



Test Code Sheet 2213.21 – Joint below critical water level

Issue No. 1

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Pages: 1-5

1. PURPOSE

Inlet valve: Joints below the water line verification as described in WC Suite Performance Specifications.

2. TYPE OF TEST(S)

Joints below critical water level.

3. REGULATION REQUIREMENTS FOR FITTINGS

Schedule 2

25. (1) Subject to the following provisions of this paragraph-

- a. every water closet pan shall be supplied with water from a flushing cistern, pressure flushing cistern or pressure flushing valve, and shall be so made and installed that after normal use its contents can be cleared effectively by a single flush of water, or, where the installation is designed to receive flushes of different volumes, by the largest of those flushes;
- b. no pressure flushing valve shall be installed-
 - i. in a house, or
 - ii. in any building not being a house where a minimum flow rate of 1.2 litres per second cannot be achieved at the appliance;
- c. where a pressure flushing valve is connected to a supply pipe or distributing pipe, the flushing arrangement shall incorporate a backflow prevention device consisting of a permanently vented pipe interrupter located not less than 300mm above the spillover level of the WC pan or urinal:

- d. no flushing device installed for use with a WC pan shall give a single flush exceeding 6 litres;
 - e. no flushing device designed to give flushes of different volumes shall have a lesser flush exceeding two-thirds of the largest flush volume;
 - f. every flushing cistern, other than a pressure flushing cistern, shall be clearly marked internally with an indelible line to show the intended volume of flush, together with an indication of that volume;
 - g. a flushing cistern designed to give flushes of different volumes-
 - i. shall have a readily discernible method of actuating the flush of different volumes; and
 - ii. shall have instructions, clearly and permanently marked on the cistern or displayed nearby, for operating it to obtain the different volumes of flush;
 - h. every flushing cistern, not being a pressure flushing cistern or a urinal cistern, shall be fitted with a warning pipe or with a no less effective device;
 - i. every urinal that is cleared by water after use shall be supplied with water from a flushing device which-
 - i. in the case of a flushing cistern, is filled at a rate suitable for the installation;
 - ii. in all cases, is designed or adapted to supply no more water than is necessary for effective flow over the internal surface of the urinal and for replacement of the fluid in the trap; and
 - j. except in the case of a urinal which is flushed manually, or which is flushed automatically by electronic means after use, every pipe which supplies water to a flushing cistern or trough used for flushing a urinal shall be fitted with an isolating valve controlled by a time switch and a lockable isolating valve, or with some other equally effective automatic device for regulating the periods during which the cistern may fill.
- (2) Every water closet, and every flushing device designed for use with a water closet, shall comply with a specification approved by the regulator for the purposes of this Schedule.
- (3) The requirements of sub-paragraphs (1) and (2) do not apply where faeces or urine are disposed of through an appliance that does not solely use fluid to remove the contents.
- (4) The requirement in sub-paragraph (1)(i) shall be deemed to be satisfied-

- a) in the case of an automatically operated flushing cistern servicing urinals which is filled with water at a rate not exceeding-
 - i. 10 litres per hour for a cistern serving a single urinal;
 - ii. 7.5 litres per hour per urinal bowl or stall, or, as the case may be, for each 700 mm width of urinal slab, for a cistern serving two or more urinals;
 - b) in the case of a manually or automatically operated pressure flushing valve used for flushing urinals which delivers not more than 1.5 litres per bowl or position each time the device is operated.
- (5) Until 1st January 2001 paragraphs (1)(a) and (d) shall have effect as if they provided as follows-
- a) “every water closet pan shall be supplied with water from a flushing cistern or trough of the valveless type which incorporates siphonic apparatus;”
 - b) “no flushing device installed for use with a WC pan shall give a single flush exceeding 7.5 litres;”.
- (6) Notwithstanding sub-paragraph 1(d), a flushing cistern installed before 1st July 1999 may be replaced by a cistern which delivers a similar volume and which may be either single flush or dual flush; but a single flush cistern may not be so replaced by a double flush cistern.

(7) In this paragraph-

“pressure flushing cistern” means a WC flushing device that utilises the pressure of water within the cistern supply pipe to compress air and increase the pressure of water available for flushing a WC pan;

“pressure flushing valve” means a self-closing valve supplied with water directly from a supply pipe or a distributing pipe which when activated will discharge a pre-determined flush volume;

“trap” means a pipe fitting, or part of a sanitary appliance, that retains liquid to prevent the passage of foul air; and

“warning pipe” means an overflow pipe whose outlet is located in a position where the discharge of water can be readily seen.

4. GENERAL TOLERANCES AND MEASUREMENTS

In the absence of specific tolerances or accuracies the general tolerances and measurements set out in the WC Suite Performance Specifications shall apply.

5. TEST PROCEDURE

5.1 Tests are applicable to the following fittings.

Water inlet devices and connecting pipes within a WC flushing cistern.

(A) ALL WC CISTERNS SUPPLIED EITHER AS SUITES OR SEPARATLY, WHICH REQUIRE TO BE TESTED TO THE REGULATOR'S SPECIFICATION FOR WC'S.

5.2 Apparatus

- a) cistern, complete with fitments including, inlet valve flushing device, overflow, warning pipe (or no less effective arrangement) and flushpipe.
- b) water supply.

5.3 Procedure

- a) install cistern, complete with all fitments in accordance with the manufacturer's instructions.
- b) Determine the critical water level using the procedure set out in the Test Code Sheet appropriate for the backflow prevention arrangement (i.e. Type AC air gap - TCS 2213.15 or Type AG TCS 2212.3).
- c) At the critical water level inspect all mechanical joints.

Mechanical joints are joints which when undone open a direct pathway between the wholesome water (incoming supply) and the fluids stored within the flushing cistern. These include joints that:

- a. are 'adjustable' or can be 'dismantled'; or
- b. rely on elastomeric, or other material, to provide a water-tight seal; or
- c. where the coupling of two components being dependent upon mechanically applied forces, with or without the use of secondary seal.

Joints not considered *mechanical joints* include:

- a. Nuts or jointing mechanism on the diaphragm housing assembly.
- b. Joints where the joining surface are permanently fused together, for example by a chemical process or the application of heat.

5.4 Expression of results

Record the compliance or any failure to comply with the requirements.

6. ACCEPTANCE CRITERIA

When tested as described in 5.3 no mechanical joints within a flushing cistern on submerged supply pipes or inlet devices shall be at or below the critical water level.

7. COMING INTO EFFECT

This test code sheet will come into effect on 6 May 2027, being one year after its publication on gov.uk.