

Methods of testing plastics —

Part 0: Introduction

ICS 83.080.01

Committees responsible for this British Standard

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- BEAMA Ltd
- British Plastics Federation
- British Society of Rheology
- IEE — Institution of Electrical Engineers
- Institute of Materials
- National Physical Laboratory
- Packaging and Industrial Films Assn.
- RAPRA Technology Ltd
- Royal Society of Chemistry

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Foreword

This part of BS 2782 has been prepared by Technical Committee PRI/21 and is a new edition of BS 2782-0:1995, which is withdrawn.

BS 2782 formerly described almost all the test methods used by the plastics industry for determining the quality of its products. Currently, the majority of these test methods are identical with the methods standardized by Technical Committee ISO/TC 61, Plastics, and where this is so, they have taken the ISO number (designated BS ISO xxxx) or are dual numbered with the ISO and BS 2782 numbers. Additionally, many methods have been adopted as European Standards by CEN/TC 249, Plastics (designated BS EN ISO xxxx). As methods are revised, the policy is to discontinue dual numbering and to adopt the ISO number only. Some methods for which there is no ISO equivalent or where the British Standard differs from the ISO standard continue as methods within BS 2782.

It is intended that the appropriate test methods, however numbered, be specified in all British Standards for plastics materials and products.

Annex A lists the methods in numerical order of the original BS 2782 methods and shows the equivalent ISO standard when appropriate.

WARNING. The methods in BS 2782 do not necessarily detail all the precautions necessary to meet the requirements of the Health and Safety at Work etc. Act 1974. Attention should be paid to any appropriate safety precautions, and the methods should be operated only by trained personnel.

This British Standard calls for the use of substances and/or procedures that may be injurious to health. It refers only to technical suitability and does not absolve the user from legal obligations relating to health and safety at any time.

This document does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii pages 1 to 29 and a back cover.

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1 Scope

This part of BS 2782 gives a general introduction to the methods of test for plastics some of which are presented in the other Parts. Annex A lists the individual methods and Annex B describes an obsolescent method (508A), formerly given in BS 2782:1970 and still referred to by the Building Regulations [1].

2 Informative references

This part of BS 2782 refers to other publications that provide information or guidance. Editions of these publications current at the time of issue of this standard are listed in the Bibliography, but reference should be made to the latest editions.

3 Content and usage of BS 2782

The ISO test methods adopted as British Standards together with the methods in BS 2782 provide a rationalized collection of methods for testing plastics materials and includes tests that are applied to moulding and extrusion compounds, synthetic resins, reinforced plastics, semi-fabricated products such as sheet, film, rod and tube, and finished articles in the form of mouldings and extrusions. Many of the methods are restricted to one set of conditions, and are not necessarily adequate for the production of design data; attention is therefore drawn to BS 4618. The acquisition and presentation of comparable data for properties of plastics is given in BS EN ISO 10350 and BS EN ISO 11403. Many of the methods are not suitable for cellular plastics.

4 Units

Numerical values in BS 2782 are normally expressed in the units of the *Système International d'Unités* (SI units), described in ISO 1000.

5 Apparatus and reagents

Apparatus used should comply with the requirements of the appropriate British Standard. Reagents should be of recognized analytical reagent quality unless otherwise stated, and distilled or demineralized water should be used wherever water is specified (see BS EN ISO 3696).

6 Sampling

In cases where special precautions are needed to ensure that the test pieces adequately represent the properties of the material in bulk, a sampling procedure is given in the specification for the material.

7 Number of test pieces

It is recognized that specifications for test programmes sometimes require use of different numbers of test pieces from those given in the test method standard. For example, in production, a more informative and accurate result can be obtained if fewer test pieces are taken from one article but more articles are tested. It should be noted, however, that in general, the use of fewer test pieces yields less reliable results.

8 Preparation of test pieces

Preparation of test pieces is often one of the most critical stages of the test procedure, and the specified conditions of preparation should be adhered to. In general the procedure adopted enables a test piece representative of the material under test to be obtained with minimal effect on the properties of the material. Test piece preparation is normally referred to in each test method standard, usually by reference to general methods of preparation (see Annex A) or by reference to standards for the materials or products. It should be noted that, where no British Standard or other recognized specification exists, the procedure should be as agreed between the interested parties.

9 Direction of testing

The properties of certain types of sheet material can vary with direction in the plane of the sheet. In practice it is usual to cut two groups of test pieces with their major axes respectively parallel and perpendicular to the direction of some feature of the sheet that is either visible or inferred from knowledge of the method of its manufacture. For a particular test, the direction of testing is the direction of the long axis of the test pieces, unless otherwise stated.

10 Test report

When referring to a test procedure, the full reference should be quoted by giving the number of this British Standard, the method number and the date of publication, e.g. BS 2782:Method 360A:1991, or BS EN ISO 75-1:1996.

11 Standard atmospheres for conditioning and testing

The properties of plastics can alter considerably with changes in temperature and relative humidity. It is usually necessary to condition test pieces before testing, in addition to controlling the atmosphere during testing, in order to improve the reproducibility of test results. As large a surface as possible of each test piece should be exposed to the conditioning atmosphere.

Where appropriate, the test method specifies the conditioning procedure. The standard atmospheres for conditioning and testing given in BS EN ISO 291 should be used whenever possible.

Annex A (informative)**List of methods in BS 2782 published separately and degree of equivalence to international standards****A.1 Parts**

BS 2782 comprises the following 12 parts:

- *Part 1: Thermal properties;*
- *Part 2: Electrical properties;*
- *Part 3: Mechanical properties;*
- *Part 4: Chemical properties;*
- *Part 5: Optical and colour properties, weathering;*
- *Part 6: Dimensional properties;*
- *Part 7: Rheological properties;*
- *Part 8: Other properties;*
- *Part 9: Sampling and test specimen preparation;*
- *Part 10: Glass reinforced plastics;*
- *Part 11: Thermoplastics pipes, fittings and valves;*
- *Part 12: Reinforced plastics pipes, fittings and valves.*

A.2 Correspondence between BS 2782 and international standards

The relationship between the individual methods of BS 2782 and international standards is given in Table A.1. The equivalent ISO numbers are given.

Table A.1 — Methods in BS 2782 and corresponding international standards

BS 2782 method unless otherwise stated	Formally designated BS 2782 method	Title	Date of publication ^a	Equivalent international standard
120C	—	<i>Part 1: Thermal properties — Determination of the 1/10 Vicat softening temperature of thermoplastics</i>	1990	—
BS EN ISO 75-1	121	<i>Plastics — Determination of temperature of deflection under load — Part 1: General test method</i>	1996	ISO 75-1
BS EN ISO 75-2	121A to 121C	<i>Plastics — Determination of temperature of deflection under load — Part 2: Plastics and Ebonite</i>	1996	ISO 75-2
BS EN ISO 75-3	121D	<i>Plastics — Determination of temperature of deflection under load — Part 3: High-strength thermosetting laminates and long-fibre-reinforced plastics</i>	1996	ISO 75-3
BS EN ISO 3146	125A to 125C2	<i>Plastics — Determination of melting behaviour (melting temperature or melting range) of semi-crystalline polymers by capillary tube and polarizing-microscope methods</i>	2000	ISO 3146
130A	—	<i>Part 1: Thermal properties — Determination of the thermal stability of polyvinyl chloride by the Congo red method</i>	1991 (2002)	ISO 182-1
BS EN ISO 182-2	130B	<i>Plastics — Determination of the tendency of compounds and products based on vinyl chloride homopolymers and copolymers to evolve hydrogen chloride and any other acidic products at elevated temperatures — Part 2: pH method</i>	2000	ISO 182-2
BS EN ISO 182-3	130C	<i>Plastics — Determination of the tendency of compounds and products based on vinyl chloride homopolymers and copolymers to evolve hydrogen chloride and any other acidic products at elevated temperatures — Part 3: Conductometric method</i>	2001	ISO 182-3
BS EN ISO 182-4	130D	<i>Plastics — Determination of the tendency of compounds and products based on vinyl chloride homopolymers and copolymers to evolve hydrogen chloride and any other acidic products at elevated temperatures — Part 4: Potentiometric method</i>	2000	ISO 182-4
131B	—	<i>Part 1: Thermal properties — Determination of extensibility after heat ageing of flexible polyvinyl chloride sheet</i>	1983 (1994)	—
^a A date in brackets is when confirmation of the validity of the standard was agreed.				

