



BS 2782 : 1970

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(Reset reprint, incorporating
Amendments Nos. 1 to 7
inclusive)

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British Standard

Methods of testing plastics

Méthodes d'essai des plastiques

Verfahren zur Prüfung von Kunststoffen

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This reprint of BS 2782 : 1970, reset in A4 size, incorporates Amendments Nos. 1 to 7, issued between April 1972 and October 1985. With three exceptions (see below), methods which have either been revised and replaced by later, separately-published methods of BS 2782 (see BSI Catalogue for details) or have otherwise been superseded or withdrawn, are deleted from this reprint.

Methods 102C and 508D, although revised by later methods, have been retained in this reprint and Method 508C, already deleted earlier, is being made available in a separately-printed version, because reference is made to them in the 1985 edition of the Building Regulations.

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Foreword

This British Standard describes a few of the test methods in current use by the plastics industry for assessing and controlling the quality of its products and includes tests that are applied to moulding and extrusion compounds, synthetic resins and their solutions, semi-fabricated products such as sheet, thin film, rod and tube and finished articles in the form of mouldings and extrusions. Many of the methods have been based upon British Standards for plastics materials.

The present issue is a completely reset reprint of the 1965 issue with Amendments Nos. 1 to 7 incorporated in the text, together with method 310F, which has not been previously published as an amendment. Attention is drawn to new and revised methods of BS 2782 published separately since 1970.

The numerical values in this issue are, as an interim measure, and with some exceptions, expressed in SI (Système International), metric technical and imperial units. Many of the values that are expressed in metric units represent accurate conversions of values originally given only in imperial units. Other metric values have been rounded off where experience has shown this to be permissible. It is the intention that, ultimately, many more metric values will be rounded off, that the metric units used will conform with the pattern that becomes more firmly established as a result of increased experience in the use of SI units, and that values in imperial units will no longer be shown.

In some of the methods the experimental procedures are the same as those standardized by Technical Committee ISO/TC 61, Plastics, of the International Organization for Standardization and where this is so, or where the methods are generally similar to the ISO methods, an appropriate comment is included in this standard in the introductory clause to the method. The British Standard methods to which this applies, and the corresponding ISO methods, are listed in Appendix B.

NOTE. It should be noted that the names polythene and polyethylene are synonymous.

Instructions and recommendations

The following instructions and recommendations should be noted before using the methods given in this British Standard.

Conditioning. It is recommended that any conditioning procedure which may be used should follow British Standard practice as far as it is applicable to the particular material under test and that the details should be reported.

Terminology. It is the custom in the plastics industry to refer to a property of a moulding material, meaning the property of a test moulding made from the moulding

material. Thus it is customary to speak of the 'crushing strength of a moulding material', by which is meant the strength of a moulded specimen made from the moulding material. The terminology employed in this standard follows industrial usage and this should be borne in mind in reading and using the standard.

Preparation of test specimens. In certain methods it is stated that test specimens shall be prepared as specified in the relevant British Standard. It should be noted that where no British Standard exists the procedure should be as recommended by the manufacturer of the material.

Number of test specimens. It is recognized that material specifications may sometimes require the use of larger or smaller numbers of test specimens than those given herein, e.g., when statistical principles are used for assessing compliance.

Direction of testing. The properties of certain types of sheet materials may vary in accordance with direction in the plane of the sheet. In such cases it may be necessary to apply the tests in two directions at right angles to one another which are ideally intended to furnish the maximum and minimum test values. In practice, it is usual to cut two groups of test specimens with their major axes respectively parallel and perpendicular to the direction of some feature of the sheet which is either visible or inferred from a knowledge of the method of its manufacture.

Apparatus. British Standard apparatus should be used whenever possible.

Other materials. In testing materials not specifically mentioned herein it is recommended that use should be made as far as is practicable of the methods given in this British Standard.

Reagents. All reagents used shall, unless otherwise stated, be of recognized analytical reagent quality and distilled or demineralized water shall be used wherever water is specified.

Report. In reporting a test result it is essential to quote the reference number of the method that has been used.

References of revised methods. When a revised test method is expected to give test results that do not differ significantly from those obtained by the original method, the reference of the original method is applied unchanged to the revised method. When it is expected that the test results will be affected to a significant extent by the revision, the reference of the revised method differs from that of the original method, usually in respect of the suffix letter.

