BS 5627 : 1984

UDC 696.141.1 : 621.643.4–036.5

British Standard Specification for

Plastics connectors for use with horizontal outlet vitreous china WC pans

Raccordements en plastique pour cuvettes de WC en porcelaine vitreuse à sortie horizontale — Spécifications

Kunststoffverbindungsstücke für WC-Becken aus Sanitärporzellan mit waagerechtem Abfluß

Contents

Foreword

This revision of this British Standard has been prepared under the direction of the Building Services Standards Committee to specify plastics connectors for use with horizontal outlet WC pans manufactured to the requirements of BS 5503 : Parts 1 and 2 or to BS 5504 : Parts 1, 2 and 3 to enable their connection to new and existing drainage systems. It supersedes BS 5627 : 1978 which is withdrawn.

Requirements are given for connectors manufactured from several different plastics materials and because of the varied nature of plastics materials in current use it has been decided to deal with each particular material in a separate clause. Thus connectors have to meet the requirements of the particular material clause as well as the other requirements.

Attention is drawn to BS 4514 in which connectors manufactured from unplasticized PVC are specified, and in which cross reference is made to this standard.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

BSI

Amendment No. 1
published and effective from 30 September 1987
to BS 5627 : 1984

Specification for plastics connectors for use with horizontal outlet vitreous china WC pans

NOTE. This Amendment gives instructions for the insertion of a new clause **7a** in section two. This clause has been numbered as clause **7a** but this does not signify that the new clause is a part of the present clause **7**.

Revised text

AMD 5396
September 1987

Contents

After the reference to clause **7** insert the following.

'7 (a). Unplasticized polyvinyl chloride (uPVC)'

AMD 5396
September 1987

Clause 1. Scope

Delete note 1. In note 2 delete 'NOTE 2' and substitute 'NOTE'.

AMD 5396
September 1987

New clause 7 (a)

After clause **7** insert the following new clause **7a**.

'7a Unplasticized PVC (uPVC)

7a.1 General. The connector shall be manufactured substantially from unplasticized PVC, together with the materials necessary to enable manufacture and to ensure compliance with this standard.

7a.2 Rework material. The use of manufacturer's own clean rework material from products complying with the requirements of this standard for physical properties is permissible. No other rework material shall be allowed.

7a.3 Vicat softening temperature. When tested in accordance with the method described in method 120B of BS 2782 : Methods 120A to 120E : 1976, the Vicat softening temperature of test pieces taken from connectors shall be not less than 79 °C.

tested in accordance with BS 2782 : Method 1103A fittings shall not exhibit blisters, delaminations, cracks or weldline splitting. In the vicinity of normal injection points the depth of penetration of cracks, etc. shall not exceed 50 % of the wall thickness of that point. When fittings are moulded by end gating (e.g. ring or diaphragm) techniques, the depth of penetration of cracks, etc. shall not be greater than 25 % of the corresponding socket depth.'

AMD 5396
September 1987

Table 1. Testing schedule

Between clause numbers **7.5** and **8**, insert the following.

7a.1	*	–
7a.2	*	–
7a.3	–	*
7a.4	*	–

AMD 5396
September 1987

Clause 11. General

At the end of paragraph 1, delete '(see table 1)'.

AMD 5396
September 1987

New clause 12.4

After **12.3** insert the following new clause **12.4**.

'**12.4 uPVC.** The minimum wall thickness, *e*, of the body of the fitting shall be 3.2 mm except as specified in figure 7.'

British Standard specification for

Plastics connectors for use with horizontal outlet vitreous china WC pans

Section one. General

1. Scope

This British Standard specifies materials, dimensions and performance requirements for plastics WC connectors designed to connect horizontal outlet WC pans complying with BS 5503 : Parts 1 and 2 or BS 5504 : Parts 1, 2 and 3 to discharge pipework systems of various materials complying with BS 65, BS 416, BS 437, BS 602 & 1085, BS 1387, BS 2598, BS 2760, BS 2871 : Part 1, BS 3868, BS 4514 and BS 4660.

NOTE 1. See foreword regarding connectors made of unplasticized polyvinyl chloride (uPVC).

NOTE 2. The titles of the publications referred to in this standard are listed on page 9.

2. Seals for WC spigots and pipework

The material used for any elastomeric seal used in conjunction with the connector shall meet the requirements of BS 2494 for type 2 applications.

3. Freedom from defects

The internal and external surfaces of the connector shall be smooth, clean and free from grooving, blistering and any other surface defect likely to impair its performance.

4. Marking

4.1 Permanent marking. Each connector shall be permanently and clearly marked with the following information:

(a) the number and date of this British Standard, i.e. BS 5627 : 1984*;

(b) the manufacturer's name or mark;

(c) the material code, e.g. EVA, PP or ABS.

4.2 Other marking. The following additional marking shall be applied:

(a) the nominal size and materials of the discharge pipework for which the connector is suitable, or, if the connector is suitable for all the materials complying with the British Standards listed in clause **1**, alternatively it is permissible to mark the connector 'Universal', together with the appropriate nominal size or sizes;

(b) the description of the connector.

NOTE. Marking in a less permanent form, e.g. by means of a label, is acceptable.

Section two. Materials

5. Ethylene vinyl acetate connectors (EVA)

5.1 General. The connector shall be manufactured from an EVA copolymer with only those additives that are needed for the manufacture of the polymer and for its subsequent conversion to sound durable mouldings.

5.2 Vinyl acetate content. When determined by the method described in appendix A the vinyl acetate content shall be in the range 10 % to 20 % by mass.

5.3 Rework material. The addition of up to 5 % by mass of the manufacturer's own clean rework material resulting from the manufacture of components to this standard is permissible. No other rework material shall be used.

5.4 Environmental stress cracking (ESC). The material grade used shall be resistant to ESC as defined by the method described in appendix B, when at least five test specimens shall survive the test for 50 h without cracking.

