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WBS TEST & ACCEPTANCE CRITERIA
PD.JCS

Issue No: 1
Date of issue: January 1990

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TEST CODE SHEET

1. **TYPE OF TEST(S)**

Contamination - vacuum test under fault conditions.

2. **BYELAW REQUIREMENT FOR FITTINGS**

Byelaw 22

(1) Every clothes washing machine, dishwasher, or tumbler drier connected permanently or temporarily to the water service in any premises shall incorporate either a type "B" air gap, or a pipe interrupter.....

Byelaw 23

The inlet pipe of every ion-exchange common salt regenerated type water softener used in connection with a clothes washing machine or dishwasher shall be fitted with a check valve and vacuum breaker or some other no less effective backflow prevention device, except where the supply of water to such a softener passes first through the backflow prevention device incorporated with that washing machine or dishwasher in accordance with byelaw 22 (1).....

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

(See Water Supply Byelaw Guide)

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

BS 6614 - harmonised with CENELEC HD274.

4. **TEST PROCEDURE**

Note Unless stated otherwise the temperature of the test fluid shall be $20 \pm 10^{\circ}\text{C}$.

4.1 Tests applicable to the following fittings-

TUMBLE DRIERS

- with water cooled condensing units

WASHING MACHINES

- clothes

- dish

(A) **TUMBLE DRIERS AND WASHING MACHINES**

TEST METHOD

Check by inspection, that (a) the machine has either a type B air gap, or a pipe interrupter, fitted immediately downstream of each of the inlet valves, and (b) whether any integral water softener in the machine is connected upstream or downstream of the type B air gap, or pipe interrupter.

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Place the machine on a support inclined at an angle of 2° to the horizontal in the most unfavourable position. The connection between the dispenser, if any, intended for adding softening, mixing, cleaning, disinfecting or similar agents to the water, and other parts of the machine shall be blocked, unless the cross-sectional area of the connection exceeds 10cm throughout its length and no dimension across this area is less than 10mm.

Any overflow that can easily be blocked accidentally or by means of a cork of circular cross-section, or has a width or a height less than 3mm and the same time a cross-sectional area not exceeding 5cm shall be blocked, but without the use of tape or the like.

Any magnetic valve or combination of magnetic valves upstream of an air gap or pipe interrupter shall be opened, but only one valve at a time if this is in accordance with the normal programme of the machine, i.e. machines intended to be connected at the same time to cold and hot water supplies.

All motors of the machine shall be disconnected from the electricity supply and the normal drain outlet blocked.

The inside of the water inlet system, between the inlet valve(s) and the backflow prevention device(s), shall be dried thoroughly and a transparent hose, having an internal diameter of at least 15mm, shall be connected between the inlet valve and the means for connecting the machine to the water supply mains.

By means of a separate water supply, fill the machine to the critical water level(s). i.e. the level of the non-drinking water reached in any part of the machine when measured 2 seconds after closing the water inlet(s) opening starting from the highest water level reached in any part of the machine under fault conditions. The critical water level(s) are maintained throughout the test.

Connect the machine, by means of the shortest possible length of piping, to a vacuum device generating a negative pressure of 0.8 bar. Care shall be taken to ensure that the connection between the machine and the vacuum device does not restrict the airflow through the machine.

A negative pressure of at least 0.5 bar shall be maintained for at least 5 seconds, this pressure being measured as near as possible to the machine without hose (or if the hose cannot be removed, at the inlet of the hose), the magnetic valve(s) being maintained open or closed, whichever is the most unfavourable condition by separate electrical supply. For machines with more than one inlet should be tested separately, the appropriate critical water level being maintained.

5. **ACCEPTANCE CRITERIA**

The machine shall be fitted with either a type B air gap meeting the acceptance criteria of TCS 2212.3 or a pipe interrupter meeting the acceptance criteria of TCS 2212.2

Any integral water softener connected upstream of the type B air gap, or pipe interrupter, shall be fitted with a check valve and vacuum breaker or some other no less effective special backflow prevention safety device capable of meeting the acceptance criteria of TCS 2212.2 or TCS's 1211.13 & 2212.8.

After the test in 4.10 above, inspection shall show that water has not been drawn back into the transparent hose.

Individual fittings incorporated in the machine shall be capable of meeting the acceptance criteria of the appropriate test code sheets applicable.