by using the “Find” facility of the BSI Standards Electronic Catalogue.

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Summary of pages

This document comprises a front cover, an inside front cover, the EN ISO title page, the EN ISO foreword page, the ISO title page, pages ii to iv, pages 1 to 23 and a back cover.

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Lighters - Safety specification (ISO 9994:2002)

Briquets - Spécifications de sécurité (ISO 9994:2002)

Feuerzeuge - Festlegungen für die Sicherheit (ISO 9994:2002)

This European Standard was approved by CEN on 25 February 2002.

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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 Management Centre has the same status as the official versions.

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Foreword

This document (ISO 9994:2002) has been prepared by Technical Committee ISO/TC 61 "Plastics", the secretariat of which is held by CMC.

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of an identical text or by endorsement, at the latest by September 2002, and conflicting national standards shall be withdrawn at the latest by September 2002.

This document supersedes EN ISO 9994:1996.

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

Endorsement notice

The text of the International Standard ISO 9994:2002 has been approved by CEN as a European Standard without any modifications.

INTERNATIONAL STANDARD

**ISO
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Third edition
2002-03-15

Lighters — Safety specification

Briquets — Spécifications de sécurité



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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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

International Standard ISO 9994 was prepared by Technical Committee ISO/TC 61, *Plastics*.

This third edition cancels and replaces the second edition (ISO 9994:1995). Other than editorial changes made for purposes of clarification, and changes in format now required by ISO, there are a number of technical changes as follows.

- a) The maximum flame height for adjustable postmixing burner gas lighters has been reduced.
- b) Requirements for premixing burner gas lighters have been added to the standard. This type of lighter is sometimes referred to as a “catalytic” lighter.
- c) In the elevated-temperature test, the temperature has been increased and the controlled water bath has been deleted.
- d) The direction for flame height adjustment is now required to be permanently imprinted or engraved on the lighter.
- e) In the fuel compatibility test and the elevated-temperature test, a lighter empty of fuel is considered a failure.

This International Standard reproduces the technical content of ASTM/ANSI F 400-97.

Annex A of this International Standard is for information only.

Lighters — Safety specification

1 Scope

This International Standard establishes requirements for lighters to ensure a reasonable degree of safety for normal use or reasonably foreseeable misuse of such lighters by users.

The safety specification given in this International Standard applies to all flame-producing products commonly known as cigarette lighters, cigar lighters and pipe lighters. It does not apply to matches, nor does it apply to other flame-producing products intended solely for igniting materials other than cigarettes, cigars, and pipes.

Lighters, being flame-producing devices, can, as do all flame sources, present a potential hazard to users. The safety specification given in this International Standard cannot eliminate all hazards, but is intended to reduce potential hazards to users.

2 Terms and definitions

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

2.1

lighter

manually operated flame-producing device, employing a petrochemical derivative as a fuel, normally used for deliberately igniting cigarettes, cigars and pipes, and which may foreseeably be used to ignite materials such as paper, wicks, candles and lanterns

NOTE Lighters are specifically not intended for use as candles or as flashlights, or for other uses requiring an extended burn time.

2.2

fluid lighter

lighter, with an exposed wick, that employs as fuel liquid hydrocarbons such as hexane whose gauge vapour pressure at 24 °C does not exceed 34,5 kPa

2.3

gas lighter

lighter that employs as fuel liquefied hydrocarbons such as *n*-butane, isobutane and propane whose gauge vapour pressure at 24 °C exceeds 104 kPa

2.4

postmixing burner lighter

gas lighter in which fuel is supplied for combustion and air is supplied at the point of combustion

2.5

premixing burner lighter

gas lighter in which fuel and air are mixed before being supplied for combustion

2.6

disposable lighter

lighter marketed with an integral supply of fuel and that is not intended to be refuelled

2.7

refillable lighter

lighter intended to be refuelled either by transferring fuel from an external container or by inserting a new prefilled fuel reservoir

2.8

adjustable lighter

lighter provided with a mechanism for the user to vary the flame height

2.9

non-adjustable lighter

lighter that is not provided with a user-accessible mechanism to adjust the flame height

NOTE The flame height is preset by the manufacturer.

2.10

automatically adjusting pipe lighter

lighter characterized by an automatic increase in flame height when tilted from an upright position, designed specifically for the purpose of lighting pipes

2.11

self-extinguishing lighter

lighter that, once ignited, requires continuous intentional and positive action to maintain a flame and that is subsequently extinguished by the termination of such positive action

2.12

non-self-extinguishing lighter

lighter that, once ignited, does not require intentional or positive action by the user to maintain a flame and requires a subsequent deliberate user action to extinguish the flame

2.13

flame height

linear distance from the tip of the visible flame to the top of the shield or, in the absence of a shield, from the tip of the visible flame to the bottom of the wick or burner valve orifice

2.14

shield

structure that totally or partially surrounds the burner valve orifice of a gas lighter or the wick of a fluid lighter

2.15

burner valve

component of a gas lighter which controls the release of fuel

2.16

burner valve orifice

tip of the burner valve from which fuel is released

2.17

flaring

variation of flame height from the steady-state flame condition

2.18

sustained self-ignition

propagation of a flame by other than deliberate manual operation, such as by dropping the lighter, so as to cause the ignition element to be activated and the flame to continue to burn