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WBS TEST & ACCEPTANCE CRITERIA PD.

Issue No: 2
Date of issue: January 1990

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TEST CODE SHEET

1. TYPE OF TEST(S)

Deflection

2. BYELAW REQUIREMENT FOR FITTINGS

Byelaw 42

Every float-operated valveshall(f) have a lever which - (i) when the valve is closed will withstand without bending or distorting a force twice that to which it is ordinarily subject, and (ii) in the case of a ½ inch valve, is constructed so that the water shut-off level may be altered or adjusted without bending the float lever.

Byelaw 43

No float-operated valve shallconvey hot waterunless (a) it is constructed of materials capable of withstanding any ordinary water temperature to which it is or may be subject.

3. BRITISH STANDARDS OR WATER SPECIFICATION, DEEMED TO SATISFY BYELAW REQUIREMENTS

(See Water Supply Byelaw Guide)

BS 1212 Part 1 Clause 15c (excepting ½in size)
BS 1212 Part 1 Clause 20.4 and Appendix B

N.B. BS 1212 fittings are not suitable for use in continuous or frequent contact with hot water.

3.1 Fittings with 'kitemarks' which are deemed to satisfy the requirements of byelaws are listed in the directory.

Note Unless stated otherwise the temperature of the test fluid shall be 20 ± 10°C.

4. Test(s) applicable to the following fittings:

VALVES

- float operated, all types

(A) NON-BS FITTINGS

TEST PROCEDURE

The lever shall be rigidly fixed at the fulcrum end and a test load applied gradually in the direction of closure. The test load and the radius of the test load from the fulcrum shall be as follows:-

<u>Lever intended for:-</u>	<u>Test load</u>	<u>Test load radius from fulcrum</u>
½in float operated valve	1.15 Kg)	209 mm)
¾in float operated valve	3.15 Kg) + 0, -100g	317 mm)
1in float operated valve	5.5 Kg)	387 mm) ± 3%
1½in float operated valve	9.5 Kg) + 0, -200g	532 mm)
2in float operated valve	15.8 Kg)	711mm)

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The initial deflection of the lever at its outer end shall be measured at ambient temperature. Plastics levers for float valves for normal use shall be submitted to a second test as outlined above, but whilst immersed in water at $93 \pm 2^\circ\text{C}$ for 120 ± 15 minutes.

Plastics levers for float operated valves for conveying hot water shall be submitted to the second test outlines above, but whilst immersed in water at the claimed maximum operating temperature $\pm 5^\circ\text{C}$, again for 120 ± 15 minutes.

5. ACCEPTANCE CRITERIA

NON-BS FITTINGS

During the ambient temperature test the deflection of the lever shall be not more than 8mm, and upon removal of the test load the lever shall show no permanent bend or distortion.

During either of the additional hot water tests any additional deflection of the lever shall not exceed 12.5mm, and the total deflection from both tests shall show no permanent bend or distortion.

(B) BS FITTINGS

In accordance with the relevant extracts given below.

- (i) **FLOAT OPERATED VALVES (PISTON TYPE)** (Derived from BS 1212 : Part 1)

TEST METHOD

Clause 15c - Mechanical strength of lever.

When mounted in a suitable and rigid fixture, levers shall be capable of supporting a test load, applied gradually, of the amount and at the radius from fulcrum shown in Table 1 without showing any permanent set.

TABLE 1. TEST LOADS FOR LEVERS

Size of lever for	Length of lever fulcrum to face of lock nut	Length of short arm	Test Load radius from fulcrum	Test Load
	in	in	in	lb
¾in ballvalve	12 1/2	13/16	12 1/2	7
1in ballvalve	15 1/4	1	15 1/4	12
1½in ballvalve	21 3/4	1 3/8	21 3/4	21
2 in ballvalve	28	1 3/4	28	35

5. ACCEPTANCE CRITERIA

Fittings shall meet the criteria detailed in Clause 15c above.

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(ii) **FLOAT OPERATED VALVES (DIAPHRAGM VALVES -PLASTIC BODY)** (Derived from BS 1212 : Part 3)

TEST METHOD

Clause 20.4levers shall satisfy the test requirements of Appendix B

Appendix B

Lever test

Rigidly fix one end of the lever and gradually apply a load of 1.15Kg in the closing direction at a distance of 210mm from the fixing face.

The initial deflection of the lever at ambient temperature shall be not more than 8mm. When left in the loaded position for 120 ± 2 min immersed in water at 93°C., the additional deflection shall be not more than 12.5mm, resulting in a total deflection of not more than 20mm.

5. ACCEPTANCE CRITERIA

Fittings shall meet the criteria detailed in Clause 20.4 above.