5.5 Melt flow rate (MFR). When determined by the method described in BS 2782 : Method 720A, the MFR of the material used for manufacture shall be in the range 1.5 to 4.6.

6. Polypropylene copolymer connectors (PP)

6.1 General. The connector shall be manufactured from a polypropylene copolymer with only those additives that are needed for the manufacture of the polymer and its subsequent conversion into sound, durable mouldings.

6.2 Rework material. The use of the manufacturer's own clean rework material complying with the requirements of this standard is permissible. No other rework material shall be used.

*Marking BS 5627 : 1984 on or in relation to a product is a claim by the manufacturer that the product has been manufactured to the requirements of the standard. The accuracy of such a claim is therefore solely the manufacturer's responsibility. Enquiries as to the availability of third party certification to support such claims should be addressed to the Director, Quality Assurance Division, BSI, Maylands Avenue, Hemel Hempstead, Herts HP2 4SQ for certification marks administered by BSI or to the appropriate authority for other certification marks.

6.3 Impact resistance. When tested in accordance with the method described in appendix C, the connector body shall be capable of absorbing an energy of 21 J without fracture or cracking through the complete wall thickness.

7. Acrylonitrile butadiene styrene connectors (ABS)

7.1 General. The connector shall be manufactured from an ABS copolymer or terpolymer with only those additives that are needed for the manufacture of the polymer and its subsequent conversion into sound durable mouldings.

7.2 Rework material. The use of the manufacturer's own clean rework material complying with the requirements of this standard is permissible. No other rework material shall be used.

7.3 Vicat softening temperature. After being conditioned for 16 h in water at 90 °C the Vicat softening temperature when measured by method 120B of BS 2782 : Methods 120A to 120E : 1976, shall be not less than 85 °C.

7.4 Impact resistance. After exposure for a period of 500 h at 90 ± 2 °C and a relative humidity of at least 80 %, the impact resistance (the average of the 10 values minus one standard deviation) when measured in accordance with appendix D shall exceed 30 kJ/m^2.

7.5 Oven test of fittings (quality control test). When tested in accordance with BS 2782 : Method 1103A fittings shall not exhibit excessive blisters, delaminations, cracks or weld-line splitting. In the vicinity of normal injection points the depth of penetration of cracks, etc. shall not exceed 50 % of the wall thickness of that point. When fittings are moulded by end gating (e.g. ring or diaphragm) techniques, the depth of penetration of cracks, etc. shall be not greater than 25 % of the corresponding socket depth.

Section three. Performance

8. Seals for WC spigots and pipework

8.1 The design of sealing systems (joints) used in conjunction with connectors is not specified in this standard, but the sealing systems shall comply with the performance requirements of this standard. All joints to WCs shall be of push fit type (dry joints). Jointing compounds shall not be used.

8.2 If the design incorporates snap caps, the snap caps shall remain in position during the tests on the connector, but no other requirement of this standard shall apply to them.

9. Functional test requirements

9.1 Water tightness. When tested in accordance with appendix E the WC connector shall withstand a pressure of 0.1 bar* for 5 min without any visible leakage.

9.2 Air tightness. When tested in accordance with appendix F the WC connector shall withstand without loss of pressure an air pressure of 0.005 bar for 5 min when assembled without deflection.

9.3 Water and air tightness under deflection. The WC connector shall withstand the same pressure tests as described in **9.1** and **9.2** when it is axially deflected 5 ° in any direction. No loss of pressure shall occur at any position but the pressure can be restored at each movement of the assembly from the axial position.

9.4 Ball test. The connector body shall be capable of freely passing a solid ball of diameter $80\ ^{+0}_{-2}$ mm.

10. Frequency of testing

10.1 Type tests. Type tests shall be carried out annually or where there is a change of design, material or method of manufacture on each WC connector fitting, seal or jointing system.

10.2 Quality control tests. Quality control tests shall be carried out at least twice per working day during manufacture to prove the quality of a production run of fittings.

10.3 Testing schedule. The testing schedule shall be in accordance with table 1.

Table 1. Testing schedule

Clause no.	Quality control	Type test
3	*	—
4	*	—
5.1	*	—
5.2	—	*
5.3	*	—
5.4	—	*
5.5	—	*
6.1	*	—
6.2	*	—
6.3	*	—
7.1	*	—
7.2	*	—
7.3	—	*
7.4	—	*
7.5	*	—
8	—	*
9.1	—	*
9.2	—	*
9.3	—	*
9.4	*	—
11	*	—
12	*	—

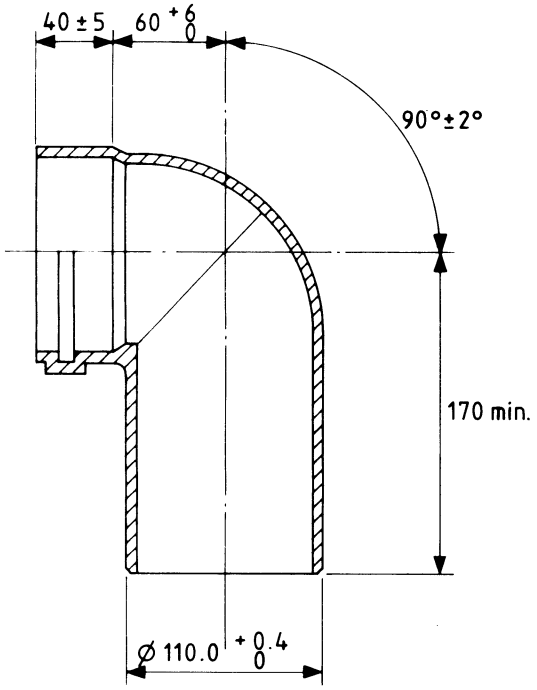
Section four. Dimensions

11. General

The nominal size of the connector shall be 100 mm. The dimensions of the connector shall comply with figures 1 to 6 as appropriate. Outlet sockets shall additionally comply with the dimensional requirements of the relevant standard for soil drainage pipework (see table 1).