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

Part 1 Effect of temperature

Deformation at elevated temperatures

Method 102C Softening point of thermoplastic moulding material (bending test)

NOTE. This method is referred to in the 1985 Building Regulations and has therefore been retained in this reprint of BS 2782 : 1970.

Introduction

Method 102C is for determining the temperature at which a test specimen in the form of a cantilever deflects through a specified angle. The temperature is increased at a specified rate. The dimensions of the specimen and the applied stress are also specified. The method is intended for testing thermoplastic moulding materials. The results cannot be used directly for design purposes.

Form of test specimen

The specimen shall be of the form and dimensions shown in Fig. 102.3. The specimen shall be moulded to shape under the conditions specified in the relevant British Standard for the material or may be machined to shape from sheet moulded under these conditions.

Number of test specimens

Two specimens shall be used.

Procedure

The specimen shall be mounted horizontally in a clamp as shown in Fig. 102.5 so that the plane of its upper surface is level with the zero graduation of the quadrant and 25.4 mm (1 in) of it is free in the form of a cantilever. A looped thread with a brass weight of mass 20 g shall be attached as shown in Fig. 102.4, the weight being supported temporarily so that no load is applied to the specimen.

The assembly shall then be immersed in a bath of the appropriate liquid specified in the relevant British Standard for the material (see Note) which is at a temperature 25–30 degC below the softening point specified in the relevant British Standard for the material or, where no British Standard applies, below the expected softening point of the material under test. The load shall then be applied to the specimen and the temperature of the bath shall be raised at the rate of 1.0 ± 0.2 degC per min. The liquid shall be adequately stirred during the period of test.

The temperature of the bath shall be noted when the upper edge of the free end of the specimen coincides with the 30° graduation on the quadrant. This temperature shall be recorded as the softening point of the test specimen.

The softening point of the material under test shall be reported as the arithmetic mean of the softening points of the test specimens.

Report

The report shall state:

1. The softening point of the material.
2. The individual test results.
3. The moulding conditions, if no British Standard applies.
4. The conditioning, if any, of the test specimens.

NOTE. Liquid paraffin is suitable for testing cellulose acetate moulding materials and glycerol for testing polystyrene, toughened polystyrene and rigid polyvinyl chloride. Other media of suitable boiling point may be used provided that it is established that they will not affect the material under test.

