

Jug water filter systems—

Specification

ICS 13.060.20; 97.040.99

Confirmed January 2010

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by Technical Committee, B/504, Water supply, to Subcommittee B/504/13, Domestic water treatment, upon which the following bodies were represented:

- British Water
- Department of Health — Health Aspects of the Environment and Food Division
- Royal Society of Chemistry
- UK Physical Water Conditioning Association
- Water Research Centre Plc.
- Water UK

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 14 December 2004

The following BSI references relate to the work on this British Standard:

Committee reference B/504/13

Draft for comment 03/110850 DC

© BSI 2008

ISBN 978 0 580 63084 2

Amendments issued since publication

Amd. No	Date	Comments
Cor 1	30 May 2008	Value in B.2 corrected

Contents

	Page
Committees responsible	Inside front cover
Foreword	ii
Introduction	1
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Components and materials	3
5 Performance	3
6 Test methods	4
7 Marking and labelling	7
8 Manufacturer's instructions for use	7
Annex A (normative) Preparation of stock solutions	8
Annex B (normative) Preparation of challenge water	9
Annex C (informative) Example filtering and sampling schedule	11
Annex D (informative) Analytical methods	12
Annex E (informative) Example test result sheets	13
Bibliography	15
Table 1 — Chemical concentration requirements	3
Table 2 — Taste and odour concentration requirements	3
Table 3 — Performance characteristics of analytical methods	6
Table A.1 — Preparation of metal stock solutions	8
Table C.1 — Example	11

Foreword

This British Standard has been prepared under the direction of Technical Committee B/504 to reflect the growing use of jug water filter systems.

The start and finish of text introduced by Corrigendum No. 1 is indicated in the text by tags **[C1]** **[C1]**.

Regarding possible unfavourable effects of the products to which this standard applies on the quality of water for human consumption, note that, while awaiting the adoption of verifiable European criteria, existing national regulations concerning the use and/or characteristics of this product remain in force (see 4.2).

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

Compliance with a British Standard cannot confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 15 and a back cover.

Introduction

Jug water filter systems are increasingly being used by the public to modify the qualities of domestic tap water. The jug water filter systems specified in this British Standard are not designed to be used for the reduction of micro-organisms. They are designed to be used with drinking water only.

Valid and reliable test protocols are needed to evaluate the performance of different water treatment systems in filtering drinking water. Owing to the complexity of the parameters that have an impact on the test results it is important to follow a specific filtration testing procedure. In particular, tests for certain metals such as lead can produce different results if a particular filtration procedure is not followed.

This standard includes a detailed protocol for preparation of challenge water and performance testing; the spiking levels specified enable the reduction of specified substances to be assessed but can be higher than would normally be encountered in public drinking water supplies.

1 Scope

This British Standard specifies requirements for the performance and labelling of jug water filter systems used for the domestic treatment of drinking water only.

2 Normative references

The following referenced documents are indispensable for the application 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.

BS 6920-1, *Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water — Specification.*

BS 6920-2.1, *Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water — Part 2: Methods of test — Section 2.1: Samples for testing.*

BS 6920-2.2.1, *Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water — Part 2: Methods of test — Section 2.2: Odour and flavour of water — Subsection 2.2.1: General method of test.*

BS 6920-2.3, *Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water — Part 2: Methods of test — Section 2.3: Appearance of water.*

BS 6920-2.4, *Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water — Part 2: Methods of test — Section 2.4: Growth of aquatic micro-organisms test.*

BS 6920-2.5, *Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water — Part 2: Methods of test — Section 2.5: The extraction of substances that may be of concern to public health.*

BS 6920-2.6, *Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water — Part 2: Methods of test — Section 2.6: The extraction of metals.*

BS EN ISO 3696:1995, *Water for analytical laboratory use — Specification and test methods.*

BS 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.*

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

3 Terms and definitions

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

3.1

cartridge

replaceable/rechargeable container that contains the **filtration medium (3.5)** through which the unfiltered water passes

NOTE This will normally be attached to, or placed within, the **hopper (3.7)**.

3.2

cartridge exchange indicator

device by which the need to change a **cartridge (3.1)** is indicated

NOTE It can work, for example, by elapsed time or throughput of water.

3.3

challenge water

medium used in the testing of the performance of the **jug water filter system (3.9)**

NOTE This is prepared by the addition of test chemicals to analytical grade water.

3.4

drinking water

water of a quality suitable for drinking purposes
[BS 6068-1.1:2004, definition 30]

3.5

filtration medium

medium through which the unfiltered water passes

NOTE This can, for example, consist of activated carbon or ion exchange resins or a mixture of these.

3.6

filtrate

drinking water (3.4) that has been treated by a **jug water filter system (3.9)**

3.7

hopper

separate, removable chamber that contains the unfiltered water

3.8

jug

receptacle that collects the **filtrate (3.6)**

3.9

jug water filter system

free-standing water filtration system, i.e. not connected to the **drinking water (3.4)** supply

3.10

limit of quantification

lowest concentration of a determinand, in a sample, that can be determined quantitatively

NOTE Limit of quantification is calculated as 4.65 times the relative within-batch standard deviation of a blank sample.