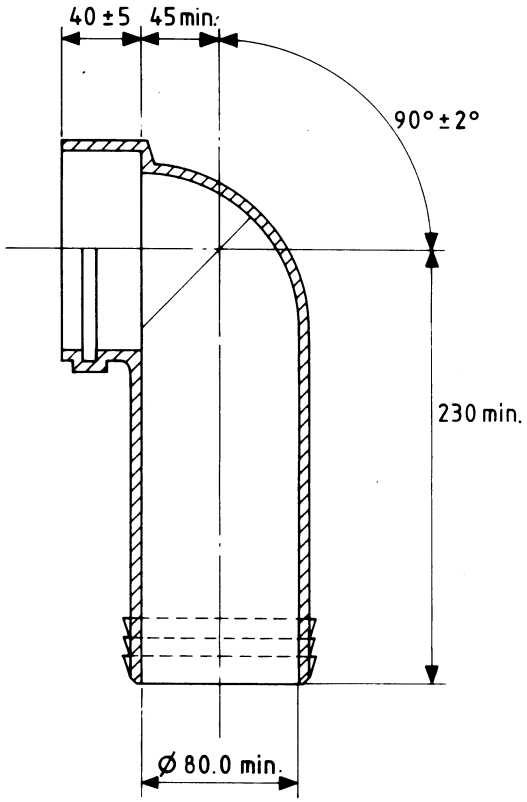
In the case of the spigots shown in figures 1 and 3, the mean outside diameter (d_m) of the spigot shall be measured in accordance with BS 2782 : Method 1101A.

*1 bar = 10^5 N/m^2 = 100 kPa.



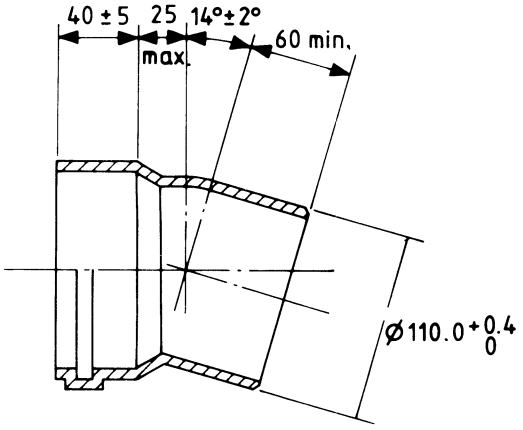
All dimensions are in millimetres.

Figure 1. 90 ° WC bend to convert to S or turned P trap with 110 mm o.d. 170 spigot min.



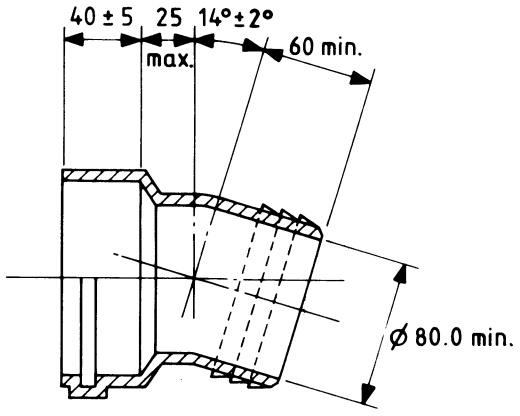
All dimensions are in millimetres.

Figure 2. 90 ° WC bend to convert to S or turned P trap with 80 mm min. i.d. 230 spigot min.



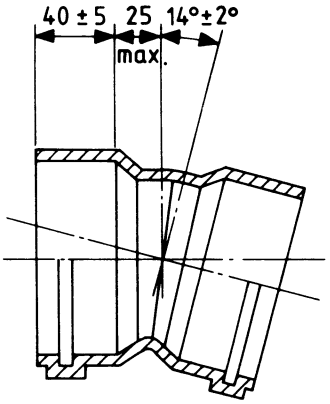
All dimensions are in millimetres.

Figure 3. 14 ° WC bend with 110 mm o.d. outlet



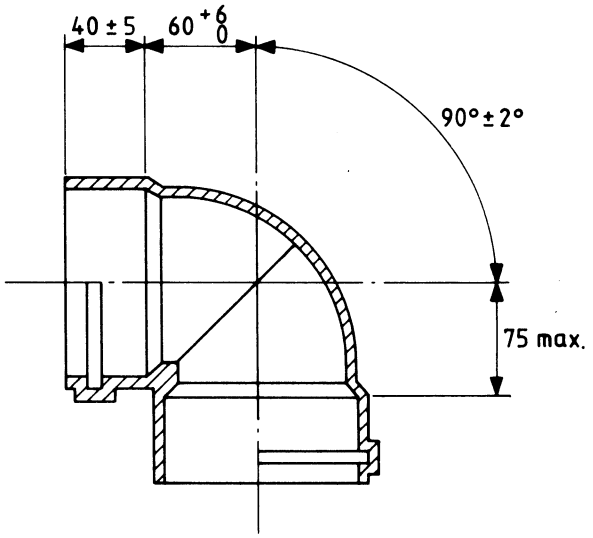
All dimensions are in millimetres.

