BS EN 1420:2016

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Influence of organic materials on water intended for human consumption — Determination of odour and flavour assessment of water in piping systems

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National foreword

This British Standard is the UK implementation of EN 1420:2016. It supersedes BS EN 1420-1:1999 which is withdrawn.

Further information can be obtained for UK approvals from the Drinking Water Inspectorate and the Water Regulations Advisory Scheme.

The UK participation in its preparation was entrusted to Technical Committee EH/6, Effects of materials on water quality.

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

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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English Version

Influence of organic materials on water intended for human consumption - Determination of odour and flavour assessment of water in piping systems

Influence des matériaux organiques sur l'eau destinée à la consommation humaine - Détermination de l'odeur et de la flaveur de l'eau dans les réseaux de conduites

Einfluss von organischen Werkstoffen auf Wasser für den menschlichen Gebrauch - Bestimmung des Geruchs und Geschmacks des Wassers in Rohrleitungssystemen

This European Standard was approved by CEN on 27 November 2015.

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.

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European foreword

This document (EN 1420:2016) has been prepared by Technical Committee CEN/TC 164 "Water supply", the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by July 2016, and conflicting national standards shall be withdrawn at the latest by July 2016.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 supersedes EN 1420-1:1999.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

With regard to the former edition EN 1420-1:1999, the following changes were made:

— the test method for TON /TFN according to EN 1622 has been specified,

— a procedure for the panel qualification has been introduced,

— the preparation of the migration waters has been specified and is now in accordance with EN 12873-1,

— the scope of the standard has been extended: all organic products in contact with drinking water (including coatings and side applied products) can be tested according to this standard.

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.

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Introduction

In respect of potential adverse effects on the quality of the water intended for human consumption, arising from contact with materials used for conveying and distribution, it is recalled to mind that, national regulations remain in force.

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1 Scope

This European Standard specifies a procedure for obtaining a migration water to determine odour and flavour for products made from organic materials intended to come in contact with water for human consumption (drinking water) and used in piping systems. Such products include pipes, fittings, ancillaries and coatings.

This standard is applicable to products to be used under various conditions for the transport, storage and distribution of water intended for human consumption and raw water used for the manufacture of water intended for human consumption.

This standard specifies a test method comprising of a set of procedures. The use may be dependent on the relevant national regulations and/or the system or product standards.

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 1622:2006, *Water quality — Determination of the threshold odour number (TON) and threshold flavour number (TFN)*

EN 12873-1:2014, *Influence of materials on water intended for human consumption — Influence due to migration — Part 1: Test method for factory-made products made from or incorporating organic or glassy (porcelain/vitreous enamel) materials*

EN 12873-2, *Influence of materials on water intended for human consumption — Influence due to migration — Part 2: Test method for non-metallic and non-cementitious site-applied materials*

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

3 Terms and definitions

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

3.1
odour
organoleptic attribute perceptible by the olfactory organ on sniffing certain volatile substances (EN ISO 5492)

3.2
flavour
complex combination of the olfactory, gustatory and trigeminal sensations perceived during tasting which may be influenced by tactile, thermal, painful and/or kinaesthesic effects (EN ISO 5492)

3.3
threshold odour number
TON
dilution ratio beyond which the diluted sample does not have any perceptible odour

[SOURCE: EN 1622:2006, 3.3]

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3.4
threshold flavour number
TFN
dilution ratio beyond which the diluted sample does not have any perceptible flavour

[SOURCE: EN 1622:2006, 3.4]

3.5
test water
water without any perceptible odour and flavour used for testing purposes prepared as described in 5.1.1 and 5.1.2

3.6
migration water
test water which has been in contact with a test piece under specified conditions

3.7
blank water
test water which has been kept at the same specified conditions as migration water but without contact with the test piece

3.8
prewashing water
tapwater without any odour and flavour and a chlorine content less than 0,05 mg/l as Cl_2

3.9
testing panel
group of people meeting the relevant requirements of EN 1622

3.10
product
manufactured item, in its finished form

3.11
site-applied product
product where the final surface in contact with drinking water is prepared on site

3.12
fitting, ancillary
complete functional unit made up of one or more components and materials, parts of which are in contact with drinking water

EXAMPLES Taps, valves, water filters.

3.13
membranes
elastomer as used in pressure relief devices

3.14
sample
one or more units, or a specified quantity, drawn from a batch or lot, selected at random for inspection

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