SLOVENSKI STANDARD
SIST EN 17093:2018

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Gospodinjske naprave, ki se uporabljajo za čiščenje pitne vode in niso priključene na vodovodno omrežje - Sistemi za vodni filter jug - Varnostne zahteve za delovanje, označevanje in podatki, ki jih mora podati dobavitelj

Domestic appliances used for drinking water treatment not connected to water supply - Jug water filter systems - Safety and performance requirements, labeling and information to be supplied

Leitungsungebundene Haushaltsgeräte zur Behandlung von Trinkwasser - Haushaltswasserfiltersysteme - Sicherheits- und Leistungsanforderungen, Kennzeichnung und mitzuliefernde Informationen

Appareils domestiques de traitement de l'eau non connectés au réseau d'alimentation en eau - Systèmes de carafes filtrantes d'eau - Exigences de sécurité et de performance, étiquetage et informations à fournir

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Domestic appliances used for drinking water treatment not connected to water supply - Jug water filter systems - Safety and performance requirements, labeling and information to be supplied

Appareils domestiques de traitement de l'eau non connectés au réseau d'alimentation en eau - Systèmes de carafes filtrantes d'eau - Exigences de sécurité et de performance, étiquetage et informations à fournir

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This European Standard was approved by CEN on 7 May 2018.

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European foreword

This document (EN 17093:2018) has been prepared by Technical Committee CEN/TC 426 “Domestic appliances used for water treatment not connected to water supply”, the secretariat of which is held by UNI.

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of an identical text or by endorsement, at the latest by February 2019, and conflicting national standards shall be withdrawn at the latest by February 2019.

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.

According to the CEN-CENELEC Internal Regulations, the national standards organisations 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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

Jug water filter systems are used for the conditioning of drinking water with the objective of optimizing drinking water for specific applications.

1 Scope

This document describes the specifications and test methods for gravity fed devices for conditioning of drinking water that are not connected to the mains water distribution system in buildings, known as jug water filter systems. It also gives instructions for the user manuals, so that the jug water filter system can be used and maintained properly. Jug water filter systems are intended to modify the properties of drinking water only, and are not designed to make non-potable water safe for drinking. The scope of this document does not extend to combination systems that require an electrical power supply such as water heaters and water coolers systems.

NOTE 1 Although jug water filter systems are covered by the widely harmonized food legislation (EU Regulations 178/2002 and 1935/2004), existing national regulations concerning the use and or the characteristics of these products remain in force

NOTE 2 This standard provides no information as to whether the product is used without restriction in any of the Member States of the EU or EFTA.

NOTE 3 An amendment is being prepared with the following scope: This Amendment provides a validated test method using Pseudomonas Aeruginosa (ATCC 15442) as a bacterial indicator in addition to the test procedure using E. Coli.

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.

EN 12673, *Water quality - Gas chromatographic determination of some selected chlorophenols in water*

EN 12903, *Products used for the treatment of water intended for human consumption - Powdered activated carbon*

EN 12904, *Products used for treatment of water intended for human consumption - Silica sand and silica gravel*

EN 12905, *Products used for treatment of water intended for human consumption - Expanded aluminosilicate*

EN 12906, *Products used for treatment of water intended for human consumption - Pumice*

EN 12907, *Products used for treatment of water intended for human consumption - Pyrolyzed coal material*

EN 12909, *Products used for treatment of water intended for human consumption - Anthracite*

EN 12910, *Products used for treatment of water intended for human consumption - Garnet*

EN 12911, *Products used for treatment of water intended for human consumption - Manganese greensand*

EN 12912, *Products used for treatment of water intended for human consumption - Barite*

EN 12913, *Products used for treatment of water intended for human consumption - Powdered diatomaceous earth*

EN 12914, *Products used for treatment of water intended for human consumption - Powdered perlite*

EN 12915-1, *Products used for the treatment of water intended for human consumption - Granular activated carbon - Part 1: Virgin granular activated carbon*

EN 13752, *Products used for treatment of water intended for human consumption - Manganese dioxide*

EN 13753, *Products used for treatment of water intended for human consumption - Granular activated alumina*

EN 13754, *Products used for treatment of water intended for human consumption - Bentonite*

EN 14368, *Products used for treatment of water intended for human consumption - Manganese dioxide coated limestone*

EN 14369, *Products used for treatment of water intended for human consumption - Iron-coated granular activated alumina*

EN 26777, *Water quality - Determination of nitrite - Molecular absorption spectrometric method (ISO 6777)*

EN ISO 3696, *Water for analytical laboratory use - Specification and test methods (ISO 3696)*

EN ISO 7393-2, *Water quality - Determination of free chlorine and total chlorine - Part 2: Colorimetric method using N,N-dialkyl-1,4-phenylenediamine, for routine control purposes (ISO 7393-2)*

EN ISO 9308-1, *Water quality - Enumeration of Escherichia coli and coliform bacteria - Part 1: Membrane filtration method for waters with low bacterial background flora (ISO 9308-1)*

EN ISO 9963-1, *Water quality - Determination of alkalinity - Part 1: Determination of total and composite alkalinity (ISO 9963-1)*

EN ISO 10301, *Water quality - Determination of highly volatile halogenated hydrocarbons - Gas-chromatographic methods (ISO 10301)*

EN ISO 10304-1, *Water quality - Determination of dissolved anions by liquid chromatography of ions - Part 1: Determination of bromide, chloride, fluoride, nitrate, nitrite, phosphate and sulfate (ISO 10304-1)*

EN ISO 10523, *Water quality - Determination of pH (ISO 10523)*

EN ISO 13395, *Water quality - Determination of nitrite nitrogen and nitrate nitrogen and the sum of both by flow analysis (CFA and FIA) and spectrometric detection (ISO 13395)*

