SLOVENSKI STANDARD
SIST EN ISO 9994:2001

01-junij-2001

Vžigalniki - Varnostna specifikacija

Lighters - Safety specification (ISO 9994:1995)

Feuerzeuge - Festlegungen für die Sicherheit (ISO 9994:1995)

Briquets - Spécifications de sécurité (ISO 9994:1995)

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Lighters - Safety specification (ISO 9994:1995)

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This European Standard was approved by CEN on 1996-01-21. 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.

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CEN

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

Central Secretariat: rue de Stassart,36 B-1050 Brussels

Foreword

The text of the International Standard ISO 9994:1995 has been prepared by ISO/CS in collaboration with CEN/CS.

This European Standard supersedes EN 29994:1990.

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of an identical text or by endorsement, at the latest by August 1996, and conflicting national standards shall be withdrawn at the latest by August 1996.

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

Endorsement notice

The text of the International Standard ISO 9994:1995 was approved by CEN as a European Standard without any modification.

INTERNATIONAL STANDARD

ISO 9994

Second edition
1995-12-15

Lighters — Safety specification

Briquets — Spécifications de sécurité

Reference number
ISO 9994:1995(E)

Contents

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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.

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.

International Standard ISO 9994 reproduces the technical content of ASTM/ANSI F 400-87 developed by the *American Society for Testing and Materials* and published jointly by the latter and by the *American National Standards Institute*.

ASTM/ANSI F 400-87, which took into account European Standard EN 123:1980 developed by the European Committee for Standardization (CEN), formed the first edition of ISO 9994. It was approved by the ISO member bodies under a special procedure adopted by the ISO Council.

This second edition cancels and replaces the first edition (ISO 9994:1989), of which it constitutes a technical revision.

Annexes A and B of this International Standard are 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 Definitions

For the purposes of this International Standard, the following 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 1 Lighters are specifically not intended for use as candles, flashlights, or for other uses requiring an extended burn time.

2.1.1 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.

2.1.2 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.

2.2 disposable lighter: Lighter marketed with an integral supply of fuel and that is not intended to be refuelled.

2.3 refillable lighter: Lighter intended to be refuelled either by transferring fuel from an external container or by inserting a new prefilled fuel reservoir.

2.4 adjustable lighter: Lighter provided with a mechanism for the user to vary the flame height.

2.5 non-adjustable lighter: Lighter that is not provided with a user-accessible mechanism to adjust the flame height. (The flame height is preset by the manufacturer.)

2.6 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.

2.7 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.

2.8 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.

2.9 windproof lighter: Lighter (generally a fluid lighter, with an exposed wick and shield around it) designed to provide the user with a product having wind-resistant features.

NOTE 2 In this type of lighter, the shield is sometimes referred to as flameguard, windguard or windshield.

2.10 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 top of the wick or burner valve orifice.

NOTE 3 Flame heights are measured in accordance with 5.2.

2.11 shield: Structure that totally or partially surrounds the burner valve orifice of a gas lighter or the wick of a fluid lighter.

2.12 burner valve: Component of a gas lighter which controls the release of fuel.

2.13 burner valve orifice: Tip of the burner valve from which fuel is released.

2.14 flaring: Variation of flame height from the steady-state flame condition.

2.15 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.

2.16 spitting; sputtering: Flame phenomenon of a gas lighter wherein escape of non-evaporated liquefied gas produces a shower of burning liquid droplets which separate from the main flame.

The maximum attainable flame height for lighters shall be limited by pre-setting or by product design, or both.

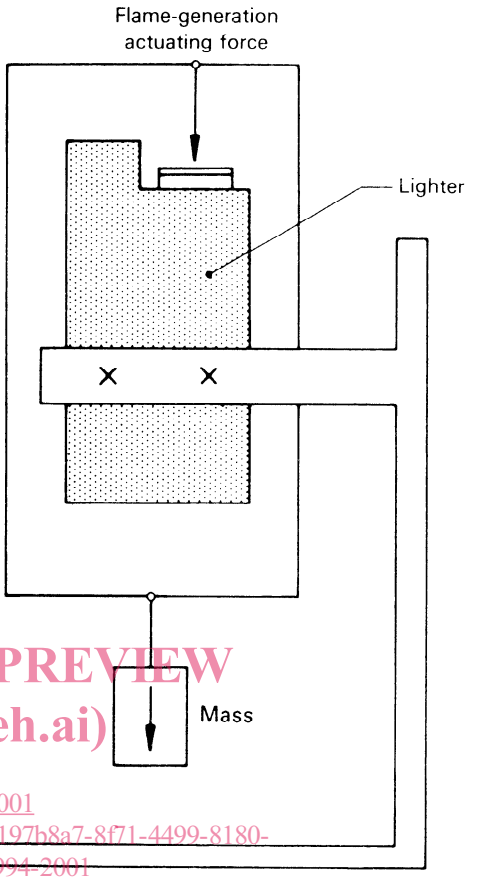

Figure 1 — Application of flame-generation actuating force as specified in 3.1 c): push-button actuator

3 Functional requirements

3.1 Flame generation

In order to minimize the possibility of inadvertent ignition, or self-ignition, lighters shall require a deliberate manual operation to produce a flame. This operation shall conform to at least one of the following requirements:

a) a system such that positive action on the part of the user is required to generate and maintain a flame;

b) a system that requires two or more independent actions by the user to generate a flame;

c) a system that requires an actuating force equal to, or greater than, 15 N to generate a flame (see figure 1 or figure 2).