Table A.1 — Methods in BS 2782 and corresponding international standards (*continued*)

BS 2782 method unless otherwise stated	Formally designated BS 2782 method	Title	Date of publication ^a	Equivalent international standard
131C and 131D	—	<i>Part 1: Thermal properties — Crushing strength after heating (heat resistance) of thermosetting moulding material. Crushing strength after heating (heat resistance) of thermosetting laminated sheet or mouldings</i>	1978 (2002)	—
134A and 134B	—	<i>Part 1: Thermal properties — Determination of the oxidation induction time of thermoplastics</i>	1992 (1999)	—
BS EN ISO 2578	135	<i>Plastics — Determination of the time-temperature limits after prolonged exposure to heat</i>	1999	ISO 2578
BS EN ISO 11248	136	<i>Plastics — Thermosetting moulding materials — Evaluation of short-term performance at elevated temperatures</i>	2000	ISO 11248
140A ^b	—	<i>Part 1: Thermal properties — Determination of the burning behaviour of horizontal and vertical specimens in contact with a small-flame ignition source</i>	1992	ISO 1210
BS EN ISO 9773	140B	<i>Plastics — Determination of burning behaviour of thin flexible vertical specimens in contact with a small-flame ignition source</i>	1999	ISO 9773
BS EN 60695-11-20	140C	<i>Fire hazard testing — Part 11: Test flames — 500W flame test methods</i>	1999	—
140D	—	<i>Part 1: Thermal properties — Flammability of a test piece 550 mm × 35 mm of thin polyvinyl chloride sheeting (laboratory method)</i>	1997	—
140E	—	<i>Part 1: Thermal properties — Flammability of a small, inclined test piece exposed to an alcohol flame (laboratory method) (obsolescent)</i>	1982 (1988)	—
BS EN ISO 4589-2	141	<i>Plastics — Determination of burning behaviour by oxygen index — Part 2: Ambient temperature test</i>	1999	ISO 4589-2
BS EN ISO 4589-3	143A and 143B	<i>Plastics — Determination of burning behaviour by oxygen index — Part 3: Elevated temperature test</i>	1996	ISO 4589-3
150B	—	<i>Part 1: Thermal properties — Determination of cold flex temperature of flexible polyvinyl compound</i>	1976 (2002)	—
150C	—	<i>Part 1: Thermal properties — Determination of low temperature extensibility of flexible polyvinyl chloride sheet</i>	1983 (1994)	—
150D	—	<i>Part 1: Thermal properties — Cold crack temperature of film and thin sheeting</i>	1976 (1993)	—
^a A date in brackets is when confirmation of the validity of the standard was agreed.				
^b See also Annex B.				

Table A.1 — Methods in BS 2782 and corresponding international standards (*continued*)

BS 2782 method unless otherwise stated	Formally designated BS 2782 method	Title	Date of publication ^a	Equivalent international standard
151A	—	<i>Part 1: Thermal properties — Determination of cold bend temperature of flexible polyvinyl chloride extrusion compound</i>	1984 (1992)	—
153A	—	<i>Part 1: Thermal properties — Determination of stiffness in torsion of flexible materials (general method)</i>	1991 (2002)	ISO 458-1
153B	—	<i>Part 1: Thermal properties — Determination of stiffness in torsion of flexible materials (method for vinyl chloride compounds)</i>	1991 (2002)	ISO 458-2
220/221	—	<i>Part 2: Electrical properties — Determination of electric strength: rapidly applied voltage method. Determination of electric strength: step-by-step method</i>	1983	—
230A	—	<i>Part 2: Electrical properties — Determination of volume resistivity</i>	1982	—
231A	—	<i>Part 2: Electrical properties — Determination of surface resistivity</i>	1981	—
232	—	<i>Part 2: Electrical properties — Determination of insulation resistance</i>	1992	—
240A/B	—	<i>Part 2: Electrical properties — Determination of loss tangent and permittivity at power and audio frequencies</i>	1982	—
241A	—	<i>Part 2: Electrical properties — Determination of effect of polyvinyl chloride compound on the loss tangent of polyethylene</i>	1984 (1992)	—
BS 7506-2	250A	<i>Methods for measurement in electrostatics — Part 2: Test methods</i>	1996	—
BS 7506-2	250B and 250C	<i>Methods for measurement in electrostatics — Part 2: Test methods</i>	1996	—
320A to 320F	—	<i>Part 3: Mechanical properties — Tensile strength, elongation and elastic modulus (Amendment 1993)</i>	1976 (1996)	—
BS EN ISO 527-1	321	<i>Plastics — Determination of tensile properties — Part 1: General principles</i>	1996	ISO 527-1
BS EN ISO 527-2	322	<i>Plastics — Determination of tensile properties — Part 2: Test conditions for moulding and extrusion plastics</i>	1996	ISO 527-2
323A	—	<i>Part 3: Mechanical properties — Tensile vibration — Non-resonance method</i>	1996 (2001)	ISO 6721-4
323B	—	<i>Part 3: Mechanical properties — Flexural vibration — Non-resonance method</i>	1996 (2002)	ISO 6721-5
323C	—	<i>Part 3: Mechanical properties — Shear vibration — Non-resonance method</i>	1996 (2002)	ISO 6721-6

^a A date in brackets is when confirmation of the validity of the standard was agreed.

Table A.1 — Methods in BS 2782 and corresponding international standards (*continued*)

BS 2782 method unless otherwise stated	Formally designated BS 2782 method	Title	Date of publication ^a	Equivalent international standard
323D	—	<i>Part 3: Mechanical properties — Torsional vibration — Non-resonance method</i>	1996 (2002)	ISO 6721-7
323E	—	<i>Part 3: Mechanical properties — Longitudinal and shear vibration — Wave-propagation method</i>	1997	ISO 6721-8
323F	—	<i>Part 3: Mechanical properties — Tensile vibration — Sonic-pulse propagation method</i>	1997	ISO 6721-9
BS ISO 6721-10	323G	<i>Plastics — Determination of dynamic mechanical properties — Part 10: Complex shear viscosity using a parallel-plate oscillatory rheometer</i>	1999	ISO 6721-10
BS EN ISO 899-1	324A	<i>Plastics — Determination of creep behaviour — Part 1: Tensile creep</i>	2003	ISO 899-1
BS EN ISO 899-2	324B	<i>Plastics — Determination of creep behaviour — Part 2: Flexural creep by three-point loading</i>	2003	ISO 899-2
BS EN ISO 527-3	326A to 326C, 326E	<i>Plastics — Determination of tensile properties — Part 3: Test conditions for films and sheets</i>	1996	ISO 527-3
BS EN ISO 527-4	326F	<i>Plastics — Determination of tensile properties — Part 4: Test conditions for isotropic and orthotropic fibre reinforced plastic composites</i>	1997	ISO 527-4
BS EN ISO 527-5	326G	<i>Plastics — Determination of tensile properties — Part 5: Test conditions for unidirectional fibre-reinforced composites</i>	1997	ISO 527-5
327A	—	<i>Part 3: Mechanical properties — Determination of tensile strength and elongation at break polytetrafluoroethylene (PTFE) products</i>	1993 (2002)	—
332A	—	<i>Part 3: Mechanical properties — Stiffness of plastics film (obsolescent)</i>	1976 (1983)	—
BS EN ISO 178	335A	<i>Plastics — Determination of flexural properties</i>	2003	—
BS EN ISO 6721-3	338A	<i>Plastics — Determination of dynamic mechanical properties — Part 3: Flexural vibration — Resonance-curve method</i>	1996	—
340A/B	—	<i>Mechanical properties — Part 3: Determination of shear strength of moulding material — Determination of shear strength of sheet material</i>	1978 (2002)	—
341A	—	<i>Mechanical properties — Part 3: Determination of apparent interlaminar shear strength of reinforced plastics</i>	1977 (1999)	—
^a A date in brackets is when confirmation of the validity of the standard was agreed.				

Table A.1 — Methods in BS 2782 and corresponding international standards (*continued*)

BS 2782 method unless otherwise stated	Formally designated BS 2782 method	Title	Date of publication ^a	Equivalent international standard
BS EN ISO 6721-1	342A	<i>Plastics — Determination of dynamic mechanical properties — Part 1: General principles</i>	2002	ISO 6721-1
BS EN ISO 6721-2	342B	<i>Plastics — Determination of dynamic mechanical properties — Part 2: Torsion-pendulum method</i>	1996	ISO 6721-2
BS EN ISO 604	345A	<i>Plastics — Determination of compressive properties</i>	2003	ISO 604
346A	—	<i>Part 3: Mechanical properties — Determination of cohesion between layers of laminated tube</i>	1984 (2002)	—
BS EN ISO 180	350	<i>Plastics — Determination of izod impact strength</i>	2001	ISO 180
352E	—	<i>Part 3: Mechanical properties — Determination of impact resistance by the free-falling dart method (staircase method)</i>	1996	ISO 7765-1
352F	—	<i>Part 3: Mechanical properties — Determination of impact resistance by the free-falling dart method (instrumented puncture method)</i>	1996	ISO 7765-2
BS EN ISO 6603-1	353A	<i>Plastics — Determination of multi-axial impact behaviour of rigid plastics — Part 1: Non-instrumented impact testing</i>	2000	ISO 6603-1
BS EN ISO 6603-2	353B	<i>Plastics — Determination of multi-axial impact behaviour of rigid plastics — Part 2: Instrumented puncture testing</i>	2000	ISO 6603-2
BS EN ISO 8256	354A/B	<i>Plastics — Determination of tensile-impact strength</i>	1997	ISO 8256
BS EN ISO 179	359	<i>Plastics — Determination of Charpy impact strength</i>	1997	ISO 179
360A	—	<i>Part 3: Mechanical properties — Determination of tear resistance of plastics film and sheeting by the Elmendorf method</i>	1991 (1996)	ISO 6383-2
360B	—	<i>Part 3: Mechanical properties — Determination of tear resistance of plastics film and sheeting by the trouser tear method</i>	1991 (1996)	ISO 6383-1
360C	—	<i>Part 3: Mechanical properties — Determination of tear resistance of plastics film and sheeting by the initiation method</i>	1991 (1996)	—
365A	—	<i>Part 3: Mechanical properties — Determination of softness number of flexible plastics materials</i>	1976 (2002)	—
BS EN ISO 868	365B	<i>Plastics and ebonite — Determination of indentation hardness by means of a durometer (Shore hardness)</i>	2003	ISO 868

