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WRAS TEST & ACCEPTANCE CRITERIA

Issue No: 1
Date of issue: April 2006

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TEST CODE SHEET

1. SCOPE**EN 13959 : 2004 ‘Anti-pollution check valves – DN6 to DN250 inclusive Family E, Type A, B, C and D.****Note:** The Regulators Specification for family E devices does not provide test criteria for valves greater than DN54.

This WRAS Specification does not form part of the official Regulators’ Specification but until amendment of the Regulators’ Specification, and with publication of the European Standard EN 13959 : 2004, the Water Supply Industry through WRAS has accepted that family E devices which meet the following requirements, taken from that standard, are deemed to satisfy the requirements of Regulation 4.

This WRAS Specification applies to: -
Check valves EA, EB, EC, ED including check valve cartridges up to 250mm.

2. TEST REQUIREMENTS

The check valves EA, EB, EC, ED including check valve cartridges must be tested as and comply with the requirements/criteria stipulated in EN 13959 clauses: -

8.4.1, 10.1, 10.2, 11.1, 11.3, 11.4, 11.5, 11.6, 11.7, 11.9 and Annex A,
and the Regulators Specifications (Test Code Sheets)
TCS 1412.1, 2111.1, 2114.2, 6001.1, 2111.2 (if applicable) and 1411.1 (DZR) and 2213.5 (if applicable).

3. REGULATORY REQUIREMENTS

The Water Supply (Water Fittings) Regulations 1999 are to prevent the: Waste; Misuse; Undue Consumption or Contamination of the water supplied by the undertaker.

Regulation 4, Requirements for water fittings, requires:

- (1) that every water fitting shall be of an approved quality and standard and be suitable for the circumstances in which it is used;
- (2) has four options for determination of whether a water fitting is of an appropriate quality or standard – i.e.
 - (a) it bears a CE mark; or,
 - (b) it conforms to an appropriate (CEN) EN or European Technical Approval; or,
 - (c) it conforms to an appropriate BS, or some other national specification of an EEA State which provide an equivalent level of protection and performance; or,
 - (d) it conforms to a specification approved by the regulator.

Many fittings (and products) are thereby specified under 4 (d), Regulators’ Specifications, to ensure that they are of an appropriate quality and are suitable for the circumstances in which they are used.

Water Supply (Water Fittings) Regulations 1999 – Guidance Document relating to Schedule 2 Requirements for Water Fittings: -

Paragraph G2.5

The following factors should be considered when determining the suitability of materials and fittings which are, or will be, in contact with the water supplied:

- a. internal and external temperatures to which they will be subjected;
- b. the effect of internal and external corrosion;
- c. compatibility of different materials;
- d. the effect of ageing, fatigue, durability and other mechanical factors; and
- e. permeability

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G15.2

Avoidance of backflow should be achieved by good system design and the provision of suitable backflow prevention arrangements and devices, the type of which depends on the fluid category to which the wholesome water is discharged. A description of fluid risk categories is shown in Schedule 1 of the Regulations and some suggested examples relating to the fluid categories are shown in Schedule 1: Tables G6.1a to G6.1e.

G15.7

Mechanical backflow protection devices which, depending on the type of device, may be suitable for protection against backpressure or backsiphonage, or both, should be installed so that:

- a. they are readily accessible for inspection, operational maintenance and renewal; and
- b. except for Types HA and HUK1, backflow prevention devices for protection against fluid categories 2 and 3, they should not be located outside premises; and
- c. they are not buried in the ground.

S15.3

GENERAL INTERPRETATIONS OF BACKFLOW PREVENTION DEVICES AS LISTED IN TABLE S6.2

'**Type EA – Verifiable single check valve**' means a verifiable mechanical backflow prevention device which will permit water to flow from upstream to downstream but not in the reverse direction.

'**Type EB – Non-verifiable single check valve**' means a non-verifiable mechanical backflow prevention device which will permit water to flow from upstream to downstream but not in the reverse direction.

'**Type EC – Verifiable double check valve**' means a verifiable mechanical backflow prevention device consisting of two verifiable single check valves in series, which will permit water to flow from upstream to downstream but not in the reverse direction.

'**Type ED – Non-verifiable double check valve**' means a non-verifiable mechanical backflow prevention device consisting of two single check valves in series, which will permit water to flow from upstream to downstream but not in the reverse direction.

A product or installation which satisfies the requirements of this specification will be deemed to meet the requirements of Regulation 4 of the Water Supply (Water Fitting) Regulations 1999.