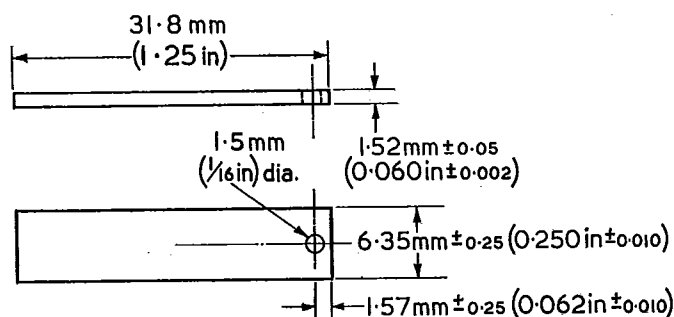


Fig. 102.3, Method 102C. Details of test specimen

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Method 102C

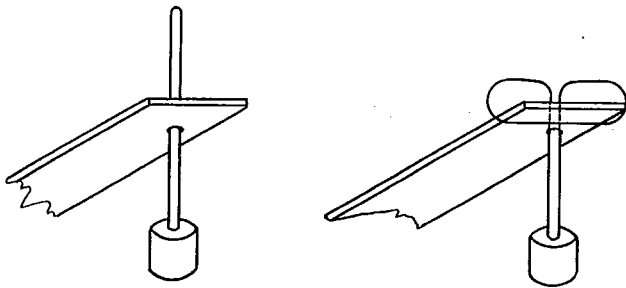


Fig. 102.4, Method 102C. Method of attaching load to specimen

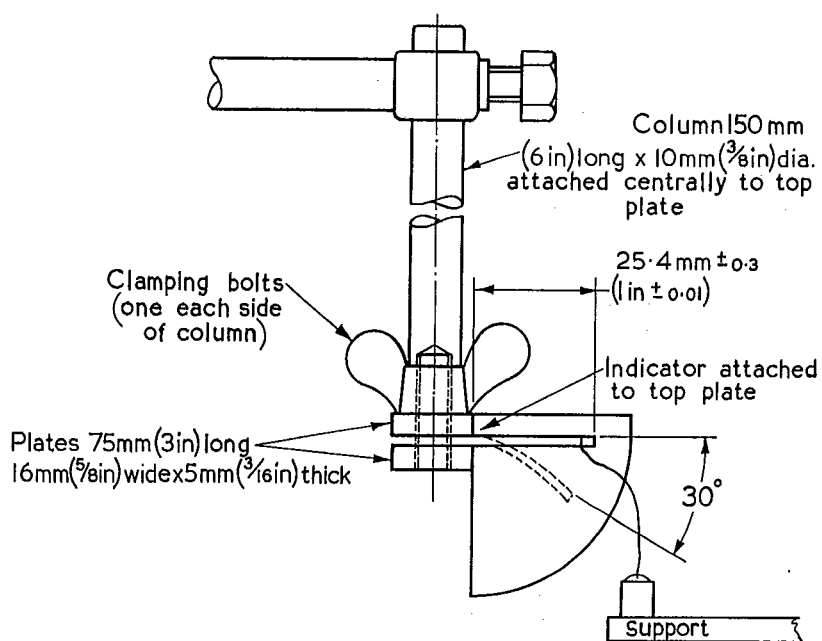


Fig. 102.5, Method 102C. Arrangement of specimen and apparatus

Melting point

Method 103A Softening point of synthetic resin (ring and ball method)

Introduction

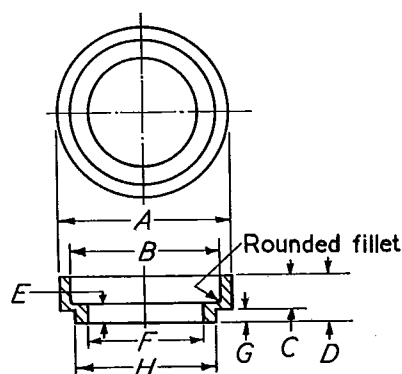
Method 103A is for measuring the temperature at which a steel ball penetrates through a disc of resin contained in a ring. The method is suitable for use with synthetic resins which do or do not have a sharp melting point.

Preparation of test specimen

The test specimen shall be prepared as follows:

The sample shall be broken into small pieces: it shall not be powdered, as this tends to cause formation of an excessive number of bubbles in the prepared specimen.

A brass ring, of the form and dimensions given in Fig. 103.1 (see Note 1), shall be placed on an amalgamated brass plate, a stainless steel plate or a chromium plated brass plate polished to a bright finish, and 1.6 g of resin shall be weighed into the ring. The plate and ring shall be placed in an oven maintained at a temperature 10–20 degC higher than the softening point of the resin and left there until the resin has melted. The time in the oven should not normally exceed 15 min. The plate and ring shall then be placed on a flat metal surface to cool, any excess of resin at the top of the ring being immediately removed by being cut off cleanly with a heated knife. The ring containing the specimen shall be allowed to cool for at least 15 min. At the end of this time it shall be removed from the metal plate. A light tap may be required to assist this. Should a portion of the resin crack away during removal of the ring from the plate, the specimen shall be discarded and another prepared in its place.



- A. 23.0 ± 0.1 mm (0.906 ± 0.004 in)
- B. 19.9 ± 0.1 mm (0.781 ± 0.004 in)
- C. 4.4 ± 0.1 mm (0.172 ± 0.004 in)
- D. 6.4 ± 0.1 mm (0.250 ± 0.004 in)
- E. 2.8 ± 0.1 mm (0.109 ± 0.004 in)
- F. 15.9 ± 0.1 mm (0.625 ± 0.004 in)
- G. 2.0 mm (0.08 in)
- H. 19.0 ± 0.1 mm (0.750 ± 0.004 in)

Fig. 103.1, Method 103A. Shouldered ring

Number of test specimens

Two specimens shall be used. They may be tested together in the same apparatus.

Procedure

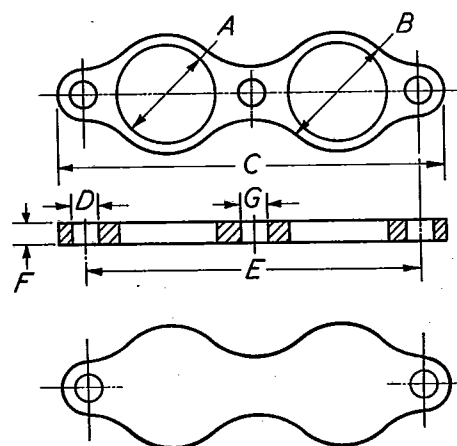
An 800 ml squat-form glass beaker without spout is suitable for this test. It shall be approximately 13 cm high and 10 cm in internal diameter. It shall be filled to a depth of not less than 10 cm with glycerol at a temperature of 15 °C, or at least 40 degC below the expected softening point of the material under test, whichever is the higher, and this temperature shall be maintained constant for not less than 10 min within 2 degC of this value (see Note 2).