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Table A.1 — Methods in BS 2782 and corresponding international standards (*continued*)

BS 2782 method unless otherwise stated	Formally designated BS 2782 method	Title	Date of publication ^a	Equivalent international standard
BS EN ISO 2039-1	365D	<i>Plastics — Determination of hardness — Part 1: Ball indentation method</i>	2003	ISO 2039-1
BS EN ISO 2039-2	365C	<i>Plastics — Determination of hardness — Part 2: Rockwell hardness</i>	2000	ISO 2039-2
370	—	<i>Part 3: Mechanical properties — Determination of resistance to wear by abrasive wheels</i>	1996 (2001)	ISO 9352
BS EN ISO 62	430A to 430D	<i>Plastics — Determination of water absorption</i>	1999	ISO 62
BS EN ISO 585	431C	<i>Plastics — Unplasticized cellulose acetate — Determination of moisture content</i>	1999	ISO 585
432A	—	<i>Part 4: Chemical properties — Determination of residual styrene monomer content in reinforced plastics based on unsaturated polyester resins</i>	1991 (2002)	ISO 4091
BS EN ISO 2114	432B	<i>Plastics (polyester resins) and paints and varnishes (binders) — Determination of partial acid value and total acid value</i>	2000	ISO 2114
BS EN ISO 2554	432C	<i>Plastics — Unsaturated polyester resins — Determination of hydroxyl value</i>	1999	ISO 2554
432D	—	<i>Part 4: Chemical properties — Determination of styrene evaporation from unsaturated polyester resins</i>	1995 (2002)	—
433A	—	<i>Part 4: Chemical properties — Determination of inorganic chlorine in epoxide resins and glycidyl esters</i>	1979 (1999)	ISO 4573
BS EN ISO 21627-2	433B	<i>Plastics — Epoxy resins and related materials — Determination of easily saponifiable chlorine</i>	2003	ISO 21627-2
BS EN ISO 3001	433C/D	<i>Plastics — Epoxy resins — Determination of epoxy equivalent</i>	1999	ISO 3001
BS EN ISO 7327	433E	<i>Plastics — Hardeners and accelerators for epoxide resins — Determination of free acid in acid anhydride</i>	1997 (2003)	ISO 7327
434B	—	<i>Part 4: Chemical properties — Determination of antioxidants in polyolefin compounds by ultra-violet absorption of chloroform extract (obsolescent)</i>	1977 (1993)	—
434D	—	<i>Part 4: Chemical properties — Determination of antioxidants in polyolefin compounds by a spectrophotometric method</i>	1975 (1999)	—
451A	—	<i>Part 4: Chemical properties — Determination of acetone-soluble matter in phenolic mouldings</i>	1978 (1999)	ISO 59

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Table A.1 — Methods in BS 2782 and corresponding international standards (*continued*)

BS 2782 method unless otherwise stated	Formally designated BS 2782 method	Title	Date of publication ^a	Equivalent international standard
451B	—	<i>Part 4: Chemical properties — Determination of acetone-soluble matter in phenolic moulding materials after moulding (obsolescent)</i>	1978 (1983)	—
BS EN ISO 308	451C	<i>Plastics — Phenolic moulding materials — Determination of acetone-soluble matter (apparent resin content of material in the unmoulded state)</i>	1998 (2003)	ISO 308
BS EN ISO 120	451D	<i>Plastics — Phenol-formaldehyde mouldings — Determination of free ammonia and ammonium compounds (colorimetric comparison method)</i>	1998	ISO 120
BS EN ISO 119	451E	<i>Plastics — Phenol-formaldehyde mouldings — Determination of free ammonia and ammonium compounds (iodometric method)</i>	1998	ISO 119
451F to 451J	—	<i>Part 4: Chemical properties — Determination of formaldehyde in phenolic mouldings (colorimetric method)</i> <i>Determination of formaldehyde in phenolic mouldings (gravimetric method)</i> <i>Determination of sulphates in phenolic mouldings</i> <i>Determination of chlorides in phenolic mouldings</i>	1978 (1999)	—
BS EN ISO 8975	451K	<i>Plastics — Phenolic resins — Determination of pH</i>	1995 (2003)	ISO 8975
BS EN ISO 172	451L	<i>Plastics — Phenol-formaldehyde mouldings — Detection of free ammonia</i>	1998	ISO 172
BS EN ISO 3251	451M	<i>Paints, varnishes and plastics — Determination of non-volatile-matter content</i>	2003	ISO 3251
BS EN ISO 9397	451N	<i>Plastics — Phenolic resins — Determination of free-formaldehyde content — Hydroxylamine hydrochloride method</i>	1997	ISO 9397
BS EN ISO 9771	451P	<i>Plastics — Phenolic resins — Determination of the pseudo-adiabatic temperature rise of liquid resins when cured under acid conditions</i>	1997	ISO 9771
BS EN ISO 9944	451Q	<i>Plastics — Phenolic resins — Determination of electrical conductivity of resin extracts</i>	1995	ISO 9944
BS EN ISO 8974	451R	<i>Plastics — Phenolic resins — Determination of residual phenol content by gas chromatography</i>	2002	ISO 8974
^a A date in brackets is when confirmation of the validity of the standard was agreed.				

Table A.1 — Methods in BS 2782 and corresponding international standards (*continued*)

BS 2782 method unless otherwise stated	Formally designated BS 2782 method	Title	Date of publication ^a	Equivalent international standard
BS EN ISO 8620	451S	<i>Plastics — Phenolic resin powder — Sieve analysis using air-jet sieve apparatus</i>	1996	ISO 8620
BS EN ISO 8989	451T	<i>Plastics — Liquid phenolic resins — Determination of water miscibility</i>	1998	ISO 8989
BS EN ISO 8988	451X/Y	<i>Plastics — Phenolic resins — Determination of hexamethylenetetramine content — Kjeldahl method and perchlotic acid method</i>	1997	ISO 8988
452B	—	<i>Part 4: Chemical properties — Determination of carbon black content of polyolefin compound</i>	1993 (1999)	—
452C	—	<i>Part 4: Chemical properties — Determination of butyl rubber content of low density polyethylene compounds (obsolescent)</i>	1978 (1986)	—
452D to 452F	—	<i>Part 4: Chemical properties — Determination of pH of water extract of polyolefin compound. Determination of water-soluble sulphates in polyolefin compound. Determination of water-soluble chlorides in polyolefin compound</i>	1978 (1999)	—
453A	—	<i>Part 4: Chemical properties — Determination of residual styrene monomer in polystyrene by gas chromatography</i>	1978 (1996)	ISO 2561
453C	—	<i>Part 4: Chemical properties — Determination of residual acrylonitrile monomer content in styrene/acrylonitrile copolymer using gas chromatography</i>	1996 (2001)	ISO 4581
BS EN ISO 1264	454C	<i>Plastics — Homopolymer and copolymer resins — Determination of pH of aqueous extract</i>	1997	ISO 1264
454D	—	<i>Part 4: Chemical properties — Determination of volatile matter (including water) of PVC resins</i>	1978 (2002)	ISO 1269
BS EN ISO 4608	454E	<i>Plastics — Homopolymer and copolymer resins of vinyl chloride for general use — Determination of plasticizer absorption at room temperature</i>	1998	ISO 4608
BS EN ISO 4610	454F	<i>Plastics — Vinyl chloride homopolymer and copolymer resins — Sieve analysis using air-jet sieve apparatus</i>	2001	ISO 4610
454G	—	<i>Part 4: Chemical properties — Polymer dispersions — Determination of sieve residue (gross particle and coagulum content)</i>	1996 (2003)	ISO 4576
^a A date in brackets is when confirmation of the validity of the standard was agreed.				

