SLOVENSKI STANDARD
SIST EN 16647:2015

01-december-2015

Kamini na tekoča goriva - Dekorativne naprave, ki plamen vzdržujejo z gorivom na osnovi alkohola ali želatinastim gorivom - Uporaba v zasebnih gospodinjstvih

Fireplaces for liquid fuels - Decorative appliances producing a flame using alcohol based or gelatinous fuel - Use in private households

Feuerstellen für flüssige Brennstoffe - Dekorative Geräte, die unter Verwendung eines Alkohol basierten flüssigen oder gelförmigen Brennstoffes eine Flamme erzeugen - Nutzung im privaten Haushaltbereich

Foyers pour combustibles liquides - Appareils décoratifs produisant une flamme à l'aide de combustible à base d'alcool ou de carburant gélatineux - Utilisation domestique

Ta slovenski standard je istoveten z: **EN 16647:2015**

ICS:

97.100.40	Grelniki na tekoče gorivo	Liquid fuel heaters

SIST EN 16647:2015 **en,fr,de**

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 16647

September 2015

ICS 97.100.99

English Version

Fireplaces for liquid fuels - Decorative appliances producing a flame using alcohol based or gelatinous fuel - Use in private households

Foyers pour combustibles liquides - Appareils décoratifs produisant une flamme à l'aide de combustible à base d'alcool ou de combustible gélifié - Utilisation domestique

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This European Standard was approved by CEN on 1 August 2015.

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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 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
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Ref. No. EN 16647:2015 E

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European foreword

This document (EN 16647:2015) has been prepared by Technical Committee CEN/TC 46 “Fireplaces for liquid fuels”, 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 March 2016, and conflicting national standards shall be withdrawn at the latest by March 2016.

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 defines the requirements for the construction and operating methods, the operation tests, as well as for the production, labelling and the instruction manuals of decorative fireplaces/appliances producing a flame using liquid or gelatinous alcohol based fuels.

This document contains definitions regarding the technical safety of the appliances.

The requirements listed in the document refer to appliances which are ready for use only. Single components - like simple burner cups – are not considered herein (and are not considered safe when used on their own).

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.

1 Scope

This European Standard applies for decorative fireplaces/appliances for domestic use, producing a flame using alcohol, hereafter referred to as fuel, in liquid or gelatinous fuel for decoration.

NOTE 1 The requirements are strictly applied even when used in other areas. Outside the private household and outdoor area can apply more or different rules on the use of the appliances.

This European Standard applies to free-standing, wall-mounted and built-in appliances with a maximum power output of 4,5 kW.

This European Standard applies for appliances ready for use, whose burner is of one unit or are an integral component of the appliances but not for appliances with a fuel tank separate from the appliance.

This European Standard does not apply for appliances specifically designed for heating food or keeping food warm (rechauds), as well as for appliances for use in boats, caravans, other vehicles or outdoor areas.

This European Standard does not apply for appliances with a power output higher than 4,5 kW or with a defined heating function.

NOTE 2 National regulation may restrict the power output to less than 4,5 kW.

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.

EN 1023-3, *Office furniture — Screens — Part 3: Test methods*

EN 13240, *Roomheaters fired by solid fuel — Requirements and test methods*

EN 13501-1, *Fire classification of construction products and building elements — Part 1: Classification using data from reaction to fire tests*

EN 60335-1, *Household and similar electrical appliances — Safety — Part 1: General requirements (IEC 60335-1)*

EN 60335-2-102, *Household and similar electrical appliances — Safety — Part 2-102: Particular requirements for gas, oil and solid-fuel burning appliances having electrical connections (IEC 60335-2-102)*

EN ISO 13732-1, *Ergonomics of the thermal environment — Methods for the assessment of human responses to contact with surfaces — Part 1: Hot surfaces (ISO 13732-1)*

IEC 60417-DB-12M, *Graphical symbols for use on equipment — 12-month subscription to online database comprising all graphical symbols published in IEC 60417 and ISO 7000 Graphical symbols for use on equipment*

ISO 3864 (all parts), *Graphical symbols — Safety colours and safety signs*

ISO 7000, *Graphical symbols for use on equipment — Registered symbols*

ISO/IEC Guide 37, *Instructions for use of products by consumers*

3 Terms and definitions

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

3.1
appliance which is ready for use
unit comprising a burner and housing which are supplied ready for use by the manufacturer or a burner which is ready to be built into a setting as per the manufacturer's instructions