NOTE 1. The tapered ring, specified in the method of test for softening point of bitumen (ring and ball) IP58/56 of the Institute of Petroleum, may be used interchangeably with this shouldered ring.

NOTE 2. When it is suspected that the use of glycerol may influence the result it is permissible to use other liquids known to be satisfactory.

The contents of the beaker shall be mechanically stirred. The stirring device shall be in such a position and shall revolve at such a speed as not to interfere with the direction of the fall of the balls when the softening point of the resin is approached.

The rings containing the specimens shall be supported horizontally on a ring holder* as shown in Fig. 103.2 and ball guides, for centring the balls, constructed of brass and having the form and dimensions shown in Fig. 103.3 shall be placed on the rings.



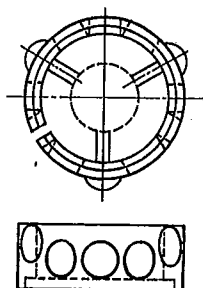
- A. 19.2 mm (0.76 in)
- B. 24 mm (0.95 in)
- C. 76 mm (3 in)
- D. 5.5 mm (0.22 in)
- E. 67 mm (2.65 in)
- F. 1.5 mm (0.06 in)
- G. 5.5 mm (0.22 in)

Fig. 103.2, Method 103A. Ring holder and lower plate

*For routine determinations the ring holder for six rings as shown in Fig. 103.5 may be used. This six-ring holder shall be positioned in the beaker within the limits specified for the two-ring holder. A suitable arrangement of the six-ring holder and the stirrer is shown in Fig. 103.6

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Method 103A



Recommended form of ball centring guide capable of being fitted on top of the ring so that the ball rests on the centre of the sample.

Fig. 103.3, Method 103A. Ball centring guide

A steel ball, 9.53 mm ($\frac{3}{8}$ in) in diameter and of mass 3.45–3.55 g, shall be placed on each specimen.

The assembly of ring holder, rings, balls and ball guides shall be suspended in the glycerol in such a position that the tops of the rings are at least 7.5 cm below the top of the beaker and at least 5 cm below the surface of the glycerol. The lower horizontal plate of the ring holder shall be at least 2.5 cm above the bottom of the beaker.

A thermometer conforming to IP 60 (for softening points below 80 °C) or IP 61.C (for softening points above 80 °C), shall be suspended in the glycerol so that the bottom of the bulb is level with the bottom of the rings and within 9.53 mm ($\frac{3}{8}$ in) of, but not touching, the rings (see Fig. 103.4).

A bunsen burner shall be placed under the beaker in such a position that it is not directly beneath the thermometer. The burner shall be placed under the beaker midway between the centre and the edge and on a diameter at right angles to that on which the rings and thermometer lie.

The effect of draughts shall be eliminated by the use of a suitable screen, if necessary.

A typical assembly of the complete apparatus is shown in Fig. 103.4.

The glycerol shall be heated so that its temperature is raised by 5 degC per minute; this rate shall be maintained within 0.5 degC over each one minute period after the first three. Rigid adherence to this rate is essential and the results of all tests in which the rate in any one minute period after the first three is outside the limits shall be discarded.

The temperature at which the ball or the resin surrounding it first touches the lower horizontal plate of the ring holder

