BRITISH STANDARD

BS EN ISO 60:2000

Incorporating Amendment No. 1 to BS 2782-6: Method 621A:1978 (renumbers the BS as BS EN ISO 60:2000) and Corrigendum No. 1

Plastics — Determination of apparent density of material that can be poured from a specified funnel

The European Standard EN ISO 60:1999 has the status of a British Standard

ICS 83.080.01

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National foreword

The British Standard is the English language version of EN ISO 60:1999. It is identical with ISO 60:1977.

It replaces method 501A of BS 2782:1970, which is being withdrawn.

Cross references

The British Standards which implement international or European publications referred to in this document may be found in the BSI Standards Catalogue under the section entitled "International Standards Correspondence Index" or by using the "Find" facility of the BSI Standards Electronic Catalogue.

Warning note. This British Standard method, which is identical with EN ISO 60, does not necessarily detail all 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 method should be operated only by trained personnel.

Change of identifier

Wherever BS 2782: Part 6: Method 621A: 1978 appears in this standard, it should be read as BS EN ISO 60:2000.

A British Standard does not purport to include all necessary provisions of a contract. Users of British Standards are responsible for their 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, the EN ISO title page, page ii, pages 1 to 3 and a back cover.

The BSI copyright notice displayed in this document indicates when the document was last issued.

This British Standard, having been prepared under the direction of the Sector Committee for Materials and Chemicals, was published under the authority of the Standards Committee and comes into effect on 31 March 1978.

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Amendments issued since publication

Amd. No.	Date	Comments
10680	January 2000	Replaced by Amd. No. 10854
10854 Corrigendum No. 1	February 2000	Constructional error in document corrected

The following BSI references relate to the work on this standard:
Committee reference PLC/17
Draft for comment 77/50307 DC

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 60

May 1999

ICS 83.080.00

English version

Plastics — Determination of apparent density of material that can be poured from a specified funnel

(ISO 60:1977)

Plastiques — Détermination de la masse volumique apparente des matières susceptibles de s'écouler à travers un entonnoir donné
(ISO 60:1977)

Kunststoffe — Bestimmung der scheinbaren Dichte von Formmassen, die durch einen genormten Trichter abfließen können (Schüttdichte)
(ISO 60:1977)

This European Standard was approved by CEN on 16 April 1999.

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart 36, B-1050 Brussels

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Foreword

The text of the International Standard from Technical Committee ISO/TC 61, Plastics, of the International Organization for Standardization (ISO) has been taken over as a European Standard by Technical Committee CEN/TC 249, Plastics, the Secretariat of which is held by IBN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by November 1999, and conflicting national standards shall be withdrawn at the latest by November 1999.

According to CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 60:1977 has been approved by CEN as a European Standard without any modification.

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1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a method of determining the apparent density, i.e. the mass per unit of volume, of loose material (powder or granular material) that can be poured from a funnel of specified design.

NOTE – For a method of determining the apparent density of loose moulding material that cannot be poured from a specified funnel, see ISO 61.

When the method is applied to relatively coarse materials, rather variable results may be obtained, owing to the error introduced when a straightedge blade is drawn across the top of the cylinder.

A knowledge of apparent density is of limited value in estimating the relative fluffiness or bulk of moulding materials, unless their densities in the moulded condition are approximately the same.

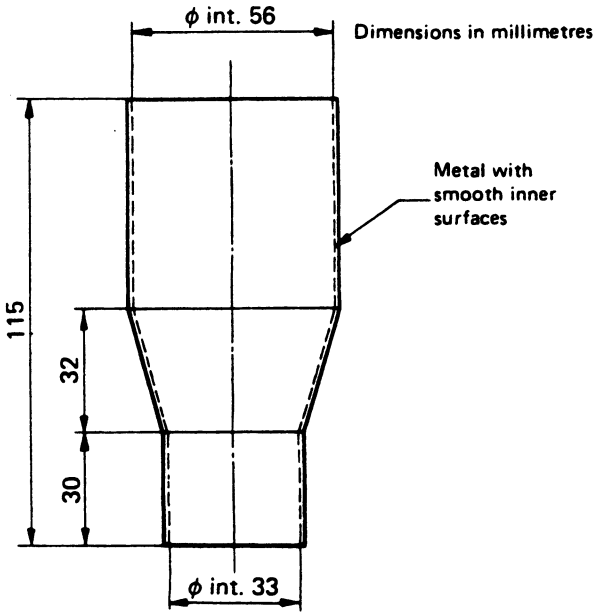

FIGURE – **Funnel**

2 APPARATUS

2.1 Balance, accurate to 0,1 g.

2.2 Measuring cylinder, smoothly finished inside, which may be constructed of metal, of capacity 100 ± 0,5 ml, and internal diameter 45 ± 5 mm.

2.3 Funnel, of the form and dimensions shown in the figure, with a cover for the lower orifice (for example metal plate).

3 PROCEDURE

3.1 Support the funnel (2.3) vertically with its lower orifice 20 to 30 mm above the measuring cylinder (2.2) and coaxial with it. Well mix the sample of the powder or granular material before test. With the lower orifice of the funnel closed by means of the cover, place a quantity of 110 to 120 ml of the powder or granular material in the funnel.

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3.2 Remove the cover quickly and allow the material to flow into the measuring cylinder. If necessary, thermosetting moulding material may be assisted to flow by loosening the material with a rod. If the material will not flow owing to electrostatic charges, another test should be carried out with the addition of a small amount of gamma alumina[1)] or carbon black (a few per cent) or ethanol (a few millilitres).

When the measuring cylinder is full, draw a straightedge blade across the top of the vessel to remove excess material. Weigh the contents of the measuring cylinder to the nearest 0,1 g, using the balance (2.1).

3.3 Make two determinations on the sample of moulding material under test.

4 EXPRESSION OF RESULTS

The apparent density of the material under test is given, in grams per millilitre, by the formula

$$\frac{m}{V}$$

where

m is the mass, in grams, of the contents of the measuring cylinder;

V is the volume, in millilitres, of the measuring cylinder (i.e. 100).

Take as the result the arithmetic mean of the results of the two determinations.

5 TEST REPORT

The test report shall include the following particulars :

a) complete identification of the material tested;

b) the individual results and the mean;

c) type and amount of antistatic agent added, if applicable.

1) For example, Degussa Aluminiumoxid P 110 C 1

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Publications referred to

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