Table A.1 — Methods in BS 2782 and corresponding international standards (*continued*)

BS 2782 method unless otherwise stated	Formally designated BS 2782 method	Title	Date of publication ^a	Equivalent international standard
BS EN ISO 6427	455A	<i>Plastics — Determination of matter extractable by organic solvents (conventional methods)</i>	1999	ISO 6427
BS EN ISO 1061	459A	<i>Plastics — Unplasticized cellulose acetate — Determination of free acidity</i>	1999	ISO 1061
BS EN ISO 3671	461A	<i>Plastics — Aminoplastic moulding materials — Determination of volatile matter</i>	1999	ISO 3671
BS EN ISO 4614	462A/B	<i>Plastics — Melamine-formaldehyde mouldings — Determination of extractable formaldehyde</i>	2000	ISO 4614
BS EN ISO 177	465C	<i>Plastics — Determination of migration of plasticizers</i>	2000	ISO 177
BS EN ISO 3451-1	470A	<i>Plastics — Determination of ash — Part 1: General methods</i>	1997 (2003)	ISO 3451-1
470B	—	<i>Part 4: Chemical properties — Determination of ash of polyalkylene terephthalates</i>	1999	ISO 3451-2
470C	—	<i>Part 4: Chemical properties — Determination of ash of unplasticized cellulose acetate</i>	1991 (2001)	ISO 3451-3
BS EN ISO 3451-4	470D	<i>Plastics — Determination of ash — Part 4: Polyamides</i>	2000	ISO 3451-4
BS EN ISO 3451-5	470E	<i>Plastics — Determination of ash — Part 5: Poly(vinyl chloride)</i>	2002	ISO 3451-5
BS EN ISO 1598	480A	<i>Plastics — Cellulose acetate — Determination of insoluble particles</i>	2000	ISO 1598
520A	—	<i>Part 5: Optical and colour properties, weathering — Determination of specular gloss</i>	1992 (1999)	—
521A	—	<i>Part 5: Optical and colour properties, weathering — Determination of haze of film and sheet</i>	1992 (1999)	—
530A/B	—	<i>Part 5: Optical and colour properties, weathering — Determination of yellowness index Determination of the colour of near-white or near-colourless materials (obsolescent)</i>	1976	—
BS EN ISO 489	531A	<i>Plastics — Determination of refractive index</i>	1999	ISO 489
BS EN ISO 13468-1	532A	<i>Plastics — Determination of the total luminous transmittance of transparent materials — Part 1: Single-beam instrument</i>	1997 (2003)	ISO 13468-1

^a A date in brackets is when confirmation of the validity of the standard was agreed.

Table A.1 — Methods in BS 2782 and corresponding international standards (*continued*)

BS 2782 method unless otherwise stated	Formally designated BS 2782 method	Title	Date of publication ^a	Equivalent international standard
540B	—	<i>Part 5: Optical and colour properties, weathering — Methods of exposure to laboratory light sources, (xenon arc lamp, enclosed carbon arc lamp, open-flame carbon arc lamp, fluorescent tube lamps) (obsolescent)</i>	1982 (1987)	ISO 4892
540C	—	<i>Part 5: Optical and colour properties, weathering — Determination of ultraviolet radiation intensity using polysulphone film</i>	1988 (2000)	—
BS EN ISO 4892-1	540D	<i>Plastics — Methods of exposure to laboratory light sources — Part 1: General guidance</i>	2001	ISO 4892-1
BS EN ISO 4892-2	540E	<i>Plastics — Methods of exposure of laboratory light sources — Part 2: Xenon-arc sources</i>	2000	ISO 4892-2
BS EN ISO 4892-3	540F	<i>Plastics — Methods of exposure of laboratory light sources — Part 3: Fluorescent UV lamps</i>	2000	ISO 4892-3
540G	—	<i>Part 5: Optical and colour properties, weathering — Methods of exposure to laboratory light sources — Open flame carbon-arc lamps</i>	1995	ISO 4892-4
BS EN ISO 183	542A	<i>Plastics — Qualitative evaluation of the bleeding of colorants</i>	2000	ISO 183
BS EN ISO 877	550B	<i>Plastics — Methods of exposure to direct weathering, to weathering using glass-filtered daylight, and to intensified weathering by daylight using Fresnel mirrors</i>	1997 (2003)	ISO 877
BS EN ISO 4611	551A	<i>Plastics — Determination of the effects of exposure to damp heat, water spray and salt mist</i>	2001	ISO 4611
552A	—	<i>Part 5: Optical and colour properties, weathering — Determination of changes in colour and variations in properties after exposure to daylight under glass, natural weathering or laboratory light sources</i>	1999	ISO 4582
BS EN ISO 1600	553A	<i>Plastics — Cellulose acetate — Determination of light absorption of moulded specimens produced using different periods of heating</i>	1999	ISO 1600
BS EN ISO 1183-3	—	<i>Plastics — Methods for determining the density of non-cellular plastics — Part 3: Gas pyknometer method</i>	1999	ISO 1183-3
620A to 620D	—	<i>Part 6: Dimensional properties — Determination of density and relative density of non-cellular plastics</i>	1991 (1996)	ISO 1183
^a A date in brackets is when confirmation of the validity of the standard was agreed.				

Table A.1 — Methods in BS 2782 and corresponding international standards (*continued*)

BS 2782 method unless otherwise stated	Formally designated BS 2782 method	Title	Date of publication ^a	Equivalent international standard
BS EN ISO 1675	620E	<i>Plastics — Liquid resins — Determination of density by the pyknometer method</i>	1998	ISO 1675
BS EN ISO 60	621A	<i>Plastics — Determination of apparent density of material that can be poured from a specified funnel</i>	2000	ISO 60
BS EN ISO 61	621B	<i>Plastics — Determination of apparent density of moulding material that cannot be poured from a specified funnel</i>	2000	ISO 61
621C	—	<i>Part 6: Dimensional properties — Determination of the bulk factor of moulding materials</i>	1983 (2001)	ISO 171
621D	—	<i>Part 6: Dimensional properties — Determination of compacted apparent bulk density of PVC resins</i>	1978 (1989)	ISO 1068
630A	—	<i>Part 6: Dimensional properties — Determination of thickness by mechanical scanning of flexible sheet</i>	1994	ISO 4593
631A	—	<i>Part 6: Dimensional properties — Determination of gravimetric thickness and yield of flexible sheet</i>	1993	ISO 4591
632A	—	<i>Part 6: Dimensional properties — Determination of length and width of flexible sheet</i>	1993	ISO 4592
640A	—	<i>Part 6: Dimensional properties — Determination of shrinkage of test specimens in the form of bars of compression moulded thermosetting moulding materials</i>	1979 (2000)	ISO 2577
641A	—	<i>Part 6: Dimensional properties — Determination of dimensional stability at 100 °C of flexible polyvinyl chloride sheet</i>	1983 (1996)	—
643A	—	<i>Part 6: Dimensional properties — Shrinkage on heating film intended for shrink wrapping applications</i>	1976 (1996)	—
643B	—	<i>Part 6: Dimensional properties — Determination of dimensional change on heating film and sheeting</i>	1996	ISO 11501
BS EN ISO 3521	644A	<i>Plastics — Unsaturated polyester and epoxy resins — Determination of overall volume shrinkage</i>	2000	ISO 3521
BS EN ISO 1133	720A	<i>Plastics — Determination of the melt mass-flow rate (MFR) and the melt volume-flow rate (MVR) of thermoplastics</i>	2000	ISO 1133
720B	—	<i>Part 7: Rheological properties — Cup flow of phenolic and alkyd moulding materials</i>	1979 (2002)	—

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Table A.1 — Methods in BS 2782 and corresponding international standards (*continued*)