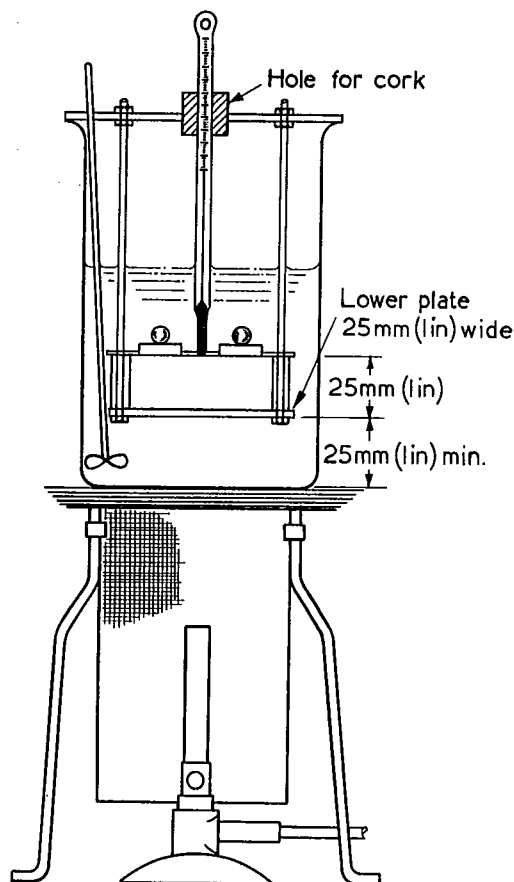


Fig. 103.4, Method 103A. Assembled apparatus (using two-ring holder)

shall be taken as the softening point. No correction shall be made for the exposed stem of the thermometer.

If the results obtained with the two specimens do not agree within 1 degC they shall be discarded and another two specimens shall be tested.

The softening point of the material under test shall be reported as the arithmetic mean of the softening points of the test specimens.

Report

The report shall state:

1. The softening point of the material.
2. The individual test results.

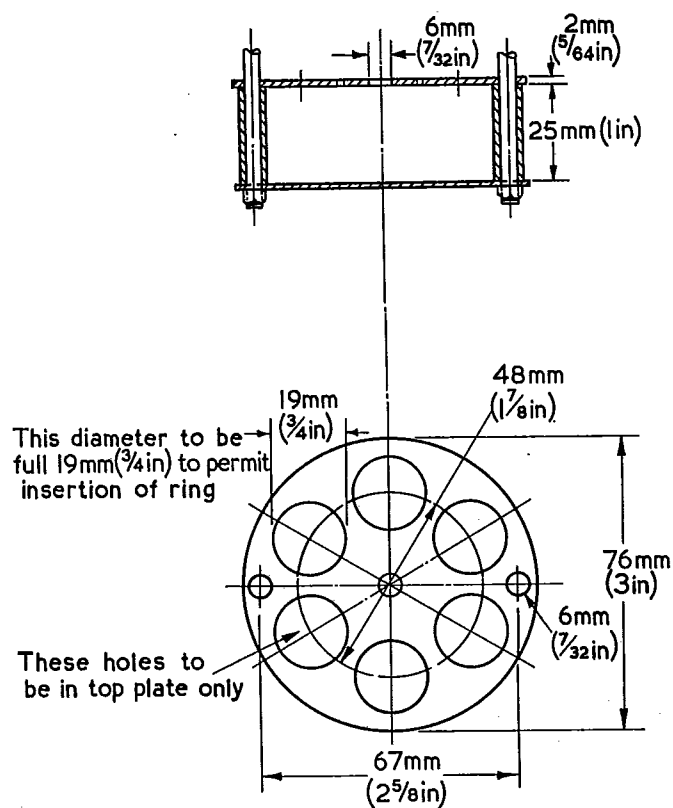
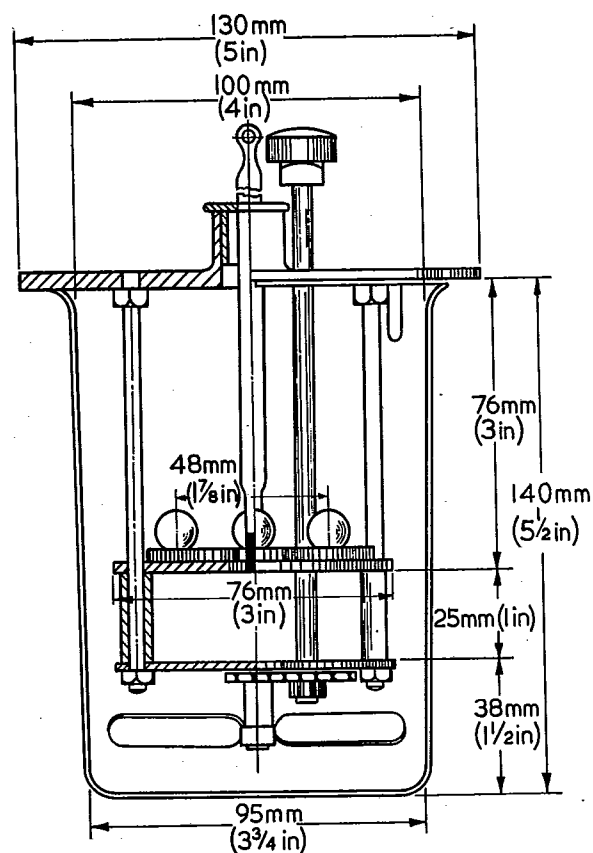