Figure 4. 14 ° WC bend with 80 mm min. i.d. outlet



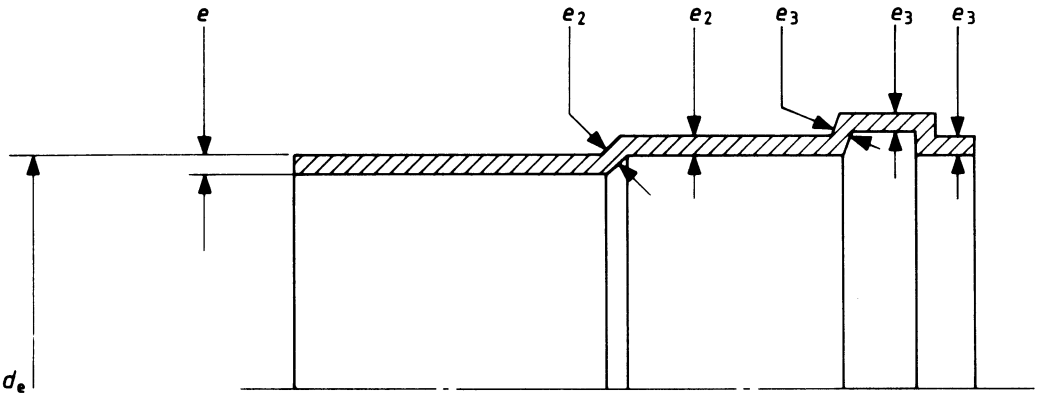
All dimensions are in millimetres.

Figure 5. 14 ° WC bend socket to socket

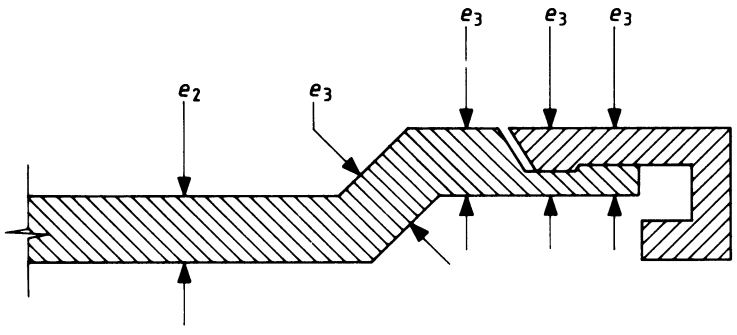


All dimensions are in millimetres.

Figure 6. 90 ° WC bend socket to socket



(a) Example of ring sealed socket



(b) Example of retaining cap configuration

NOTE 1.

e is the specified wall thickness
e_2 is 90 % of the specified wall thickness
e_3 is 75 % of the specified wall thickness

NOTE 2. These drawings are only typical and illustrate the positions for measuring the dimensions e_2 and e_3.

Figure 7. Socket details

12. Minimum wall thickness

12.1 EVA. The minimum wall thickness, e, of the body of the fitting shall be 2.5 mm except as specified in figure 7.

12.2 PP. The minimum wall thickness, e, of the body of the fitting shall be 2.0 mm for figures 2 and 4 and 2.7 mm for figures 1, 3, 5 and 6 except as specified in figure 7.

12.3 ABS. The minimum wall thickness, e, of the body of the fitting shall be 2.2 mm except as specified in figure 7.

Appendix A

Determination of vinyl acetate in ethylene/vinyl acetate copolymers (reference method)

A.1 Principle. To determine the percentage of vinyl acetate in ethylene/vinyl acetate copolymers.

A.2 Reagents

A.2.1 *General.* During the analysis, use only reagents of recognized analytical reagent grade and only distilled water or water of equivalent purity.

A.2.2 *Xylene.*

A.2.3 *Sulphuric acid,* approximately 5 g/L solution, or hydrochloric acid, approximately 3.7 g/L solution.

A.2.4 *Potassium hydroxide,* ethanolic solution, approximately 5.6 g/L.

A.2.5 *Sodium hydroxide,* standard volumetric solution (0.1 mol/L).

A.2.6 *Phenolphthalein,* indicator solution. Dissolve 0.7 g of phenophthalein in 100 mL of ethanol.

A.3 Apparatus

A.3.1 *Burette,* of capacity 50 mL, for the acid solution (**A.2.3**).

A.3.2 *Burette,* of capacity 50 mL, for the sodium hydroxide solution (**A.2.5**).

A.3.3 *Pipettes,* of capacity 25 mL, for the xylene (**A.2.2**) and the potassium hydroxide solution (**A.2.4**).

A.3.4 *Cylinder,* of capacity 50 mL, for xylene (**A.2.2**).

A.3.5 *Conical flask,* of capacity 250 mL, with stopper.

A.3.6 *Dropping bottle,* for the phenolphthalein indicator solution (**A.2.6**).

A.3.7 *Reflux condenser,* of length at least 500 mm, complying with the requirements of BS 5922.

A.3.8 *Sand bath,* capable of being maintained at temperature of about 200 °C.

A.3.9 *Analytical balance,* accurate to the nearest 0.1 mg.

A.4 Procedure

A.4.1 *Determination*

A.4.1.1 Into the flask (**A.3.5**), weigh, to the nearest 0.1 mg the quantity of dry copolymer as indicated in table 2.

Table 2. Test portion of dry copolymer

Estimated content, c_{VA}, of vinyl acetate	Approximate mass of test portion
% (*m*/*m*)	g
$c_{VA} < 10$	1
$10 < c_{VA} < 20$	0.5
$20 < c_{VA} < 40$	0.3
$40 < c_{VA}$	0.2

NOTE. When analysing an unknown sample, carry out a preliminary test under conditions valid for a copolymer containing 20 % to 40 % (*m*/*m*) of vinyl acetate.

A.4.1.2 By means of the pipettes (**A.3.3**) add to the flask 50 mL of the xylene (**A.2.2**) and 25 mL of the potassium hydroxide solution (**A.2.4**). Heat the flask fitted with the reflux condenser (**A.3.7**) for 3 h on the sand bath (**A.3.8**) maintained at 200 °C.