3.2
area of flame impingement
area which could to be touched by the flame under normal operating conditions

3.3
body
unit comprising walls, base and covers made of non-combustible or thermally protected materials which encase the burner and within which the combustion takes place

3.4
burner
unit comprising at least secondary containment chamber and the burner opening

3.5
burner opening
opening in the burner at which the combustion of the fuel-air mixture takes place

3.6
secondary containment chamber
container in which the fuel storage tank is located in order to contain excess, overfilled fuel or fuel leaving out of a defective fuel storage tank

3.7
decorative fireplaces fuelled by liquid fuel or gelatinous fuel
appliance which is fuelled with liquid fuel and/or gelatinous fuel and used for decorative purposes

3.8
fixed appliance
appliance designed to be permanently fixed to the fabric of the building

3.9
free standing appliance
appliance not designed to be permanently fixed to the fabric of the building and not provided with helping devices for moving

3.10
fuel
alcohol derivate alcohol with at least 95 % C_2H_5OH

3.11
filling material
material inside of the burner to absorb the fuel

3.12
fuel storage tank
container part of the appliance, from which the fuel is fed to the burner

3.13
gelatinous fuel
combustible paste based on alcohol at least 95 % of denaturated volume, as well as gelling agent

3.14
minimum burner adjustment
burner setting at lowest fuel consumption

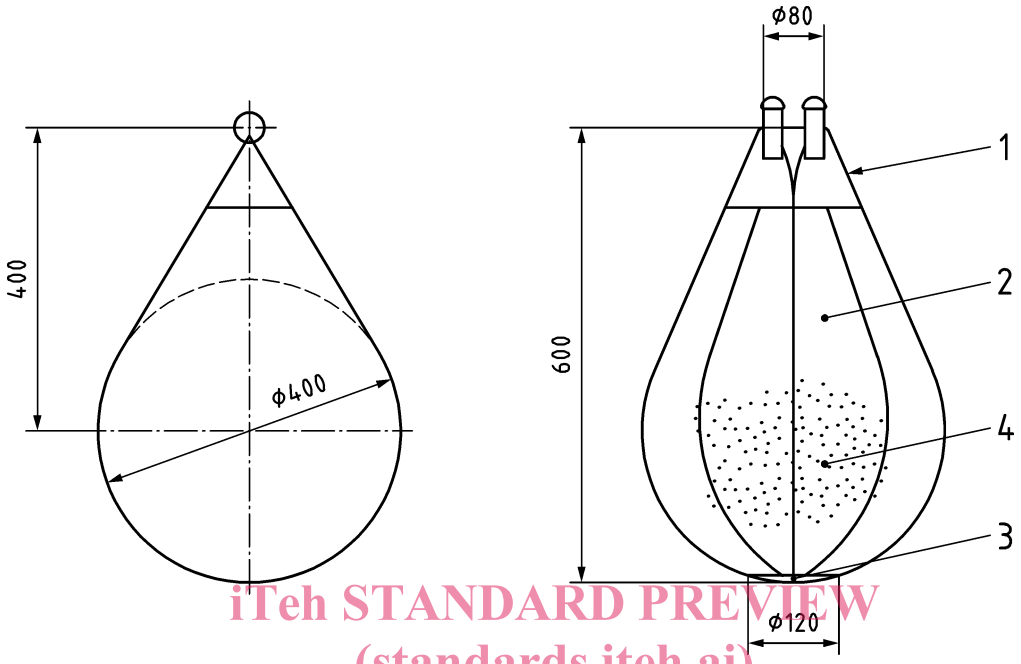
3.15
ignition device
device for ignition of the burner

3.16
maximum burner adjustment
burner setting at highest fuel consumption

3.17
non-combustible material
material classified A2-s1d0 as described in EN 13501-1

3.18
test bag

Dimensions in millimetres



Key

1 leather string
2 eight canvas sections
3 leather bottom
4 20 kg dry corn

Figure 1 — Spheroconical bag for the stability test

3.19
tabletop appliance
appliance which is placed exclusively on furniture, wall shelves in accordance with the manufacturer's definition and not in the walkable area within a room

4 Construction

4.1 General

The appliance shall be produced in such a way as to:

— rule out any kind of permanent deformations or other damages on the appliance after testing;

— withstand any tensions occurring during normal use;

— facilitate being operated safely.