Fig. 103.5, Method 103A. Six-ring holder

Fig. 103.6, Method 103A. Assembled apparatus
(using six-ring holder)

Flow properties

Method 105D Flow of synthetic resin impregnated glass fabric

Introduction

Method 105D is for determining the flow, under heat and pressure, of synthetic resin impregnated glass fabric. In this method a test specimen consisting of superimposed layers of the material is pressed between heated steel plates under the appropriate conditions of temperature, pressure and time given under Procedure. The amount of resin lost in the moulding operation expressed as a percentage of the original weight of the test specimen is reported as the flow.

The method is suitable for testing the product known as 'pre-impregnated' glass fabric, i.e. synthetic resin impregnated glass fabric that can be purchased as such and used for the manufacture of mouldings.

Form of test specimen

The specimen shall consist of not less than four pieces 100 ± 1 mm square, cut on the bias, of total mass as near as possible to 20 g and carefully superimposed to form a rectangular pack.

Number of test specimens

Two specimens shall be used. The positions, within the material under test, from which they shall be cut shall be as specified in the relevant British Standard for the material except that where no British Standard exists and the material is in the form of a roll the pieces comprising the test specimens shall be taken from positions along lines parallel with the length of the fabric, one set of pieces being taken from the area on one side of the centre line and the other set from the area on the other side of the centre line.

Procedure

All weighings shall be to the nearest 0.01 gramme.

The test specimen shall be weighed (W_1) and then placed between stainless steel plates not less than 125 mm square

and approximately 1.6 mm thick, that have been treated with an appropriate type of release agent. The assembly shall be located centrally on the heated platens of a press and pressure applied within 10 s and for not less than 15 min. The temperature of the platens shall be within 5 degC of the values given below. The pressure applied to the assembly shall be within 10 % of the values given below:

Resin	Platen temperature °C	Pressure		
		MN/m ²	(kgf/cm ²)	(lbf/in ²)
Polyester	120	1.4	14	200
Epoxide	160	1.4	14	200
Silicone	175	1.4	14	200
		6.9	70	1000

The laminate shall then be removed from the press and:

- if the flash can be cleanly removed from it this shall be done and the laminate weighed (W_2)
- if the flash cannot be removed cleanly a piece 50 ± 1 mm square shall be cut from the central area of the laminate and weighed (W_2).

The flow of the test specimen shall be calculated as follows:

$$\text{Flow, per cent} = 100 \frac{(W_1 - W_2)}{W_1}$$

$$\text{or } 100 \frac{(W_1 - 4W_3)}{W_1} \text{ according to whether } a \text{ or } b \text{ above}$$

has been followed.

The flow of the material under test shall be reported as the arithmetic mean of the results on the test specimens.

Report

The report shall state:

- The flow.
- The individual test results.
- The type of resin.
- For silicone resins, the moulding pressure.

Loss of mass on heating*

Method 107B. Loss of mass on heating at 100 °C of phenolic resin in solution

Method 107C. Loss of mass on heating at 135 °C of liquid and solid phenolic resins and their solutions in organic solvents

Method 107D. Loss of mass on heating at 135 °C of phenolic resin in solution in water

Method 107E. Loss of mass on heating at 120 °C of aminoplastic resins and their solutions

Introduction

Methods 107B, 107C, 107D and 107E are for determining the loss of mass on heating of liquid and solid phenolic resins and their solutions in organic solvents and in water, and the loss of mass on heating of aminoplastic resins in the form of syrups and solutions in water.

Method 107B Loss of mass on heating at 100 °C of phenolic resin in solution

Number of determinations

Two determinations shall be made.

Procedure

A clean flat-bottomed dish of nickel, stainless steel or tinplate, 7 cm in diameter and 2–3 cm deep, shall be dried for at least 30 min in an oven at 100 °C, cooled in a desiccator and weighed to the nearest milligramme (W_1). 2.0 ± 0.2 g of the sample shall be weighed by difference from a weighing bottle or weighing pipette into the dish, care being taken to minimize loss by evaporation during the transfer. The mass of the sample shall be recorded to the nearest milligramme (W_2). The contents of the dish shall be spread as evenly as possible over the bottom of the dish by tilting, and, if necessary, the dish may be gently warmed to facilitate this.

