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Specification for

Floats (plastics) for ballvalves for hot and cold water

Amendments issued since publication

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Contents

Foreword

This British Standard, prepared under the authority of the Sanitary Appliances Industry Standards Committee, has been revised to take account of developments in the plastics industry. The principal changes from the previous edition are:

(1) The elimination of the seven named classes of plastics materials and the substitution of performance requirements to ensure that whatever plastics materials are used, and in whatever manner they may be jointed, the finished floats will behave satisfactorily in service;

(2) The introduction of a requirement that all floats shall be capable of passing a hot water test, and the alteration of the title to include 'for hot and cold water'. (Research into operating conditions has shown that in some hot water and/or central heating systems, the temperature of the water in the 'cold water' storage cistern and/or the feed and expansion cistern can reach 90° C and higher.)

Other changes from the previous edition are:

(1) The alteration of the range of floats, by adding a 102 mm size and eliminating the 178 mm size;

(2) The introduction of BS type references for the various types and sizes of float;

(3) The specific requirement for all bosses to be threaded, and the elimination of self-tapping as a means of attaching the float;

(4) The raising of the temperature at which the leakage test is carried out, in order to achieve a more searching method of detecting leaks.

Because of their lighter weights plastics floats possess improved lifting efforts to those of copper floats. BS 2456 : 1954 adopted lifting efforts for plastics floats identical with the corresponding Class C copper floats of BS 1968. In the current revision, advantage has been taken of the improved lifting efforts of the plastics floats by raising the minimum lifting efforts specified for the various diameters of the plastics float. The value of these lifting efforts would be higher if, as in the corresponding calculation for copper floats in BS 1968, the weight of the boss was not included in the weight of the float.

During the preparation of this revised edition it was at one time thought that there would be advantage in extending the range of float diameters to correspond with the large range in BS 1968. Latterly, however, it was decided, for the following reasons and uncertainties, not to extend the range at the present time except to incorporate a 102 mm diameter float having a lifting effort approximately equivalent to that of the 114 mm (4½ in) Class C copper float of BS 1968:

(1) There was little current demand for plastics floats above 152 mm diameter, so there appeared to be little justification for either retaining the 178 mm size or for extending the range upwards to 279 mm or 305 mm;

(2) At some time in the future an extension of the range upwards might be justified economically but that was not likely until the outcome of the following trends became known:

a. Whether or not in BS 1212 : Part 1 ballvalves of the piston type would, as was beginning to be thought, be superseded by ballvalves of the diaphragm type having different closing effort characteristics;

b. What form Table 2 of BS 1212 : Part 1 would take when it came to be revised;

c. Whether the impending change to the metric system of measures and the dimensional co-ordination of building components would affect cistern sizes and, in consequence, affect lever lengths and float sizes.

For information regarding the correct size of float to use for a particular size of ballvalve, or range of pressure, reference should be made to Table 1 of this standard, to Table 2 of BS 1212 : Part 1 and to Table 1 of BS 1212 : Part 2.

To allow for the replacement of stocks of floats manufactured for cold water only, a 'period of grace' of twelve months will follow the publication of this standard, during which both the 1954 edition and this present edition of BS 2456 will co-exist.

In accordance with the policy of the British Standards Institution all units and dimensions originating in this standard have been expressed in metric units. The metric values are given in SI units; for further information reference should be made to BS 3763 'The International System of Units (SI)', and PD 5686 'The use of SI units'. Linear dimensions are expressed to the nearest whole millimetre. Dimensions and type references quoted from other standards which have not been metricated are expressed in imperial units; such dimensions and type references will be metricated in this standard when the standards from which they are quoted are themselves metricated.

'Users of this standard should note that since the initial publication of this standard it has been decided that the term 'float operated valve' is more appropriate than the term 'ballvalve'. Future British Standards dealing with this subject will refer to 'float operated valves'. When this standard and other relevant current standards are revised, the term 'float operated valve' will be used in place of the term 'ballvalve'.'

BS 2456 : 1973

British Standard Specification for

Floats (plastics) for ballvalves for hot and cold water

1. General

1.1 Scope

This British Standard specifies requirements for floats for use for all purposes, including use in cold water feed cisterns and expansion systems for hot water apparatus where they may be exposed to temperatures up to a maximum of of 90° C, comprising plastics spherical floats of 102 mm, 114 mm, 127 mm and 152 mm diameter, and non-spherical floats of equivalent lifting efforts suitable for attachment to the apparatus specified in BS 1212 : Parts 1 and 2.

NOTE. The titles of the British Standards referred to in this standard are listed on the inside back cover.

1.2 Definitions

For the purposes of this British Standard the following definitions apply:

(1) *Lifting effort.* The net upward force acting on the float when immersed in water so that half of its volume is below the surface;

(2) *Diameter (of spherical float).* The average outside diameter of the float measured at two axes at right angles to each other and clear of the joining seam (if any).

1.3 Designation of floats for ordering purposes

Designation of floats shall contain the following data:

(1) 'BS 2456 float';

(2) The word 'Type' followed by the appropriate BS type reference found in Table 1, where:

a. the number corresponds to the diameter of the float in millimetres;

b. the letter 'S' refers to a spherical float;

c. the letters 'NS' refer to a non-spherical float;

d. the letter 'L' refers to a float having a different length and diameter of screw thread in boss (see 3.4.1.2 and Table 2).

The data shall be arranged as in the following example:

'BS 2456 float, Type 102 L NS'.

Appendix A lists the information which should be provided by the purchaser at the time of making an enquiry or placing an order.

1.4 Marking

Every float supplied as being in accordance with this British Standard shall be in orange coloured material and legibly and permanently marked with the information indicated below, in such a manner as not to damage or distort the float:

(1) Manufacturer's name or identification mark;

(2) The number of this British Standard, i.e. BS 2456;

(3) The BS type reference;

(4) On non-spherical floats only, the word 'UP' on any surface of the float which is intended to be uppermost in operating conditions.

NOTE. Attention is drawn to certification facilities offered by BSI, see the inside back cover of this standard.

2. Materials

2.1 General

Floats shall be made of one or more plastics materials, with or without a boss insert, which shall be capable of forming floats complying with the relevant test requirements of Section 4.