After hydrolysis is complete, remove the flask from the sand bath and allow to cool to ambient temperature. Add a few drops of the phenolphthalein solution (**A.2.6**) and, from the burette (**A.3.1**), 30 mL of the sulphuric or hydrochloric acid solution (**A.2.3**). Stopper the flask and shake vigorously. Titrate the excess acid, while stirring, with the standard volumetric sodium hydroxide solution (**A.2.5**).

A.4.2 *Blank test.* Carry out a blank test at the same time as the determination following the same procedure and using the same reagents as used for the determination, but omitting the test portion.

A.5 Expression of results

A.5.1 The vinyl acetate content is given, as a percentage by mass, by the formula

$$\frac{0.8609\,(V_1 - V_2) \times f}{m}$$

where

V_1 is the volume of the standard volumetric sodium hydroxide solution (**A.2.5**) used in determination (in mL);

V_2 is the volume of the standard volumetric sodium hydroxide solution (**A.2.5**) used in the blank test (in mL);

f is the correction factor for the concentration of the standard volumetric sodium hydroxide solution (**A.2.5**);

m is the mass of the test portion (**A.4.1.1**) (in g).

A.5.2 Carry out two determinations. If the results differ by more than 0.4 % in respect of the vinyl acetate content, repeat the determination. Report the result as the arithmetic mean of two acceptable determinations.

A.6 Test report. The test report shall include the following particulars:

(a) a reference to the method used;

(b) full identification of the sample;

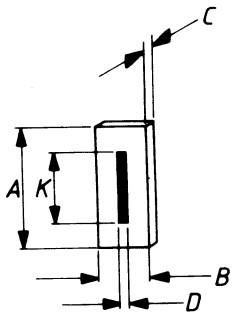
(c) the results expressed in accordance with **A.5.1**.

Appendix B

Environmental stress cracking test

B.1 Test specimens. Prepare 10 specimens from sheet smooth pressed from granules of milled mass material to the dimensions given in figure 8(a). Use a die or other device that produces specimens with clean cut, square unbevelled edges. Cut the specimens within 24 h of preparing the sheets. Then leave the specimens to condition for 70 ± 10 h at 20 ± 2 °C. Notch the specimens in accordance with figure 8, using a suitable nicking jig and place in a specimen holder as shown.

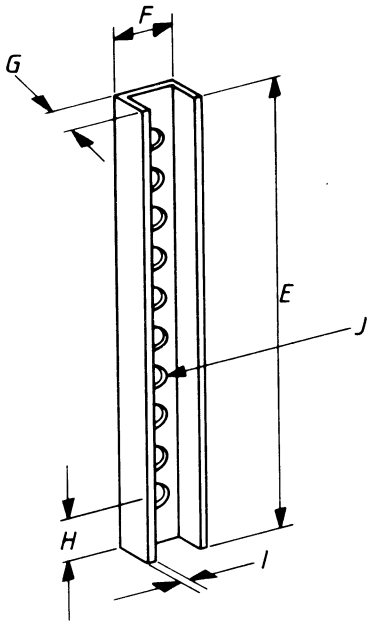
B.2 Apparatus. A suitable vessel with temperature controls, a forced circulation pump and suitable insulation,



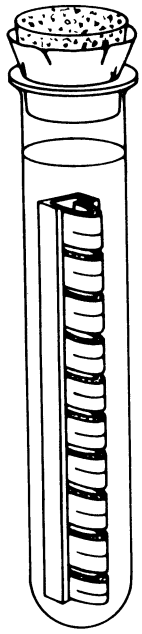
(a) Test sample

Dimensions

A	38 ± 2.5
B	13 ± 0.8
C	3.15 ± 0.15
D	$0.5^{+0.15}_{-0}$
E	165
F (outside)	16
(inside)	11.75 ± 0.05
G	10
H	15
I	2
J	Ten 5 mm holes at 15 mm centres
K	$19.0^{+0.2}_{-0.1}$



(b) Specimen holder



(c) Test assembly

Figure 8. Environmental stress cracking test apparatus

in order to maintain a temperature of 50 ± 2 °C throughout the solution.

B.3 Reagent. Alkyl-, aryl- polyethylene glycol*.

B.4 Procedure. Submerge the specimens in the solution until five samples fail. Failure is determined as any crack visible to the observer with normal eyesight. It is permissible to test any number of specimens simultaneously or add further specimens to the bath providing suitable identification control is practised to ensure that accurate immersion times are maintained.

Appendix C

Impact test (PP)

C.1 Purpose of the test. The purpose of the test is to enable an assessment to be made of the suitability of the following:

(a) the materials used in the manufacture of the connector;

(b) the quality of the workmanship, design and construction of the connector.

C.2 Apparatus (see figure 9)

C.2.1 *Metal guide tube,* 1.4 m long having an internal diameter of 75 mm.

C.2.2 *Flat base plate,* of low carbon steel.

C.2.3 *Clamp,* that enables the guide tube to be adjusted as regards height above the base plate.

C.2.4 1.8 kg *low carbon steel tup.*

C.2.5 *Water bath,* capable of accepting and permitting complete submergence of the connector.

C.3 Procedure

C.3.1 Condition each specimen for at least 30 min in the water bath (**C.2.5**) maintained at a temperature of 20 ± 1 °C and test individual specimens within 5 min of removal from the bath.

C.3.2 Mount the guide tube (**C.2.1**) vertically above the centre of the baseplate (**C.2.2**) so that the lower end of the guide tube is 150 mm above the baseplate.

C.3.3 Place the connector in any position on the baseplate under the lower end of the guide tube but not so as to include any projecting parts of the connector.

C.3.4 Drop the tup (**C.2.4**) down the length of the tube on to the connector.

C.3.5 Examine the connector for damage.

C.3.6 The test shall only be applied at positions which allow impact across the complete diameter of the tup with the underside supported.