The dish and contents shall then be placed on a level perforated sheet metal shelf in a ventilated oven provided

with a fan and maintained at 100 ± 2 °C as measured at any point within the oven.

After 3 h the dish shall be removed from the oven, allowed to cool in a desiccator and weighed (W_3). The loss of mass on heating shall be calculated as follows:

$$\text{Percentage loss of mass on heating} = \frac{(W_1 + W_2 - W_3)}{W_2} \times 100$$

The loss of mass on heating at 100 °C of the material under test shall be reported as the arithmetic mean of the determinations.

Report

The report shall state:

1. The percentage loss of mass on heating at 100 °C of the material.
2. The individual test results.

Method 107C Loss of mass on heating at 135 °C of liquid and solid phenolic resins and their solutions in organic solvents

Number of determinations

Two determinations shall be made.

Procedure

Acid-washed silver sand shall be used in this test. The silver sand shall be such that it will pass a 355 µm (44-mesh) BS test sieve† and be retained by a 180 µm (85-mesh) BS test sieve†. It shall be heated in a layer not more than 5 mm thick for not less than 1 h at a temperature of 135 °C. After drying, the sand shall be stored in a desiccator.

A clean flat-bottomed dish of nickel, stainless steel or tinplate, 70 mm in diameter and 20–30 mm deep and containing a steel or nickel rod approximately 75 mm long and 2 mm in diameter, shall be dried for at least 30 min in

an oven at 135 °C and cooled in a desiccator. 25 ± 1 g of silver sand prepared as described above shall be placed in the dish and the dish and the contents shall be weighed to the nearest milligramme (W_1).

If the sample is a solid resin, it shall be ground to a fine powder before weighing. 0.50 ± 0.05 g shall be weighed into the dish and well mixed with the sand.

If the sample is a very viscous liquid resin, 0.05 ± 0.05 g shall be weighed into the dish.

If the sample is a resin solution, or syrup or liquid resin of low viscosity, 1.0 ± 0.1 g shall be weighed into the dish by difference from a weighing bottle or weighing pipette, care being taken to minimize loss by evaporation during the transfer.

*In this issue of BS 2782, the words 'loss of mass' have replaced 'loss in weight' used in the previous issue in this heading and in the titles and texts of the methods under it.

†BS 410, 'Test sieves'.

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Methods 107C, 107D

The mass of the sample taken shall in all cases be recorded to the nearest milligramme (W_2). Approximately 7 ml of a suitable solvent* shall be added to the mixture in the dish, which shall be stirred with the rod until all the sample has dissolved and the solution is evenly dispersed throughout the sand. The dish shall then be allowed to stand in a warm place (e.g. on the top of the oven) until excess solvent has evaporated. The contents of the dish shall not be stirred again before placing in the oven.

The dish shall then be placed on a level perforated sheet-metal shelf in a ventilated oven provided with a fan and maintained at $135 \pm 2^\circ\text{C}$ as measured at any point within the oven. After 2 h the dish shall be removed from the oven, allowed to cool in a desiccator and weighed (W_3).

Method 107D Loss of mass on heating at 135°C of phenolic resin in solution in water

Number of determinations

Two determinations shall be made.

Procedure

Acid-washed silver sand shall be used in this test. The silver sand shall be such that it will pass a $355\ \mu\text{m}$ (44-mesh) BS test sieve† and shall be retained by a $180\ \mu\text{m}$ (85-mesh) BS test sieve†. It shall be heated in a layer not more than 5 mm thick for not less than 1 h at a temperature of 135°C . After drying, the sand shall be stored in a desiccator.

A clean flat-bottomed dish of nickel, stainless steel or tinplate, 7 cm in diameter and 2–3 cm deep and containing a steel or nickel rod approximately 7.5 cm long and 2 mm in diameter, shall be dried for at least 30 min in an oven at 135°C and cooled in a desiccator. $25 \pm 1\ \text{g}$ of silver sand, prepared as described above, shall be placed in the dish and the dish and the contents shall be weighed to the nearest milligramme (W_1).

$1.0 \pm 0.1\ \text{g}$ of the resin solution shall be weighed into the dish by difference from a weighing bottle or weighing pipette, care being taken to minimize loss by evaporation during the transfer. The mass of the sample taken shall be recorded to the nearest milligramme (W_2).