EN ISO 11885, *Water quality - Determination of selected elements by inductively coupled plasma optical emission spectrometry (ICP-OES) (ISO 11885)*

EN ISO 17294-2, *Water quality - Application of inductively coupled plasma mass spectrometry (ICP-MS) - Part 2: Determination of selected elements including uranium isotopes (ISO 17294-2)*

ISO 6059, *Water quality — Determination of the sum of calcium and magnesium — EDTA titrimetric method*

ISO 7890-3, *Water quality — Determination of nitrate — Part 3: Spectrometric method using sulfosalicylic acid*

3 Terms and definitions

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

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

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

3.1
jug
receptacle that collects the filtrate

3.2
nominal capacity (NC)
volume in litres of treated water stated by the manufacturer, up to which cartridge performances are guaranteed

3.3
jug water filter system
freestanding water filter device, not connected to a water supply system

3.4
cartridge
replaceable or rechargeable component, which contains the active medium through which the water passes in order to be treated

3.5
challenge water
water spiked with chemicals or inoculated with bacteria, used for carrying out the tests

3.6
hopper
separate, removable or non-removable chamber that contains the water before it passes through the active medium

3.7
filtrate
water that has passed through the filter active medium

3.8
cartridge replacement indicator
device indicating the need to replace a cartridge

3.9
active medium
active material that significantly reduces a component from the water by physical process or chemical reaction or another surface activity

3.10
maximum usage time
time in weeks specified by the manufacturer up to which hygienic conditions of the filter are maintained subject to correct operation in accordance with manufacturer's instructions

3.11
contact time
time taken for one litre of water to pass through the cartridge

4 Design requirements

4.1 Jug water filter system components

The jug water filter system can comprise some or all of the following components:

a) jug;

b) hopper;

c) cartridge;

d) cartridge replacement indicator;

e) lid.

NOTE The components of a jug water filter system can vary and might include parts other than those listed. However, this list is representative of most jug water filter systems currently available.

4.2 Jug water filter system constituent materials

All materials used in the jug water filter system coming into contact with inlet water and filtrate shall meet the regulations for materials in contact with food [11] [12].

The jug water filter system shall comply with the Biocide Product Regulation, when applicable (e.g. when silver is used) [13].

The active media shall comply with the requirements relating to the water extractable chemical parameters in standards EN 12903, EN 12904, EN 12905, EN 12906, EN 12907, EN 12909, EN 12910, EN 12911, EN 12912, EN 12913, EN 12914, EN 12915-1, EN 13752, EN 13753, EN 13754, EN 14368, and EN 14369 as appropriate.

5 Chemical and microbiological safety requirements

5.1 Filtered water quality

For compliance with this European Standard the filtered water quality shall comply with the national implementations of the European drinking water Directive 98/83/EC, Annex 1, Part A and B and any subsequent amendments [1].

5.2 Packaging

Filter cartridges shall be adequately protected from mechanical damage during shipment and storage. They shall also be individually, hygienically sealed to prevent contamination during shipment and storage.

5.3 Release of silver

There is no European regulated limit governing the amount of silver in drinking water. Taking into consideration the information provided in the WHO Guidelines [15], if the cartridge is treated with silver, the average silver concentration when tested in accordance with 7.2.5.3 shall not exceed 80 µg/l.

When testing for silver leachate, if the manufacturer's instructions stipulate that, for a new cartridge, an amount of water shall be discarded before commencement of use, those instructions shall be followed before testing is carried out.

5.4 Microbiological contamination

5.4.1 Condition of the new cartridge

The new cartridge as delivered to the consumer shall not contain numbers or concentrations of micro-organisms constituting a potential danger to the health of the user.

When tested in accordance with 7.3.1, sterile filtered challenge water after filtration by a new jug water filter system, shall comply with the microbiological requirements of the Drinking Water Directive 98/83/EC, Annex 1, Part A, first table (distributed drinking water)[1], as applicable to tap water.

5.4.2 Potential for colonisation of the jug water filter system

During normal use, the jug water filter system shall not promote microbiological growth, therefore, a microbiological challenge test according to 7.3.2 shall be carried out.

When tested in accordance with 7.3.2, the sum of the CFU (Colony Forming Units) counts of E.coli for day 2 to day 4 shall not exceed twice the CFU counts of the challenge water, for each of the two challenge weeks.

6 Performance requirements

6.1 General

6.1.1 Compliance with this standard may only be claimed if the jug water filter system has been tested as a complete unit.

The jug water filter system shall only be assessed against the manufacturer's claims for the relevant parameters present in the standard.

At least one parameter shall be identified in those performance claims based on the nominal capacity in litres stated by the manufacturer.

If more than one performance parameter is declared for the jug water filter system, the performance parameter with the lowest capacity (in litres) defines the maximum capacity the manufacturer is allowed to claim.

All claims made to this standard shall be clearly separated from other claims or information.

6.1.2 Any additional substance reduction claims (see Annex H) not specifically mentioned in this standard but tested according to the procedures specified in Clause 7 shall have a reduction rate of at least 90 %.

6.1.3 If a filter cartridge, which has been confirmed by the manufacturer to comply with this standard in a specific jug water filter system, is to be used in an alternative system (hopper and jug), compliance of the alternative system can be assumed if:

a) the cartridge has been tested in the jug water filter system with the highest water level above the cartridge (the reference system), and

b) a seal verification confirms that the cartridge fits into the alternative jug water filter system(s) with the same seal tightness as in the reference system (see Annex J);

c) the contact time for the cartridge is not less than 90% of that for the originally tested system.