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ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION

R 1855

FLEXIBLE CELLULAR MATERIALS

DETERMINATION OF APPARENT DENSITY

1st EDITION

May 1971

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Also issued in French and Russian. Copies to be obtained through the national standards organizations.

BRIEF HISTORY

The ISO Recommendation R 1855, *Flexible cellular materials – Determination of apparent density*, was drawn up by Technical Committee ISO/TC 45, *Rubber*, the Secretariat of which is held by the British Standards Institution (BSI).

Work on this question led to the adoption of Draft ISO Recommendation No. 1855, which was circulated to all the ISO Member Bodies for enquiry in June 1969. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Australia	Hungary	South Africa, Rep. of
Austria	India	Spain
Belgium	Iran	Sweden
Brazil	Israel	Switzerland
Canada	Italy	Thailand
Chile	Japan	Turkey
Czechoslovakia	Netherlands	U.A.R.
France	New Zealand	United Kigndom
Germany	Poland	U.S.A.
Greece	Romania	U.S.S.R.

No Member Body opposed the approval of the Draft.

This Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided to accept it as an ISO RECOMMENDATION.

ISO Recommendation R 1855 May 1971

FLEXIBLE CELLULAR MATERIALS

DETERMINATION OF APPARENT DENSITY

1. SCOPE

This ISO Recommendation describes a procedure for determining the apparent density of cellular materials. It is primarily intended for flexible cellular materials.

2. DEFINITION

Apparent density. The mass per unit volume of the cellular material in air, at a stated temperature and relative humidity.

3. APPARATUS

3.1 *Balance,* capable of reading to an accuracy of 0.5 % or 0.01 g.

3.2 *Means of measuring the dimensions of the test piece*, in accordance with ISO Recommendation R 1794, *Flexible cellular materials – Measurement of dimensions of test pieces.*

4. TEST PIECES

4.1 Requirements

The test piece should be of a shape such that its volume can be easily calculated. It should be cut without permanently deforming the original cell structure of the material

The test piece should have a volume of at least 100 cm^3, but preferably should be as large as possible commensurate with the apparatus available and with the shape of the original material. The place from which the test piece is taken and the presence or absence of surface skins should be recorded. For slab-stock materials test pieces without skin should be used.

4.2 Number of test pieces

A minimum of three test pieces should be tested.

4.3 Conditioning

Materials shall not be tested for at least 72 hours after manufacture. Prior to the test, the material from which the test pieces are to be cut should be conditioned for at least 16 hours at :

$20 \pm 2\ ^\circ C$, 65 ± 5 % relative humidity;

or $23 \pm 2\ ^\circ C$, 50 ± 5 % relative humidity;

or $27 \pm 2\ ^\circ C$, 65 ± 5 % relative humidity.