The loss of mass on heating shall be calculated as follows:

$$\text{Percentage loss of mass on heating} = \frac{(W_1 + W_2 - W_3)}{W_2} \times 100$$

The loss of mass on heating at 135°C of the material under test shall be reported as the arithmetic mean of the determinations.

Report

The report shall state:

1. The percentage loss of mass on heating at 135°C of the material.
2. The individual test results.

Approximately 7 ml of distilled water shall be added to the mixture in the dish, which shall be stirred with the rod until all the sample has dissolved and the solution is evenly dispersed throughout the sand.

The dish shall then be placed on a level perforated sheet-metal shelf in a ventilated oven provided with a fan and maintained at $135 \pm 2^\circ\text{C}$ as measured at any point within the oven. After 2 h the dish shall be removed from the oven, allowed to cool in a desiccator and weighed (W_3). The loss of mass on heating shall be calculated as follows:

$$\text{Percentage loss of mass on heating} = \frac{(W_1 + W_2 - W_3)}{W_2} \times 100$$

The loss in mass on heating at 135°C of the material under test shall be reported as the arithmetic mean of the determinations.

Report

The report shall state:

1. The percentage loss of mass on heating at 135°C of the material.
2. The individual test results.

*For phenol formaldehyde resins, acetone shall be used. In other cases, e.g. oil soluble resins, a more suitable solvent may be toluene or xylene.

†BS 410, 'Test sieves'.

Method 107E Loss of mass on heating at 120 °C of aminoplastic resins and their solutions**Number of determinations**

Two determinations shall be made.

Procedure

A clean flat-bottomed dish of nickel, stainless steel or tinfoil, 7 cm in diameter and 2–3 cm deep, shall be dried for at least 30 min in an oven at 120 °C, cooled in a desiccator and weighed to the nearest milligramme (W_1).

2.0 ± 0.2 g of the sample shall be weighed into the dish and the mass of the sample recorded to the nearest milligramme (W_2).

The dish and contents shall then be placed on a level perforated sheet-metal shelf in a ventilated oven provided with a fan and maintained at 120 ± 2 °C as measured at any point within the oven. After 3 h the dish shall be removed

from the oven, allowed to cool in a desiccator and weighed (W_3). The loss of mass on heating shall be calculated as follows:

$$\text{Percentage loss of mass on heating} = \frac{(W_1 + W_2 - W_3)}{W_2} \times 100$$

The loss of mass on heating at 120 °C of the material under test shall be reported as the arithmetic mean of the determinations.

Report

The report shall state:

1. The percentage loss of mass on heating at 120 °C of the material.
2. The individual test results.

Ageing at high temperature of polythene

Method 108A Ageing of polythene by hot milling

Method 108B Ageing of polythene by hot air oven

Introduction

Method 108A is a procedure for the milling of polythene at 160 °C under standard conditions. It is for use together with appropriate physical tests for the assessment of the liability of polythene to deteriorate when heated in air and hence during hot processing. Such deterioration is normally associated with a lack of antioxidant.

Method 108B, also a standard heat treatment, is intended for the assessment of the liability of polythene in use as the insulation or sheath of electric cables to deteriorate under conditions of high temperature, and consists of the heating in an oven for 48 h of a small piece of sheet prepared from material removed from the cable.

It is usual to apply a test for loss tangent at 1–20 megahertz or (for black compounds) a test for melt flow index to a sample of polythene before and after its subjection to either procedure described herein and to determine the amount of change, if any.

Procedure

Method 108A. 250 g of the material shall be milled for 3 h on an open two-roll mill. (It is recommended that the rolls should be 150 mm x 300 mm (6 in x 12 in), that their speeds should be within the range 20–30 rev/min and that there should be a small difference in their relative speeds.) The gap setting shall be 1.5 mm (0.060 in) and the temperature of the rolls shall be 160 ± 5 °C. Cross-mixing shall be carried out at 5 min intervals.

Method 108B. A test specimen approximately 76 mm x 76 mm x 1.3 mm (3 in x 3 in x 0.05 in) cut from sheet prepared under the conditions specified in the relevant British Standard for the material, shall be heated for 48 ± 2 h at 140 ± 1 °C in an oven in which the air is circulated by a fan.

The specimen shall rest in the oven on a sheet of polytetrafluorethylene or a sheet of metal coated with polytetrafluorethylene.