BS 2782 method unless otherwise stated	Formally designated BS 2782 method	Title	Date of publication ^a	Equivalent international standard
721A	—	<i>Part 7: Rheological properties — Determination of resin flow from resin impregnated glass fabric</i>	1988 (2002)	—
BS EN ISO 7808	722A	<i>Plastics — Thermosetting moulding materials — Determination of transfer flow</i>	1999	ISO 7808
722B	—	<i>Part 7: Rheological properties — Determination of the fluidity of plastics using capillary and slit-die rheometers</i>	1996	ISO 11443
BS EN ISO 3219	730B	<i>Plastics — Polymers/resins in the liquid state or as emulsions or dispersions — Determination of viscosity using a rotational viscometer with defined shear rate</i>	1995 (2003)	ISO 3219
BS EN ISO 2555	730C	<i>Plastics — Resins in the liquid state or as emulsions or dispersions — Determination of apparent viscosity by the Brookfield Test method</i>	2000	ISO 2555
BS EN ISO 1628-1	732A	<i>Plastics — Determination of the viscosity of polymers in dilute solution using capillary viscometers — Part 1: General principles</i>	1998	ISO 1628-1
BS EN ISO 1628-2	732B	<i>Plastics — Determination of the viscosity of polymers in dilute solution using capillary viscometers — Part 2: Poly(vinyl chloride) resins</i>	2000	ISO 1628-2
BS EN ISO 1628-3	732C	<i>Plastics — Determination of the viscosity of polymers in dilute solution using capillary viscometers — Part 3: Polyethylenes and polypropylenes</i>	2000	ISO 1628-3
732D	—	<i>Part 7: Rheological properties — Determination of the viscosity of polycarbonate (PC) moulding and extrusion materials in dilute solution using capillary viscometers</i>	1999	ISO 1628-4
BS ISO 1628-5	732E	<i>Plastics — Determination of the viscosity of polymers in dilute solution using capillary viscometers — Part 5: Thermoplastic polyester (TP) homopolymers and copolymers</i>	1998	ISO 1628-5
732F	—	<i>Part 7: Rheological properties — Determination of viscosity number of methyl methacrylate polymers</i>	1991 (1996)	ISO 1628-6
BS EN ISO 307	733A	<i>Plastics — Polyamides — Determination of viscosity number</i>	2003	ISO 307
BS EN ISO 1157	733C	<i>Plastics — Cellulose acetate in dilute solution — Determination of viscosity number and viscosity ration</i>	2000	ISO 1157
BS EN ISO 12058-1	734A to D	<i>Plastics — Determination of viscosity using a falling-ball viscometer — Inclined-tube method</i>	2002	ISO 9371
^a A date in brackets is when confirmation of the validity of the standard was agreed.				

Table A.1 — Methods in BS 2782 and corresponding international standards (*continued*)

BS 2782 method unless otherwise stated	Formally designated BS 2782 method	Title	Date of publication ^a	Equivalent international standard
740B	—	<i>Part 7: Rheological properties — Polymer dispersions and synthetic rubber latices — Freeze-thaw cycle stability test</i>	1996 (2002)	ISO 1147
740C	—	<i>Part 7: Rheological properties — Polymer dispersions — Determination of white point temperature and minimum film-forming temperature</i>	1996 (2003)	ISO 2115
820A	—	<i>Part 8: Other properties — Determination of water vapour transmission rate (dish method)</i>	1996	ISO 2528
BS EN ISO 2556	821A	<i>Plastics — Determination of the gas transmission rate of films and thin sheets under atmospheric pressure — Manometric method</i>	2001	ISO 2556
822A	—	<i>Part 8: Other properties — Determination of water vapour transmission rate of plastics films (sachet method)</i>	1992 (1999)	—
823A/B	—	<i>Part 8: Other properties — Methods for the assessment of carbon black dispersion in polyethylene using a microscope</i>	1978 (2002)	—
824A	—	<i>Part 8: Other properties — Film and sheeting — Determination of the coefficients of friction</i>	1996	ISO 8295
825A	—	<i>Part 8: Other properties — Film and sheeting — Determination of blocking resistance</i>	1996	ISO 11502
826A	—	<i>Part 8: Other properties — Determination of adhesion of print on plastics sheet</i>	1992	—
BS EN ISO 175	830A	<i>Plastics — Methods of test for the determination of the effects of immersion in liquid chemicals</i>	2001	ISO 175
BS EN ISO 4600	831A to B	<i>Plastics — Determination of environmental stress cracking (ESC) — Ball or pin impression method</i>	1998	ISO 4600
BS EN ISO 4599	832A	<i>Plastics — Determination of environmental stress cracking (ESC) — Bent strip method</i>	1997 (2003)	ISO 4599
BS EN ISO 6252	833A to C	<i>Plastics — Determination of environmental stress cracking (ESC) — Constant-tensile-stress method</i>	1998	ISO 6252
835A	—	<i>Part 8: Other properties — Determination of gelation time of phenolic resins</i>	1980 (2002)	—
835B	—	<i>Part 8: Other properties — Determination of gelation time of polyester resins (manual method)</i>	1980 (2002)	—
835C	—	<i>Part 8: Other properties — Determination of gelation time of polyester and epoxide resins using a gel timer</i>	1980 (2002)	—

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Table A.1 — Methods in BS 2782 and corresponding international standards (*continued*)

BS 2782 method unless otherwise stated	Formally designated BS 2782 method	Title	Date of publication ^a	Equivalent international standard
835D	—	<i>Part 8: Other properties — Determination of gelation time of thermosetting resins using a hot plate</i>	1980 (1994)	—
BS EN ISO 9396	835F/G	<i>Plastics — Phenolic resins — Determination of the gel time given at a given temperature using automatic apparatus</i>	2001	ISO 9396
BS EN ISO 8619	835H	<i>Plastics — Phenolic resins powder — Determination of flow distance on a heated glass plate</i>	1998	ISO 8619
BS EN ISO 8987	835I/J	<i>Plastics — Phenolic resins — Determination of reactivity on a B-transformation test plate</i>	1998	ISO 8987
BS EN ISO 293	901A	<i>Plastics — Compression moulding test specimens of thermoplastic materials</i>	1988 (2003)	ISO 293
BS EN ISO 295	902A	<i>Plastics — Compression moulding of test specimens of thermosetting materials</i>	1999	ISO 295
BS EN ISO 294-1	910B	<i>Plastics — Injection moulding of test specimens of thermoplastic materials — Part 1: General principles, and moulding of multipurpose and bar test specimens</i>	1998 (2003)	ISO 294-1
BS EN ISO 294-2	910C	<i>Plastics — Injection moulding of test specimens of thermoplastic materials — Part 2: Small tensile bars</i>	1998 (2003)	ISO 294-2
BS EN ISO 294-3	910D	<i>Plastics — Injection moulding of test specimens of thermoplastic materials — Part 3: Small plates</i>	2003	ISO 294-3
BS EN ISO 294-4	910E	<i>Plastics — Injection moulding of test specimens of thermoplastic materials — Part 4: Determination of moulding shrinkage</i>	2003	ISO 294-4
BS ISO 1268-3	920A to C	<i>Fibre-reinforced plastics — Methods of producing test plates — Wet compression moulding</i>	2000	ISO 1268-3
BS EN ISO 2818	930A	<i>Plastics — Preparation of test specimens by machining</i>	1997 (2003)	ISO 2818
BS EN ISO 3167	931A	<i>Plastics — Multipurpose-test specimens</i>	2003	ISO 3167
940A	—	<i>Part 9: Sampling and test specimen preparation — Preparation of test specimens of amorphous thermoplastic in the form of bars with a specified reversion</i>	1990 (2003)	ISO 2557-1
940B	—	<i>Part 9: Sampling and test specimen preparation — Preparation of test specimens of amorphous thermoplastics with a specified reversion by injection moulding rectangular plates</i>	1989 (1999)	ISO 2557-2

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Table A.1 — Methods in BS 2782 and corresponding international standards (*continued*)

BS 2782 method unless otherwise stated	Formally designated BS 2782 method	Title	Date of publication ^a	Equivalent international standard
1001	—	<i>Part 10: Glass reinforced plastics — Measurement of hardness by means of a Barcol impressor</i>	1977 (2003)	EN 59
1002	—	<i>Part 10: Glass reinforced plastics — Determination of loss on ignition</i>	1977 (2003)	EN 60
1003	—	<i>Part 10: Glass reinforced plastics — Determination of tensile properties</i>	1977 (2003)	EN 61
1004	—	<i>Part 10: Glass reinforced plastics — Standard atmospheres for conditioning and testing</i>	1977 (2003)	EN 62
1005	—	<i>Part 10: Glass reinforced plastics — Determination of flexural properties — Three point method</i>	1977 (2003)	EN 63
1006	—	<i>Part 10: Glass reinforced plastics — Determination of volatile matter and resin content of synthetic resin-impregnated textile glass fabric</i>	1978 (2002)	—
BS EN ISO 1886	1007	<i>Reinforcement fibres — Sampling plans applicable to received batches</i>	1995	ISO 1886
BS ISO 3597-1	1008A	<i>Textile-glass-reinforced plastics — Determination of mechanical properties on rods made of roving-reinforced resin — Part 1: General considerations and preparation of rods</i>	2003	ISO 3597-1
BS ISO 3597-2	1008B	<i>Textile-glass-reinforced plastics — Determination of mechanical properties on rods made of roving-reinforced resin — Part 2: Determination of flexural strength</i>	2003	ISO 3597-2
BS ISO 3597-3	1008C	<i>Textile-glass-reinforced plastics — Determination of mechanical properties on rods made of roving-reinforced resin — Part 3: Determination of compressive strength</i>	2003	ISO 3597-3
BS ISO 3597-4	1008D	<i>Textile-glass-reinforced plastics — Determination of mechanical properties on rods made of roving-reinforced resin — Part 4: Determination of apparent interlaminar shear strength</i>	2003	ISO 3597-4
1101A	—	<i>Part 11: Thermoplastic pipes, fittings and valves — Measurement of dimensions of pipes</i>	1981 (1999)	ISO 3126
BS EN 743	1102A/B	<i>Plastic piping and ducting systems — Thermoplastics pipes — Determination of the longitudinal reversion</i>	1995	EN 743
BS EN 763	1103A/B	<i>Plastics piping and ducting systems — Injection-moulded thermoplastics fittings — Test method for visually assessing effects of heating</i>	1995	EN 763

