
**Plastics — Plasticized poly(vinyl chloride)
(PVC-P) moulding and extrusion
materials —**

**Part 2:
Preparation of test specimens and
determination of properties**

*Plastiques — Matériaux à base de poly(chlorure de vinyle) plastifié
(PVC-P) pour moulage et extrusion —*

Partie 2: Préparation des éprouvettes et détermination des propriétés



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established 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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 2898-2 was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 9, *Thermoplastic materials*.

This fourth edition cancels and replaces the third edition (ISO 2898-2:1997), of which it constitutes a minor revision, the main purpose of which was to update the normative references.

ISO 2898 consists of the following parts, under the general title *Plastics — Plasticized poly(vinyl chloride) (PVC-P) moulding and extrusion materials*:

- *Part 1: Designation system and basis for specifications*
- *Part 2: Preparation of test specimens and determination of properties*

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Plastics — Plasticized poly(vinyl chloride) (PVC-P) moulding and extrusion materials —

Part 2:

Preparation of test specimens and determination of properties

1 Scope

This part of ISO 2898 specifies the methods of preparation of test specimens and the test methods to be used in determining the properties of PVC-P moulding and extrusion materials. Requirements for handling test material and for conditioning both the test material before moulding and the specimens before testing are given.

Procedures and conditions for the preparation of test specimens and procedures for measuring properties of the materials from which these specimens are made are given. Properties and test methods which are suitable and necessary to characterize PVC-P moulding and extrusion materials are listed.

The properties have been selected from the general test methods in ISO 10350-1. Other test methods in wide use for, or of particular significance to, these moulding and extrusion materials are also included in this part of ISO 2898, as are the designatory properties specified in ISO 2898-1.

In order to obtain reproducible and comparable test results, it is necessary to use the methods of preparation and conditioning, the specimen dimensions and the test procedures specified herein. Values determined will not necessarily be identical to those obtained using specimens of different dimensions or prepared using different procedures.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 176:2005, *Plastics — Determination of loss of plasticizers — Activated carbon method*

ISO 291, *Plastics — Standard atmospheres for conditioning and testing*

ISO 293, *Plastics — Compression moulding of test specimens of thermoplastic materials*

ISO 458-2, *Plastics — Determination of stiffness in torsion of flexible materials — Part 2: Application to plasticized compounds of homopolymers and copolymers of vinyl chloride*

ISO 527-2:1993, *Plastics — Determination of tensile properties — Part 2: Test conditions for moulding and extrusion plastics*

ISO 868, *Plastics and ebonite — Determination of indentation hardness by means of a durometer (Shore hardness)*

ISO 1183-1:2004, *Plastics — Methods for determining the density of non-cellular plastics — Part 1: Immersion method, liquid pycnometer method and titration method*

ISO 2818, *Plastics — Preparation of test specimens by machining*

ISO 2898-1, *Plastics — Plasticized poly(vinyl chloride) (PVC-P) moulding and extrusion materials — Part 1: Designation system and basis for specifications*

ISO 3167:2002, *Plastics — Multipurpose test specimens*

ISO 3451-5:2002, *Plastics — Determination of ash — Part 5: Poly(vinyl chloride)*

ISO 10350-1, *Plastics — Acquisition and presentation of comparable single-point data — Part 1: Moulding materials*

IEC 60093, *Methods of test for volume resistivity and surface resistivity of solid electrical insulating materials*

3 Preparation of test specimens

3.1 General

It is essential that specimens are always prepared by the same procedure (compression moulding), using the same processing conditions.

The material shall be kept in moisture-proof containers until it is required for use.

3.2 Treatment of the material before moulding

Before processing, no pretreatment of the material sample is normally necessary.

3.3 Compression moulding

Before compression moulding, the material shall be plasticized using a two-roll mill under the conditions specified in Table 1.

Table 1 — Conditions for milling of material before compression moulding

Shore hardness of material	Roll surface temperature °C	Milling time ^a min	Roll surface speed m/min	Speed ratio	Roll nip width mm	Roll diameter mm	Roll length mm
Up to A 80	130 to 160	Approx. 5	Approx. 10	1:1,2	Approx. 1	e.g. 150	e.g. 300
D 35 to D 50	145 to 170	Approx. 5	Approx. 10	1:1,2	Approx. 1	e.g. 150	e.g. 300
Above D 50	160 to 175	Approx. 5	Approx. 10	1:1,2	Approx. 1	e.g. 150	e.g. 300

^a Measured from the moment when a sheet is formed.

Sheet material from the mill shall be stacked, preferably with sheet orientation alternating from layer to layer, in the preheated mould. Compression-moulded sheets shall then be prepared in accordance with ISO 293, using the conditions specified in Table 2.