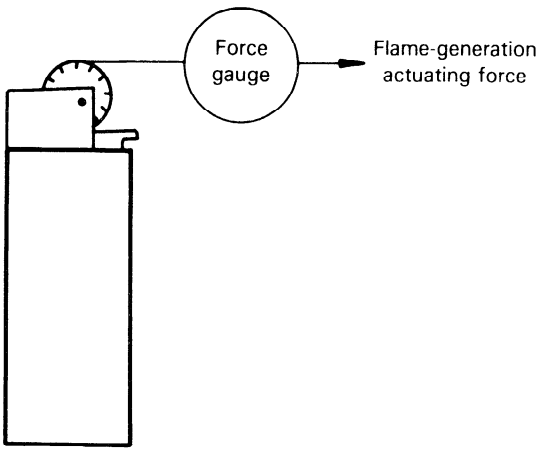

Figure 2 — Application of flame-generation actuating force as specified in 3.1 c): rotary actuator

3.2 Flame heights

NOTE 4 Maximum flame heights specified in this International Standard will be reconsidered periodically with a view to gradual reduction in line with technological progress.

3.2.1 Non-adjustable lighters

3.2.1.1 Non-adjustable windproof lighters shall not be capable of producing a flame height greater than 120 mm when tested in accordance with 5.2.

3.2.1.2 Non-adjustable, non-windproof lighters shall not be capable of producing a flame height greater than 50 mm when tested in accordance with 5.2.

3.2.2 Adjustable lighters

For adjustable lighters as defined in 2.4, the maximum flame height that a user will obtain under different conditions of use shall comply with the following requirements when tested in accordance with 5.2.

3.2.2.1 Adjustable lighters shall have the flame height adjusted prior to reaching the user in such a manner that the lighter, when first struck by the user — without changing the adjustment — will not produce a flame height greater than 100 mm.

3.2.2.2 Adjustable lighters shall not be capable of producing a flame height greater than 150 mm when deliberately adjusted by the user to the manufacturer's design limit for maximum flame height.

3.2.2.3 Adjustable lighters shall not be capable of producing a flame height greater than 50 mm when set at the lowest possible flame height.

NOTE 5 See also annex A on AQL's and annex B, **Bibliography**, for sampling scheme references.

3.2.2.4 Automatically adjusting pipe lighters shall not be capable of producing a flame greater than 100 mm, in any position.

3.3 Flame-height adjustment

Adjustable lighters, as defined in 2.4, shall require a deliberate action on the part of the user either to decrease or to increase the flame height when used in the normal manner. Adjustable lighters shall bear an indication showing the direction of movement of the adjusting mechanism required to produce a higher or lower flame.

3.3.1 On lighters whose adjusting mechanisms conform to 3.3.3 and 3.3.4 respectively, the direction of movement may be permanently imprinted or engraved on the lighter, or it may be of a non-permanent nature such as an attached tag or stick-on label. Such a non-permanent tag or label shall be placed on the lighter in the vicinity of the adjusting mechanism and be readily visible and understandable.

3.3.2 On lighters whose adjusting mechanisms do not conform to 3.3.3 and 3.3.4, the direction of movement shall be permanently imprinted or engraved on the lighter. This shall be in the vicinity of the adjusting mechanism and be readily visible and understandable.

3.3.3 Gas lighters having rotary-movement flame-control actuators approximately at right-angles to the flame shall perform as follows:

a) when the flame-control actuator is at the top of the lighter and the lighter is held so that the flame is oriented vertically upward, and the user is facing the flame-control actuator, moving the actuator to the left shall produce a decrease in flame height;

b) when the flame-control actuator is at the bottom of the lighter, and the lighter is held so that the user is facing the actuator, a clockwise movement shall produce a decrease in flame height.

3.3.4 For gas lighters requiring movement of the flame-control actuator approximately parallel to the flame axis, the flame height shall decrease or increase in accordance with the direction of the movement.

3.3.5 If the flame-control actuator protrudes from the body of the lighter, it shall require a minimum actuating force of 1 N applied over the entire range of adjustment in a tangential direction. (See figure 3.)

3.4 Resistance to spitting or sputtering and flaring

Gas lighters as defined in 2.1.2, when set at the maximum flame height, shall exhibit no spitting or sputtering as defined in 2.16, or flaring as defined in 2.14 , when tested in accordance with 5.3.