Appendix D

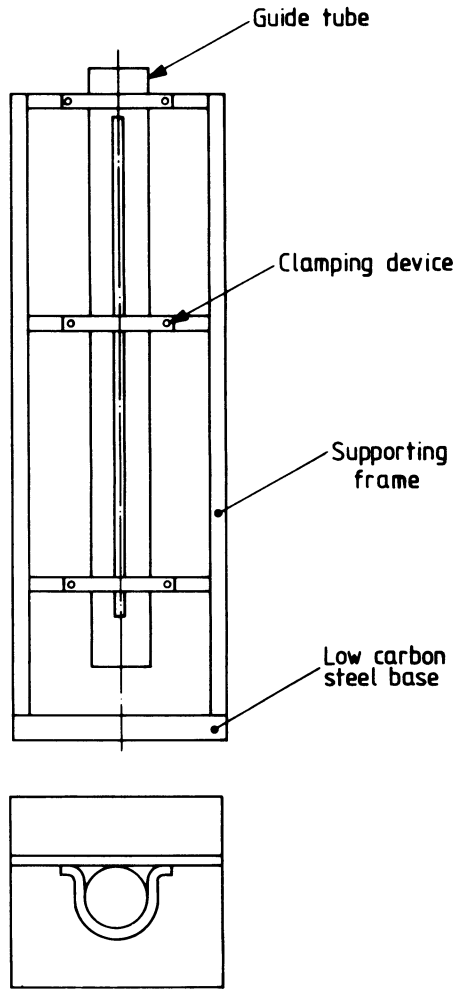
Impact resistance of fittings (ABS)

D.1 Apparatus. The apparatus shall comply with the apparatus requirements in BS 2782 : Method 351A, with the exception that the distance between the supports shall be 22 mm.

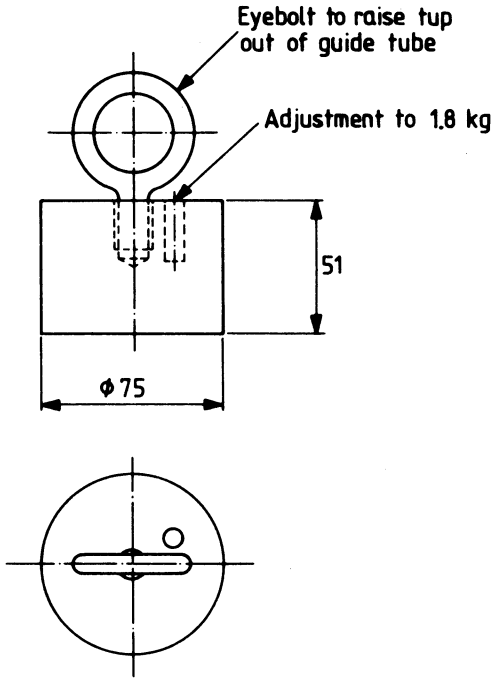
D.2 Test pieces. Ten test pieces shall be taken at random from one or more injection moulded straight couplings, avoiding weld lines and injection areas, of the same type and batch, with the dimensions in accordance with figure 10.

D.3 Conditions. The test pieces shall be kept for at least 16 h at 23 ± 2 °C and a relative humidity of 50 ± 5 %.

*Adinol CO 630 as supplied by Fine Dyestuffs and Company Limited, (Winsford, Cheshire) should be used as a reference in cases of dispute.



NOTE. Drawings are diagrammatic only.



Detail of tup
(low carbon steel)

Figure 9. Apparatus for impact test (PP)

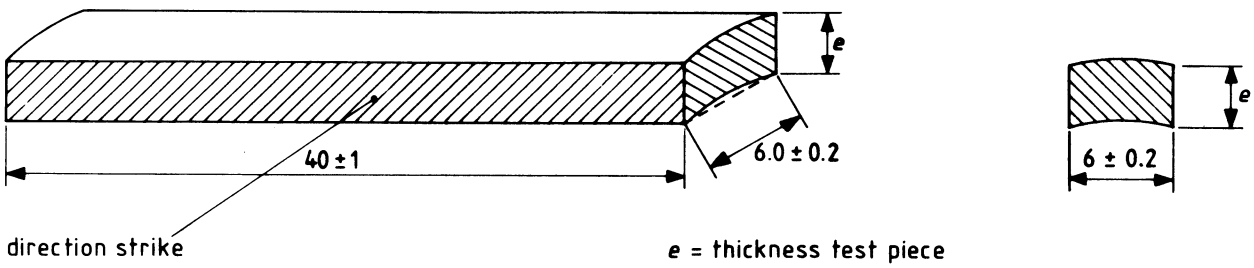


Figure 10. Test piece

D.4 Test procedure. Determine for every test piece, in the middle, the width measured across the chord and the thickness with an accuracy of 0.05 mm.

Determine for every test piece the impact energy and calculate the impact resistance in accordance with formula (1).

$$a = \frac{A}{b \times e} \quad (1)$$

where

a is the impact resistance (in kN·m/m^2);

A is the impact energy (in kN·m);

b is the width of the test piece (in m);

e is the thickness of the test piece (in m).

Average the 10 values and calculate the standard deviation s (in kN·m/m^2) in accordance with formula (2):

$$s = \sqrt{\left(\frac{\Sigma (a_i - a_m)^2}{n - 1}\right)} \quad (2)$$

where

a_i is the impact resistance for every test piece (in kN·m/m^2);

a_m is the mean impact resistance (in kN·m/m^2);

n is the number of test pieces.

Report the impact resistance as the average of the 10 values less one standard deviation.

Appendix E

Water test for pan connectors

E.1 Apparatus. A WC pan complying with BS 5503 : Parts 1 and 2, a 600 mm length of soil pipe for which the connector has been designed (see **4.2** (a)) and suitable sealing devices for the pan spigot and the soil pipe. The assembly to consist of the connector fitted to the soil pipe connected to a source of hydrostatic pressure and a bleed valve to enable all air to escape when the water pressure is applied (see figure 11).