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Table A.1 — Methods in BS 2782 and corresponding international standards (*continued*)

BS 2782 method unless otherwise stated	Formally designated BS 2782 method	Title	Date of publication ^a	Equivalent international standard
BS EN 12118	1103C	<i>Plastic pipes systems — Determination of moisture content in thermoplastics by coulometry</i>	1998	EN 12118
BS EN 728	1103D	<i>Plastics piping and ducting systems — Polyolefin pipes and fittings — Determination of oxidation induction time</i>	1997	EN 728
BS EN 12099	1103E	<i>Plastic piping systems — Polyethylene piping materials and components — Determination of volatile content</i>	1997	EN 12099
BS EN 727	1103V	<i>Plastics piping and ducting systems — Thermoplastic pipes and fittings — Determination of Vicat softening temperature (VST)</i>	1995	EN 727
BS EN 578	1104A	<i>Plastics piping systems — Plastics pipes and fittings — Determination of the opacity</i>	1994	EN 578
BS EN 580	1105D	<i>Plastics piping systems — Unplasticized poly(vinyl chloride) (PVC-U) pipes — Test method for the resistance to dichloromethane at a specified temperature (DCMT)</i>	2003	EN 580
BS ISO 18553	1106A	<i>Methods for the assessment of the degree of pigment or carbon black dispersions in polyolefin pipes, fitting and compounds</i>	2002	ISO 18553
BS EN 579	1106E	<i>Plastics piping systems — Crosslinked polyethylene (PE-X) pipes — Determination of degree of crosslinking by solvent extraction</i>	1994	EN 579
BS EN 1056	1107A	<i>Plastics piping and ducting systems — Plastics pipes and fittings — Method for exposure to direct (natural) weathering</i>	1996	EN 1056
1108A	—	<i>Part 11: Thermoplastic pipes, fittings and valves — True impact rate (TIR) boundaries of pipes</i>	1989	—
BS EN 1411	1108B	<i>Plastics piping and ducting systems — Thermoplastics pipes — Determination of resistance to external blows by the staircase method</i>	1996	EN 1411
BS EN 744	1108C	<i>Plastics piping and ducting systems — Thermoplastics pipes — Test method for resistance to external blows by the round-the-clock method</i>	1996	EN 744
BS EN 12061	1108D	<i>Plastics piping systems — Thermoplastics fittings — Test method for impact resistance</i>	1999	EN 12061
BS EN 1716	1108T	<i>Plastics piping systems — Polyethylene (PE) tapping tees — Test method for impact resistance of an assembled tapping tee</i>	1997	EN 1716
^a A date in brackets is when confirmation of the validity of the standard was agreed.				

Table A.1 — Methods in BS 2782 and corresponding international standards (*continued*)

BS 2782 method unless otherwise stated	Formally designated BS 2782 method	Title	Date of publication ^a	Equivalent international standard
1109A	—	<i>Part 11: Thermoplastic pipes, fittings and valves — Resistance to environmental stress cracking of polyethylene pipes and fittings for non-pressure applications</i>	1989 (1999)	—
BS EN ISO 13479	1109N	<i>Polyolefin pipes for the conveyance of fluids — Determination of resistance to crack propagation — Test method for slow crack growth on notched pipes (notch test)</i>	1997	ISO 13479
BS EN ISO 13478	1109R	<i>Polyolefin pipes for the conveyance of fluids — Determination of resistance to rapid crack propagation (RCP) — Full-scale test</i>	1997	ISO 13478
1110	—	<i>Part 11: Thermoplastic pipes, fittings and valves — Tensile properties of dumb-bells specimens from PVC gutter profiles of pipes for non-pressure applications</i>	1989 (1999)	—
BS EN ISO 6259-1	1110B	<i>Thermoplastics pipes — Determination of tensile properties — Part 1: General test method</i>	2001	ISO 6259-1
BS EN 1979	1110C	<i>Plastics piping and ducting systems — Thermoplastics spirally-formed structured-wall pipes — Determination of the tensile strength of a seam</i>	1999	EN 1979
BS EN 1055	1111A	<i>Plastics piping systems — Thermoplastics piping systems for soil and waste discharge inside buildings — Test method for resistance to elevated temperature cycling</i>	1996	EN 1055
BS EN 12256	1111F	<i>Plastic piping systems — Thermoplastic fittings — Test method for mechanical strength or flexibility of fabricated fittings</i>	1998	EN 12256
BS EN 12095	1111Q	<i>Plastic piping systems — Brackets for rainwater piping systems — Test method for bracket strength</i>	1997	EN 12095
1112A	—	<i>Part 11: Thermoplastic pipes, fittings and valves — Leaktightness of thermoplastics pipes and fittings for non-pressure applications</i>	1989	—
BS EN 1053	1112B	<i>Plastics piping systems — Thermoplastics piping systems for non-pressure application — Test methods for watertightness</i>	1996	EN 1053
BS EN 1054	1112C	<i>Plastics piping systems — Thermoplastics piping systems for soil and waste discharge — Test method for airtightness of joints</i>	1996	EN 1054

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Table A.1 — Methods in BS 2782 and corresponding international standards (*continued*)

BS 2782 method unless otherwise stated	Formally designated BS 2782 method	Title	Date of publication ^a	Equivalent international standard
BS EN 1989	1112E	<i>Plastics piping systems — Thermoplastics piping systems — Joints for buried non-pressure sewerage applications — Test method for long-term sealing performance of joints with thermoplastic elastomer (TPE) seals by estimating the sealing pressure</i>	2000	EN 1989
BS EN 1277	1112L, M, N and Q	<i>Plastics piping systems — Thermoplastics piping systems for buried non-pressure applications — Test methods for leaktightness of elastomeric sealing ring type joints</i>	1996	EN 1277
BS EN ISO 9967	1114A	<i>Thermoplastic pipes — Determination of creep ratio</i>	1995	ISO 9967
BS EN ISO 9969	1114B	<i>Thermoplastic pipes — Determination of ring stiffness</i>	1995	ISO 9969
BS EN 1446	1114C	<i>Plastics piping and ducting systems — Thermoplastics pipes — Determination of ring flexibility</i>	1996	EN 1446
BS EN 802	1114F	<i>Plastics piping and ducting systems — Injection-moulded thermoplastics fittings for pressure piping systems — Test method for maximum deformation by crushing</i>	1995 (1999)	EN 802
BS EN ISO 13760	1120M	<i>Plastic pipes for the conveyance of fluids under pressure — Miner's rule — Calculation method for cumulative damage</i>	2000	ISO 13760
BS EN ISO 12162	1121A	<i>Thermoplastic materials for pipes and fittings for pressure applications — Classification and design — Overall service (design) coefficient</i>	1996	ISO 12162
1121B	—	<i>Part 11: Thermoplastic pipes, fittings and valves — Thermoplastic pipes for the conveyance of fluids — Nominal outside diameters and pressures — Metric series</i>	1997	ISO 161-1
1121C	—	<i>Part 11: Thermoplastic pipes, fittings and valves — Thermoplastic pipes for the conveyance of fluids — Nominal outside diameters and pressures — Inch-based series</i>	1997	ISO 161-2
BS EN 12107	1121F	<i>Plastics piping systems — Injection-moulded thermoplastic fittings, valves and ancillary equipment — Determination of the long-term hydrostatic strength of thermoplastics materials for injection moulding of piping components</i>	1998	EN 12107
^a A date in brackets is when confirmation of the validity of the standard was agreed.				

Table A.1 — Methods in BS 2782 and corresponding international standards (*continued*)

BS 2782 method unless otherwise stated	Formally designated BS 2782 method	Title	Date of publication ^a	Equivalent international standard
BS EN 12117	1121G	<i>Plastics piping systems — Fitting, valves and ancillaries — Determination of gaseous flow rate/pressure drop relationship</i>	1998	EN 12117
1121H	—	<i>Part 11: Thermoplastic pipes, fittings and valves — Thermoplastics pipes for the transport of liquids under pressure — Calculation of head losses</i>	1996	ISO/TR 10501
BS EN 852-1	1122A	<i>Plastics piping systems for the transport of water intended for human consumption — Migration assessment — Determination of migration values of plastics pipes</i>	1996	EN 852-1
BS EN 713	1123B	<i>Plastics piping systems — Mechanical joints between fittings and polyolefin pressure pipes — Test method for leaktightness under internal pressure of assemblies subjected to bending</i>	1995	EN 713
BS EN ISO 13783	1123C	<i>Plastics piping systems — Unplasticized poly(vinyl chloride) (PVC-U) end-load-bearing double-socket joints — Test method for leaktightness and strength while subjected to bending and internal pressure</i>	1998	ISO 13783
BS EN ISO 13844	1123D	<i>Plastics piping systems — Elastomeric-sealing-ring-type socket joints for use with unplasticized poly(vinyl chloride) (PVC-U) for use with PVC-U pipes — Test method for leaktightness under negative pressure</i>	2000	ISO 13844
BS EN ISO 13845	1123E	<i>Plastics piping systems — Elastomeric-sealing-ring-type socket joints for use with unplasticized poly(vinyl chloride) (PVC-U) pipes — Test method for leaktightness under internal pressure and with angular deflection</i>	2000	ISO 13845
BS EN 714	1123F	<i>Thermoplastic piping systems — Non-end-load-bearing elastomeric sealing ring type joints between pressure pipes and moulded fittings — Test method for leaktightness under internal hydrostatic pressure without end thrust</i>	1995	EN 714
BS EN 715	1123G	<i>Thermoplastic piping systems — End-load-bearing joints between small diameter pressure pipes and fittings — Test method for leaktightness under internal water pressure, including end thrust</i>	1995 (1999)	EN 715
^a A date in brackets is when confirmation of the validity of the standard was agreed.				

