
International Standard



1923

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Cellular plastics and rubbers — Determination of linear dimensions

Plastiques et caoutchoucs alvéolaires — Détermination des dimensions linéaires

Second edition — 1981-09-01

Sample Document

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UDC 678-496.8 : 531.71

Ref. No. ISO 1923-1981 (E)

Descriptors : cellular materials, dimensional measurement.

Price based on 3 pages

ISO 1923:1981 • <https://standards.iteh.ai/catalog/standards/iso/dae9e8fb-712b-4a91-8bf3-f83ca304e979/iso-1923-1981>

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 1923 was developed jointly by Technical Committees ISO/TC 45, *Rubber and rubber products*, and ISO/TC 61, *Plastics*, and was circulated to the member bodies in May 1976.

It has been approved by the member bodies of the following countries :

Australia	India	Poland
Austria	Iran	Portugal
Belgium	Israel	Romania
Brazil	Italy	Spain
Canada	Japan	Sweden
Czechoslovakia	Korea, Rep. of	Switzerland
Finland	Mexico	Turkey
France	Netherlands	United Kingdom
Germany, F.R.	New Zealand	USA
Hungary	Philippines	USSR

No member body expressed disapproval of the document.

This second edition cancels and replaces the first edition (i.e. ISO 1923-1972), as well as ISO Recommendation R 1794-1967, of which it constitutes a technical revision.

Cellular plastics and rubbers — Determination of linear dimensions

1 Scope and field of application

This International Standard specifies the characteristics and the choice of the measuring equipment and procedure for determination of the linear dimensions of sheets, blocks or test specimens of cellular material (flexible and rigid).

2 Definition

For the purposes of this International Standard the following definition applies :

linear dimension : The shortest distance, measured with an instrument according to clause 3, between two specific points, between two parallel lines or between two parallel planes, defined by corners, edges or surfaces of the cellular specimen.

3 Measuring equipment

3.1 Dial gauge with a measuring surface of about 10 cm².

The gauging pressure shall be $100 \pm 10 \text{ Pa}$ ¹⁾ and the reading accuracy shall be 0,05 mm.

3.2 Micrometer, having a measuring surface with a minimum diameter of 5 mm, but in any case not less than five times the average diameter of the cells, permitting reading with an accuracy of 0,05 mm.

Use of a micrometer is restricted to rigid cellular materials, owing to the difficulty of determining the onset of compression of a flexible cellular material.

3.3 Sliding caliper, with a vernier permitting reading to an accuracy of 0,1 mm.

3.4 Metal rule or metal tape, graduated in millimetres and permitting reading to an accuracy of 0,5 mm.

4 Procedure

4.1 Choice of measuring equipment

The choice of measuring equipment shall be in accordance with the accuracy corresponding to the dimensions to be measured (see the table) :

- a) When an instrument accuracy of 0,05 mm is required, a dial gauge (3.1) or micrometer (3.2) shall be used. The micrometer may be used only for specimens of rigid cellular material with a shape not permitting the use of a dial gauge.

An accuracy of 0,05 mm shall not normally be required for dimensions of more than 10 mm.

- b) When an instrument accuracy of 0,1 mm is required, a sliding caliper (3.3) shall be used.

This accuracy of 0,1 mm shall not normally be required for dimensions of more than 100 mm.

NOTE — In this case, a dial gauge or micrometer (rigid cellular material only) may also be used, but then the instrument accuracy need not be better than that of a sliding caliper.

- c) When an instrument accuracy of 0,5 mm is required, a metal rule or metal tape (3.4) shall be used.

NOTE — In this case, a sliding caliper may also be used, but then the instrument accuracy need not be better than that of a metal rule or metal tape.

1) Commercial dial gauges that incorporate a spring pressure may not satisfy this condition. An example of one design of an appropriate apparatus is given in the annex.