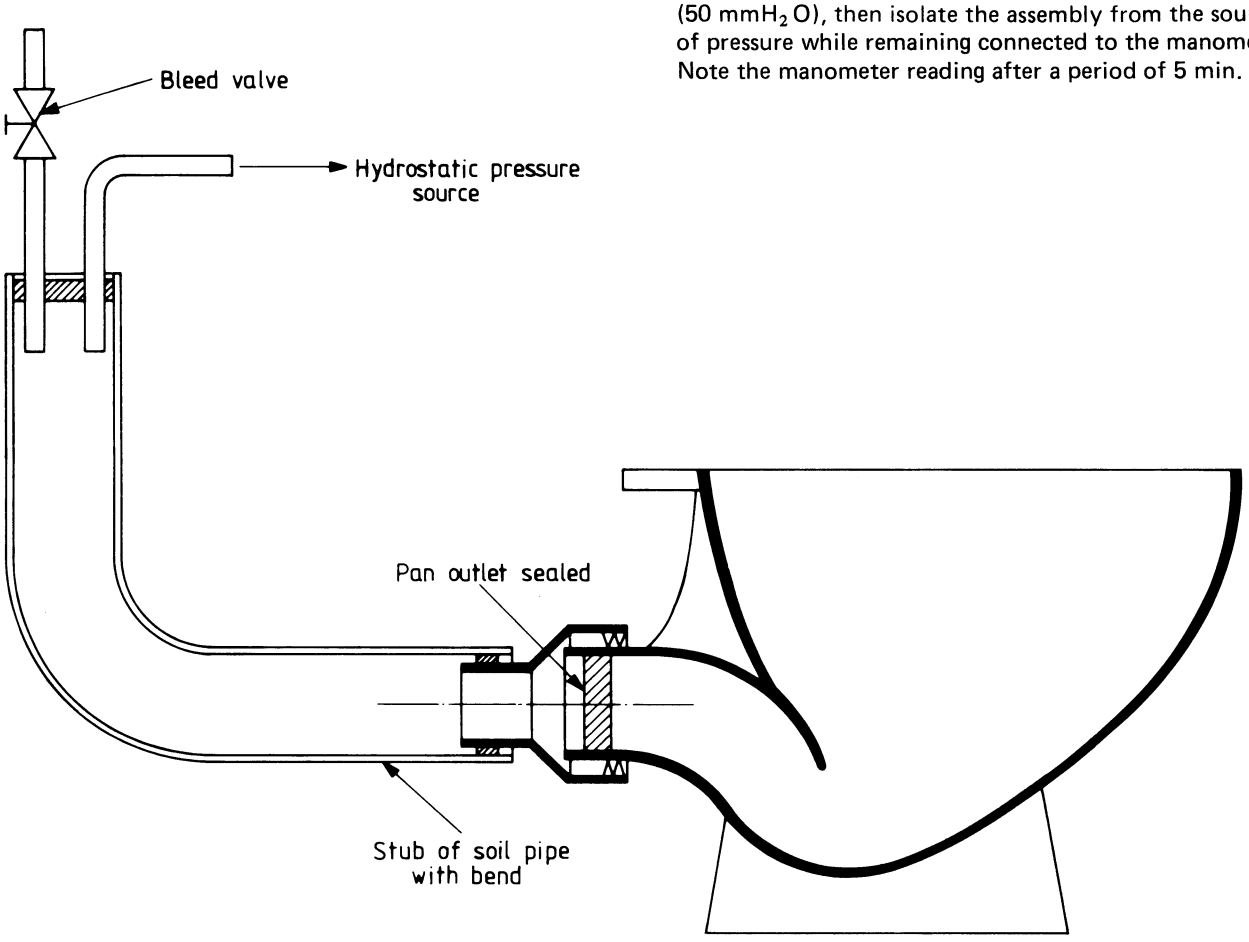
E.2 Procedure. Insert the pan sealing device and fit the assembly to the pan. Apply and maintain pressure at 0.1 bar for 5 min.

Appendix F

Air pressure test for pan connectors

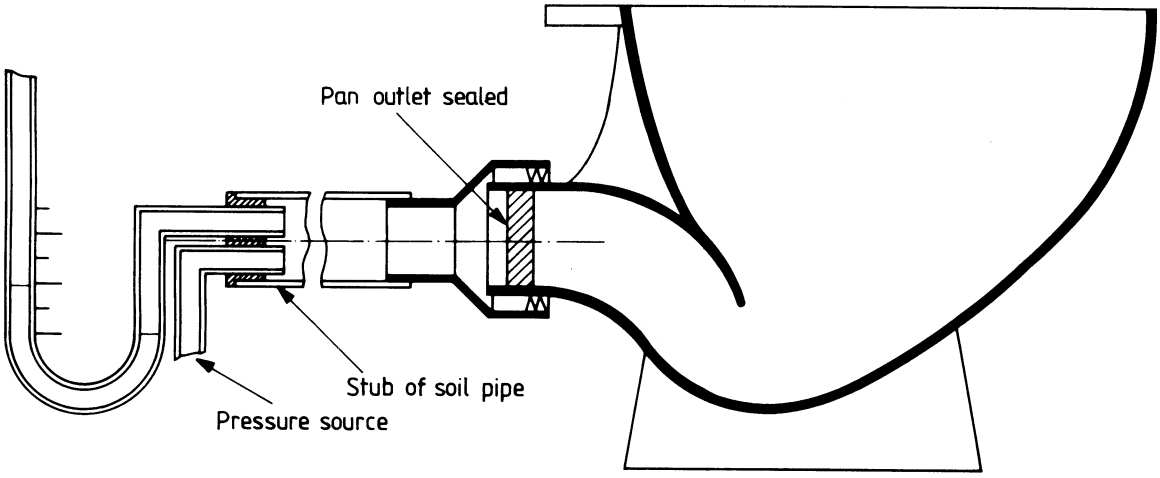
F.1 Apparatus. A WC pan complying with BS 5503 : Parts 1 and 2, a 600 mm length of soil pipe for which the connector has been designed (see **4.2** (a)) and suitable sealing devices for the pan spigot and the soil pipe. The assembly to consist of the connector fitted to the soil pipe and connected to a source of pneumatic pressure and manometer (see figure 12).