Table A.1 — Methods in BS 2782 and corresponding international standards (*continued*)

BS 2782 method unless otherwise stated	Formally designated BS 2782 method	Title	Date of publication ^a	Equivalent international standard
BS EN 712	1123H	<i>Thermoplastic piping systems — End-load bearing mechanical joints between pressure pipes and fittings — Test method for resistance to pull-out under constant longitudinal force</i>	1995	EN 712
BS EN 803	1123J	<i>Plastics piping systems — Injection-moulded thermoplastics fittings for elastic sealing ring type joints for pressure piping — Test method for resistance to a short-term internal pressure without end thrust</i>	1995 (1999)	EN 803
BS EN 804	1123K	<i>Plastics piping systems — Injection-moulded socket fittings for solvent-cemented joints for pressure piping — Test method for resistance to a short-term internal hydrostatic pressure</i>	1995 (1999)	EN 804
BS EN 12295	1123P	<i>Plastics piping systems — Thermoplastics pipes and associated fittings for hot and cold water — Test method for resistance of joints to pressure cycling</i>	2000	EN 12295
BS EN 12293	1123T	<i>Plastics piping systems — Thermoplastics pipes and fittings for hot and cold water — Test method for the resistance of mounted assemblies to temperature cycling</i>	2000	EN 12293
BS EN 12294	1123V	<i>Plastics piping systems — Systems for hot and cold water — Test method for leaktightness under vacuum</i>	2000	EN 12294
BS EN 911	1123W	<i>Plastics piping systems — Elastomeric sealing ring type joints and mechanical joints for thermoplastic pressure piping — Test method for leaktightness under external hydrostatic pressure</i>	1996	EN 911
BS EN 921	1127A	<i>Plastics piping system — Thermoplastic pipes — Determination of resistance to internal pressure at constant temperature</i>	1995	EN 921
BS EN 12106	1127C	<i>Plastics piping systems — Polyethylene (PE) pipes — Test method for the resistance to internal pressure after application of squeeze-off</i>	1998	EN 12106
1127P	—	<i>Part 11: Thermoplastic pipes, fittings and valves — Thermoplastics pipes, for conveyance of fluids — Resistance to internal pressure — Test method</i>	1997	ISO 1167
BS EN 28233	1131	<i>Thermoplastic valves — Torque — Test method</i>	1992 (1999)	EN 28233
BS EN 28659	1132	<i>Thermoplastic valves — Fatigue strength — Test method</i>	1992 (1999)	EN 28659

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Table A.1 — Methods in BS 2782 and corresponding international standards (*continued*)

BS 2782 method unless otherwise stated	Formally designated BS 2782 method	Title	Date of publication ^a	Equivalent international standard
BS EN 1680	1133A	<i>Plastics piping systems — Valves for polyethylene (PE) piping systems — Test method for leaktightness under and after bending applied to the operating mechanism</i>	1997	EN 1680
BS EN 1704	1133B	<i>Plastics piping systems — Thermoplastic valves — Test method for the integrity of a valve after temperature cycling under bending</i>	1997	EN 1704
BS EN 1705	1133C	<i>Plastics piping systems — Thermoplastic valves — Test method for the integrity of a valve after an external blow</i>	1997	EN 1705
BS EN 12100	1133D	<i>Plastics piping systems — Polyethylene (PE) valves — Test method for resistance to bending between supports</i>	1998	EN 12100
BS EN 12119	1133E	<i>Plastics piping systems — Polyethylene (PE) valves — Test method for resistance to thermal cycling</i>	1997	EN 12119
BS EN 917	1134A/B	<i>Plastics piping systems — Thermoplastic valves — Test methods for resistance to internal pressure and leaktightness</i>	1997	EN 917
BS EN 922	1140A	<i>Plastics piping and ducting systems — Pipes and fittings of unplasticized poly(vinyl chloride) (PVC-U) — Specimen preparation for determination of the viscosity η</i>	1995 (1999)	EN 922
1150B	—	<i>Part 11: Thermoplastic pipes, fittings and valves — Plastics pipes and fittings — Preparation of polyethylene (PE) pipe/pipe or pipe/fitting test piece assemblies by butt fusion</i>	1998	ISO 11414
1150E	—	<i>Part 11: Thermoplastic pipes, fittings and valves — Plastics pipes and fittings — Preparation of test piece assemblies between a polyethylene (PE) pipe and an electrofusion fitting</i>	1997	ISO 11413
BS ISO 8584-1	1160A/B	<i>Thermoplastics pipes for industrial applications under pressure — Determination of the chemical resistance factor and of the basic stress — Part 1: Polyolefin pipes</i>	1990	ISO 8584-1
BS ISO 4433-1	1161A	<i>Thermoplastic pipes — Resistance to liquid chemicals — Classification — Part 1: Immersion test method</i>	1997	ISO 4433-1
BS ISO 4433-2	1161B	<i>Thermoplastic pipes — Resistance to liquid chemicals — Classification — Part 2: Polyolefin pipes</i>	1997	ISO 4433-2

^a A date in brackets is when confirmation of the validity of the standard was agreed.

Table A.1 — Methods in BS 2782 and corresponding international standards (*continued*)

BS 2782 method unless otherwise stated	Formally designated BS 2782 method	Title	Date of publication ^a	Equivalent international standard
BS ISO 4433-3	1161C	<i>Thermoplastic pipes — Resistance to liquid chemicals — Classification — Part 3: Unplasticized poly(vinyl chloride) (PVC-HI) and chlorinated poly(vinyl chloride) (PVC-C) pipes</i>	1997	ISO 4433-3
BS ISO 4433-4	1161D	<i>Thermoplastic pipes — Resistance to liquid chemicals — Classification — Part 4: Poly(vinylidene fluoride) (PVDF) pipes</i>	1997	ISO 4433-4
BS EN 637	1205A	<i>Plastics piping systems — Glass-reinforced plastics components — Determination of the amounts of constituents using the gravimetric method</i>	1995	EN 637
BS EN 1120	1209A/B	<i>Plastics piping systems — Glass-reinforced thermosetting plastics (GRP) pipes and fittings — Determination of the resistance to chemical attack from the inside of a section in a deflected condition</i>	1996	EN 1120
BS EN 1862	1209C	<i>Plastics piping systems — Glass-reinforced thermosetting plastics (GRP) pipes — Determination of the relative flexural creep factor following exposure to a chemical environment</i>	1998	EN 1862
BS EN 1393	1210A to C	<i>Plastics piping systems — Glass-reinforced thermosetting plastics (GRP) pipes — Determination of initial longitudinal tensile properties</i>	1997	EN 1393
BS EN 1394	1211A, B, C1, C2, D, E and F	<i>Plastics piping systems — Glass-reinforced thermosetting plastics (GRP) pipes — Determination of the apparent initial circumferential tensile strength</i>	1997	EN 1394
BS EN 1228	1214A/B	<i>Plastics piping systems — Glass-reinforced thermosetting plastics (GRP) pipes — Determination of initial specific ring stiffness</i>	1997	EN 1228
BS EN 1225	1214C	<i>Plastics piping systems — Glass-reinforced thermosetting plastics (GRP) pipes — Determination of the creep factor under wet conditions and calculation of the long-term specific ring stiffness</i>	1996	EN 1225
BS EN 761	1214D	<i>Plastics piping systems — Glass-reinforced thermosetting plastics (GRP) pipes — Determination of the creep factor under dry conditions</i>	1995	EN 761
^a A date in brackets is when confirmation of the validity of the standard was agreed.				