The use of decorative elements e.g. imitation wood, pebbles in the flame area are not permitted.

4.2 Fuel Volume

The maximum burner volume shall not exceed 3 l. The total fuel capacity of the appliance shall not exceed 10 l.

NOTE National or regional legislation might impose lower limits.

4.3 Construction

The appliance shall be fitted with a feature with an easy-to-use closing mechanism (in order to extinguish the flames). This mechanism shall work reliably and safely also if the appliance is in use – if required by means of auxiliary tools that shall be provided by the manufacturer.

Furthermore, the design of the construction shall ensure:

— any welding seams of the fuel storage tank shall be continuously welded;

— that replaceable parts or parts necessary for assembly on site shall not be fitted incorrectly;

— that all parts used for operation and/or maintenance of the appliance shall be free from sharp edges which could constitute a safety hazard for the user;

— an extinguishing device fulfilling 5.6 is a requirement.

4.4 Materials

The parts which are in contact with than alcohol shall be constructed with chrome-nickel steel 1.4301 or with material of better thermal, chemical, mechanical properties and corrosion resistance than chrome-nickel steel 1.4301.

Asbestos and Cadmium containing hard soldering flux shall not be used in any components of the appliance. Any insulation material shall be non-combustible (A2s1d0 class, EN 13501-1) and its application shall not pose any threat to health and safety.

It shall be ensured that any filling materials used in the burners are durable and specifically suited for the thermal strain under contact with fuel and its combustion, and shall not alter their properties. Certificates issued by a test institute shall be submitted accordingly. This shall be tested according to 5.7.

The burner and all components which can reach a temperature over 65 K above room temperature, shall be constructed of non-combustible materials.

4.5 Stability test

If fittings for the mounting or fixing of the appliances are provided by the manufacturer, they shall be durable for the whole life of the appliance.

If unintentionally moved or tilted during operation the appliance shall be stable according with the tests in Clause 5.

Appliances provided with wheels or any other devices helping their movement shall be naturally blocked and it shall be impossible to move them without extinguishing the flame.

The free standing appliances shall pass the stability test (tilting and sliding, impact, movement test), as stated in Clause 5.

For all the tests the fuel tank shall be filled with fuel to the maximum level according to the user instruction.

For wall-mounted appliances, unintentional moving shall be prevented. Especially it shall not be possible to unlatch or lift off the appliance from the hook.

NOTE Damage to the appliance which is caused by impact stress (e.g. crack in a glass screen) can be accepted as long as the requirements towards mechanical stability and fuel spillage are met.

4.6 Ignition device

The appliance shall be safe to ignite.

It shall be possible to light the appliance with commonly available lighters, if the appliance is not equipped with an integrated ignition device or a lighter is not included with the appliance. The user shall be able to ignite the fire from a horizontal minimum distance of 140 mm (shortest distance between the handle of the lighter or ignition device and the burner opening).

Devices which would enable the user to light the fire without visual contact with the flames are not allowed.

If a remote control device is provided, an unwanted ignition shall not be possible and a child safety device shall be provided.

EXAMPLE Pressing two buttons is considered enough for chid safety.

5 Test methods and requirements

5.1 General

Table 1 shows an overview of the tests which shall be performed according to type of appliance.

Table 1 — Tests to be performed according to appliance type

Test	Appliance		
	Fix	**Free standing**	**Tabletop**
Tilting + Sliding	NO	YES	YES
Movement from impact	YES	YES	YES
Tilting from impact	NO	YES	YES
Stress	YES	NO	NO
Spillage	NO	YES	YES

For all the tests the fuel tank shall be filled with fuel or water to the maximum level according to user instruction or lower if any level is considered more critical by the laboratory.

All tests should be performed by laboratory accredited according to EN ISO/IEC 17025.

5.2 Tilting and sliding test

The appliance shall be placed on an inclinable surface of glass with low friction and without any fixation.

The surface shall successively be tilted by 5° to all four sides and for free-standing appliances and tabletop appliances by 10°.

The speed at which the surface is tilted shall not exceed 1,5 ± 0,5° increase of tilt angle/second.

The test is considered as passed if there is no spillage.