INTERNATIONAL STANDARD 61

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Plastics — Determination of apparent density of moulding material that cannot be poured from a specified funnel

Matières plastiques — Détermination de la masse volumique apparente des matières à mouler non susceptibles de s'écouler à travers un entonnoir donné

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FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up has the right to be represented on that Committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the Technical Committees are circulated to the Member Bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 61 was drawn up by Technical Committee ISO/TC 61, *Plastics.* It was submitted directly to the ISO Council, in accordance with clause 6.12.1 of the Directives for the technical work of ISO.

This International Standard cancels and replaces ISO Recommendation R 61-1958, which had been approved by the Member Bodies of the following countries :

Australia	India	Portugal
Austria	Ireland	South Africa, Rep. of
Bulgaria	Israel	Spain
Chile	Italy	Sweden
Czechoslovakia	Japan	Turkey
Denmark	Mexico	United Kingdom
Finland	Netherlands	U.S.A.
France	New Zealand	U.S.S.R.
Germany	Pakistan	Yugoslavia
Greece	Poland	

No Member Body had expressed disapproval of the document.

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Plastics — Determination of apparent density of moulding material that cannot be poured from a specified funnel

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 moulding material that cannot be poured from a funnel of specified design.

NOTE — For a method of determining the apparent density of loose moulding material that can be poured from a specified funnel, see ISO 60.

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.

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 1 000 ± 20 ml and internal diameter 90 ± 2 mm.

2.3 Plunger, consisting of a hollow cylinder of mass 2 300 ± 20 g, closed at one end and having an external diameter slightly smaller than the internal diameter of the measuring cylinder. The plunger may conveniently be weighted with lead shot.

3 PROCEDURE

3.1 Drop 60 ± 0,2 g of loose moulding material, little by little, into the measuring cylinder (2.2) so that it is distributed evenly with its surface as level as possible. Lower the plunger (2.3) slowly into the measuring cylinder until it is entirely supported by the material. After 1 min, measure the height of the material, with the plunger resting upon it, to the nearest 1 mm. A convenient method of measuring the height of the material is, for example, by means of a suitable scale marked vertically on the outside surface of the plunger.

3.2 Make three determinations on the sample of moulding material under test.

4 EXPRESSION OF RESULTS

The apparent density of the moulding material under test is given, in grams per millilitre (see note) by the formula

$$\frac{m}{A\,h}$$

where

m is the mass, in grams, of the material placed in the measuring cylinder (i.e. 60);

A is the internal cross-sectional area of the measuring cylinder, in square centimetres;

h is the height of moulding material in the measuring cylinder, in centimetres.

NOTE — Although apparent density is calculated in grams per cubic centimetre, it is expressed here in grams per millilitre for the sake of uniformity with ISO 60. No adjustment of the test result is required.

Take as the result the arithmetic mean of the results of the three 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.

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