Table A.1 — Methods in BS 2782 and corresponding international standards (*continued*)

BS 2782 method unless otherwise stated	Formally designated BS 2782 method	Title	Date of publication ^a	Equivalent international standard
BS EN 1226	1214E	<i>Plastics piping systems — Glass-reinforced thermosetting plastics (GRP) pipes — Test method to prove the resistance to initial ring deflection</i>	1996	EN 1226
BS EN 1227	1214F	<i>Plastics piping systems — Glass-reinforced thermosetting plastics (GRP) pipes — Determination of the long-term ultimate relative ring deflection under wet conditions</i>	1998	EN 1227
BS EN 705	1220A to C	<i>Plastics piping systems — Glass-reinforced thermosetting plastics (GRP) pipes and fittings — Methods for regression analyses and their use</i>	1995	EN 705
BS EN 1229	1223A/B	<i>Plastics piping systems — Glass-reinforced thermosetting plastics (GRP) pipes and fittings — Test methods to prove the leaktightness of the wall under short-term internal pressure</i>	1997	EN 1229
BS EN 1119	1223C	<i>Plastics piping systems — Glass-reinforced thermosetting plastics (GRP) pipes and fittings — Test methods for leaktightness and resistance to damage of flexible and reduced-articulation joints</i>	1996	EN 1119
BS EN 1638	1223D	<i>Plastics piping systems — Glass-reinforced thermosetting plastics (GRP) pipes — Test method for the effects of cyclic internal pressure</i>	1997	EN 1638
BS EN 1449	1224C	<i>Plastics piping systems — Glass-reinforced thermosetting plastics (GRP) components — Test methods to prove the design of cemented socket-and-spigot joints</i>	1997	EN 1449
BS EN 1448	1224E	<i>Plastics piping systems — Glass-reinforced thermosetting plastics (GRP) components — Test method to prove the design of rigid locked socket-and-spigot joints with elastomeric seals</i>	1997	EN 1448
BS EN 1450	1224F	<i>Plastics piping systems — Glass-reinforced thermosetting plastics (GRP) components — Test methods to prove the design of bolted flange joints</i>	1997	EN 1450
BS EN 1447	1227A	<i>Plastics piping systems — Glass-reinforced thermosetting plastics (GRP) pipes — Determination of long-term resistance to internal pressure</i>	1997	EN 1447

^a A date in brackets is when confirmation of the validity of the standard was agreed.

Annex B (informative)

Method 508A: Rate of burning, laboratory method (obsolescent)

NOTE This method was formerly published in BS 2782:1970, which has been withdrawn. The method has been declared obsolescent but is made available here because it is referred to in the Approved Document B/Building Regulations [1].

B.1 Introduction

A strip of the material is held horizontally with its transverse axis at an angle of 45° to the horizontal. A flame is applied for a short time to the free end of the strip and after its removal the time is taken for the flame of the burning specimen to travel a distance of 100 mm. The rate of burning is expressed as the distance travelled by the flame in one minute. If the flame does not reach a line 25 mm from the free end of the strip, the material is reported as "Flame does not reach first mark". If the flame does not reach a line 125 mm from the same end of the strip, the material is reported as "Flame does not reach second mark".

B.2 Form of test specimen

The specimen shall be 150 mm long, 13 mm wide and $1.5 \text{ mm} \pm 0.1 \text{ mm}$ thick. Two lines shall be drawn across the specimen, one at 25 mm and the other at 125 mm from one end.

B.3 Number of test specimens

At least three specimens shall be used.

B.4 Procedure

The specimen shall be tested in a draught-free atmosphere. It shall be clamped in a rigid support at one end so that its longitudinal axis is horizontal and its transverse axis is at 45° to the horizontal and so that both lines on the specimen are clearly visible.

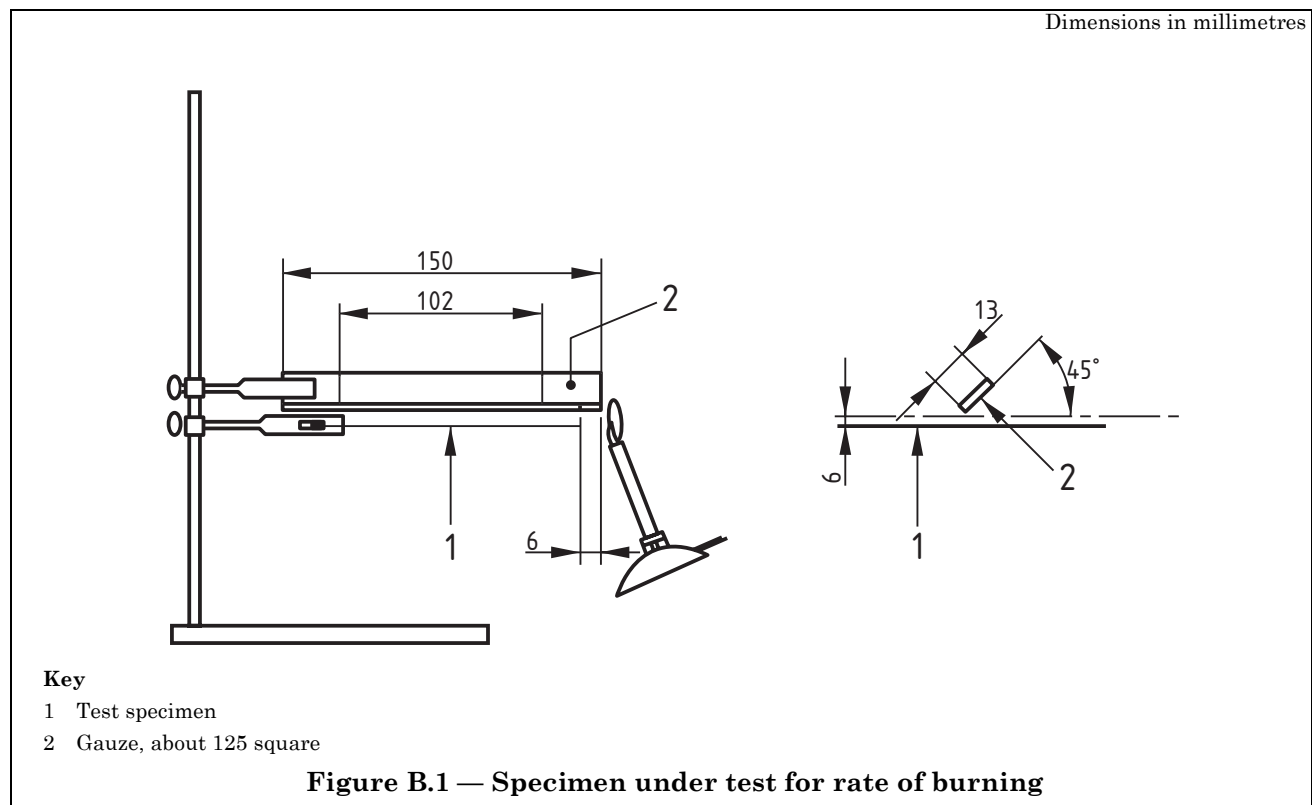
A piece of clean wire gauze, seven meshes per linear centimetre, 130 mm square, shall be clamped in a horizontal position 6 mm below the specimen with 6 mm of the unsupported end of the specimen projecting beyond the edge of the gauze as shown in Figure B.1.

An alcohol lamp or Bunsen burner with a non-luminous flame 13 mm to 19 mm in height shall be placed under the free end of the specimen so that the top of the flame just touches it. The flame shall be removed after 10 s and the specimen allowed to burn. The time taken for the edge of the flame to travel the distance of 100 mm between the two lines shall be measured with a stop-watch and the rate burning of the specimen in millimetres per minute calculated there from. For specimens in which the flame does not reach the first mark the duration of flame or afterglow after the burner has been removed shall be measured.

B.5 Test report

The test report shall state:

- a) "The following test results relate only to the behaviour of the test specimens under the particular conditions of test; they are not intended as a means of assessing the potential fire hazard of the material in use.";
- b) for each test specimen:
 - 1) the rate of burning; or
 - 2) that the flame does not reach the first mark; or
 - 3) that the flame does not reach the second mark;
 - 4) for specimens where the flame does not reach the first mark, the duration of flame or after-glow after removal of the burner.
- c) the conditioning, if any, of the test specimens;
- d) the number of this British Standard and Method, i.e. BS 2782:Method 508A.



Bibliography

Standards publications

BS 2782:1970, *Methods of testing plastics*.

BS 4618:Introduction:1970, *Recommendations for the presentation of plastics design data — General introduction*.

BS 4618-1, *Recommendations for the presentation of plastics design data — Part 1: Mechanical properties*.

BS 4618-2, *Recommendations for the presentation of plastics design data — Part 2: Electrical properties*.

BS 4618-3, *Recommendations for the presentation of plastics design data — Part 3: Thermal properties*.

BS 4618-4, *Recommendations for the presentation of plastics design data — Part 4: Environmental and chemical effects*.

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BS EN ISO 291:1997, *Plastics — Standard atmosphere for conditioning and testing*.

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Other publications

[1] GREAT BRITAIN. The Building Regulations 1985. London: HMSO.

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