TEST CODE SHEET

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1. TYPE OF TEST(S)

Dimensional

2. WATER REGULATIONS REQUIREMENTS FOR FITTINGS

Schedule 2

15-(1) …. every water system shall contain an adequate device or devices for preventing backflow of fluid from any appliance, fitting or process from occurring.

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

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

4. TEST PROCEDURE

4.1 Tests applicable to the following:-

TYPE AD AIR GAP WITH INJECTOR
up to and including DN250
Devices for the prevention of contamination by backflow.

(A) TYPE AD AIR GAP WITH INJECTOR (Derived from prEN 164106)
up to and including DN250

TEST METHOD

i. SCOPE

This procedure specifies the characteristics of type AD air gaps with injector for inlet or feed pipes of nominal size up to and including DN 250. Air gaps that comply with the requirements of this procedure are devices for protection of potable water installations from pollution. In addition to factory assembled products this procedure includes requirements for site constructed air gaps.

The products specified are suitable for water temperatures up to and including 65°C and occasional temperatures up to and including 95°C. However in some instances the maximum operating temperature may be limited to 40°C and should be marked accordingly.

ii. DEFINITIONS

For the purpose of this procedure the following definitions apply.

ii.i Air Gap family 'A' type AD - Air gap with injector

An air gap with injector suitable for fluids only (no solids or sludges) is provided by a permanent air gap between the feed orifice (upstream element) and the devices inlet orifice (downstream element).

This device may be installed in any orientation provided the drain chamber evacuates effectively.

ii.ii Graphic symbol

FIG 1

iii. DESIGNATION

The air gap device AD has the following designation in the technical documents:

- the reference to this standard.

- the DN of the feed pipe.

- example of the designation:

- air gap AD - DN15 TSN AD-01

iv. MATERIALS

iv.i Materials choice

The manufacturer shall state the type of materials chosen in his technical and commercial documents.

The surface condition of materials in contact with water shall be chosen to be the least inclined to scale.

The materials used upstream and including the atmospheric outlet opening must comply with the relevant Standards, quality requirements and criteria for potable water installations, BS6920 (i.e.may not release substances in concentration which can be harmful to the users of the potable water installation).

The choice of other material is discretionary but shall be suitable for the intended use of the appliance (temperature, corrosion, scale, etc).

There are no special requirements concerning the materials used downstream of the atmospheric outlet opening provided they do not have any harmful effect on the upstream part.

v. DESIGN

v.i General

The protection assembly comprises two parts integral with one another:

- a water inlet device (upstream element).

- a receiving vessel (downstream element).

The dimensioning of the water inlet device shall be sufficient to enable the flow rate, adapted to the function specified for the air gap assembly with injector AD, to be ensured.

Unless there is technical justification, the smallest dimension for calculating the inlet section shall not be less than 4 mm.

It shall not be possible for the injection orifice to be in contact with a product from downstream, whether owing to backflow or bending or deformation of the assembly.

5. ACCEPTANCE CRITERIA

5.1 Air gap clearance

The air gap clearance 'A' measured from the terminal end of the inlet pipe (horizontal) and the closest level of the downstream inlet orifice (receiving device) shall be at least equal to twice the internal diameter of the inlet pipe and never less than 20 mm.

$A \geq 2D$ but not less than 20 mm.

'D' is the internal diameter of the upstream inlet component or its equivalent where the section is not circular and, in this case, the smallest dimension shall not be less than 4 mm.

In normal conditions of use, no splashing towards the outside shall be observed.

There shall be no contact observed with the upstream component owing to retention, runoff, splashing or dripping from the downstream component.

5.2 Drain to atmosphere

The drain to atmosphere shall be capable of draining off the maximum flow rate without submerging of the inlet device and without splashing towards the outside.

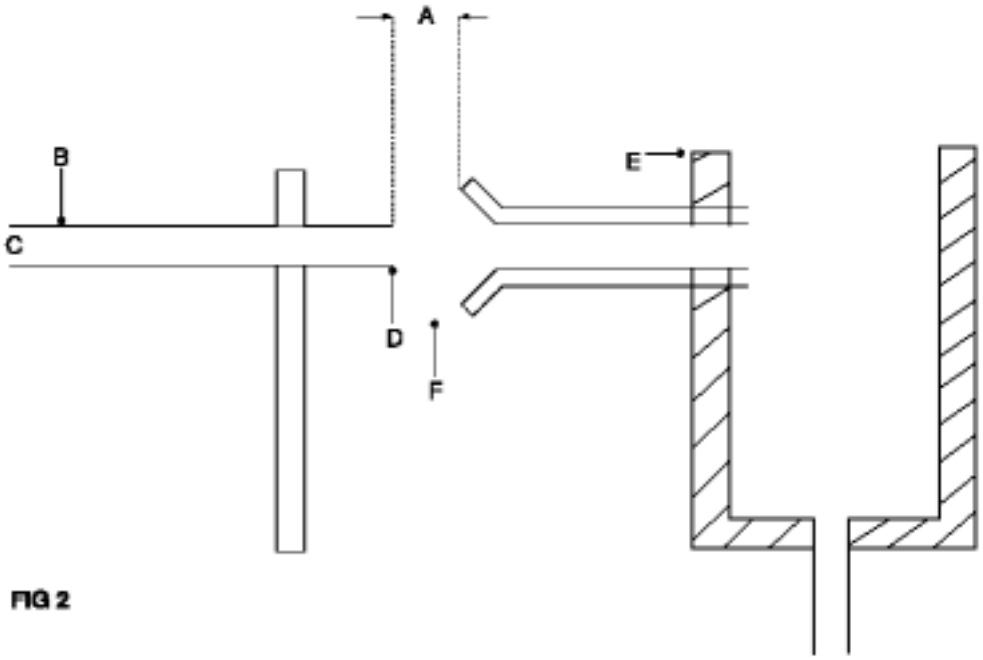

FIG 2

A = Air Gap
B = Feed Pipe
C = Internal Diameter of Feed Pipe
D = Feed Orifice
E = Receiving Device
F = Drain to Atmosphere