F.2 Procedure. Insert the pan sealing device and fit the assembly to the pan. Apply a pressure of 0.005 bar (50 mmH_2O), then isolate the assembly from the source of pressure while remaining connected to the manometer. Note the manometer reading after a period of 5 min.



NOTE. Drawing is diagrammatic only and shows only one possible method of connecting the WC pan connector to the soil pipe.

Figure 11. Illustration of water test



NOTE. Drawing is diagrammatic only and shows only one possible method of connecting the WC pan connector to the soil pipe.

Figure 12. Illustration of air test

Publications referred to

BS 65	Specification for vitrified clay pipes, fittings and joints
BS 416	Cast iron spigot and socket soil, waste and ventilating pipes (sand cast and spun) and fittings
BS 437	Specification for cast iron spigot and socket drain pipes and fittings
BS 602 & 1085	Lead and lead alloy pipes for other than chemical purposes
BS 1387	Steel tubes and tubulars suitable for screwing to BS 21 pipe threads
BS 2494	Materials for elastomeric joint rings for pipework and pipelines
BS 2598	Glass plant, pipeline and fittings
	Part 3 Pipeline and fittings of nominal bore 15 mm to 150 mm; compatibility and interchangeability
BS 2760	Pitch-impregnated fibre pipes and fittings for below and above ground drainage
BS 2782	Methods of testing plastics
	Methods 120A to 120E Determination of the Vicat softening temperature of thermoplastics
	Method 351A Determination of Charpy impact resistance of rigid plastics and ebonite (Charpy impact flexural test)
	Method 720A Determination of melt flow rate of thermoplastics
	Method 1101A Measurement of dimensions of pipes
	Method 1103A Stress relief test for injection moulded fittings: oven method
BS 2871	Copper and copper alloys. Tubes
	Part 1 Copper tubes for water, gas and sanitation
BS 3868	Prefabricated drainage stack units: galvanized steel
BS 4514	Unplasticized PVC soil and ventilating pipe, fittings and accessories
BS 4660	Unplasticized PVC underground drain pipe and fittings
BS 5503	Specification for vitreous china washdown WC pans with horizontal outlet
	Part 1 Connecting dimensions
	Part 2 Materials, quality, performance and dimensions other than connecting dimensions
BS 5504	Specification for wall hung WC pans
	Part 1 Wall hung WC pan with close coupled cistern. Connecting dimensions
	Part 2 Wall hung WC pan with independent water supply. Connecting dimensions
	Part 3 Materials, quality and functional dimensions other than connecting dimensions
BS 5922	Specification for glass condensers for laboratory use

This British Standard, having been prepared under the direction of the Building Services Standards Committee, was published under the authority of the Board of BSI and comes into effect on

31 January 1984.

First published September 1978
First revision January 1984

ISBN 0 580 13707 4

British Standards Institution
Incorporated by Royal Charter, BSI is the independent national body for the preparation of British Standards. It is the UK member of the International Organization for Standardization and UK sponsor of the British National Committee of the International Electrotechnical Commission.

Copyright
Users of British Standards are reminded that copyright subsists in all BSI publications. No part of this publication may be reproduced in any form without the prior permission in writing of BSI. This does not preclude the free use, in the course of implementing the standard, of necessary details such as symbols and size, type or grade designations. Enquiries by post should be addressed to the Publications Manager, British Standards Institution, Linford Wood, Milton Keynes MK14 6LE. The number for telephone enquiries is 0908 320033 and for telex 825777.

Contract requirements
A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Revision of British Standards
British Standards are revised, when necessary, by the issue either of amendments or of revised editions. **It is important that users of British Standards should ascertain that they are in possession of the latest amendments or editions.** Information on all BSI publications is in the *BSI Catalogue*, supplemented each month by *BSI News* which is available to subscribing members of the Institution and gives details of new publications, revisions, amendments and withdrawn standards. Any person who, when making use of a British Standard, encounters an inaccuracy or ambiguity, is requested to notify BSI without delay in order that the matter may be investigated and appropriate action taken.

The following BSI references relate to the work on this standard:
Committee reference SEB/1 Draft for comment 81/15178 DC

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Building Services Standards Committee (SEB/—) to Technical Committee SEB/1 upon which the following bodies were represented:

British Bath Manufacturers' Association
British Ironfounders' Association
British Plastics Federation
British Woodworking Federation
Builders Merchants Federation
Clay Pipe Development Association Limited
Consumer Standards Advisory Committee of BSI
Council of British Ceramic Sanitaryware Manufacturers
Department of Health and Social Security
Department of the Environment (Building Research Establishment)
Department of the Environment (Housing and Construction)
Department of the Environment (Property Services Agency)
Greater London Council
Institute of Clerks of Works of Great Britain Incorporated
Institute of Plumbing
Institution of Environmental Health Officers
Institution of Public Health Engineers
Institution of Water Engineers and Scientists
Metal Sink Manufacturers' Association
National Brassfoundry Association
Plastic Bath Manufacturers' Association
Royal Institute of British Architects
STC Water Regulations and Fittings Scheme
Vitreous Enamel Development Council

Amendments issued since publication

Amd. No.	Date of issue	Text affected

British Standards Institution · 2 Park Street London W1A 2BS · Telephone 01-629 9000 · Telex 266933