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**Plastics — Polyoxymethylene (POM)  
moulding and extrusion materials —**

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

*Plastiques — Matériaux à base de polyoxyméthylène (POM) pour  
moulage et extrusion —*

*Partie 2: Préparation des éprouvettes et détermination des propriétés*



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Published in Switzerland

## 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 9988-2 was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 9, *Thermoplastic materials*.

This third edition cancels and replaces the second edition (ISO 9988-2:1999), which has been technically revised to bring Table 2 and the normative references into continuity with ISO 10350-1:1998. Copolymer, high modulus, MFR  $\leq 4$  has been added to Table 1.

ISO 9988 consists of the following parts, under the general title *Plastics — Polyoxymethylene (POM) 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 — Polyoxymethylene (POM) moulding and extrusion materials —

## Part 2:

## Preparation of test specimens and determination of properties

### 1 Scope

This part of ISO 9988 specifies the methods of preparation of test specimens and the test methods to be used in determining the properties of polyoxymethylene 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 are described for the preparation of test specimens, and procedures are given for measuring properties of the materials from which these specimens are made. Properties and test methods which are suitable and necessary to characterize polyoxymethylene moulding and extrusion materials are listed.

The properties have been selected from the general test methods in ISO 10350-1:1998. 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 9988 as designatory properties specified in ISO 9988-1: melt flow rate and tensile modulus.

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

### 2 Conformance

In Clause 3, the year of the publication of each normative reference has been specifically stated. In order to be able to claim conformity with this part of ISO 9988, it is essential that the user use only those editions given, and not earlier or more recent editions.

### 3 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 62:1999, *Plastics — Determination of water absorption*

ISO 75-2:2004, *Plastics — Determination of temperature of deflection under load — Part 2: Plastics and ebonite*

ISO 178:2001, *Plastics — Determination of flexural properties*

ISO 179-1:2000, *Plastics — Determination of Charpy impact properties — Part 1: Non-instrumented impact test*

ISO 180:2000, *Plastics — Determination of Izod impact strength*

ISO 291:1997, *Plastics — Standard atmospheres for conditioning and testing*

ISO 294-1:1996, *Plastics — Injection moulding of test specimens of thermoplastic materials — Part 1: General principles, and moulding of multipurpose and bar test specimens*

ISO 294-3:2002, *Plastics — Injection moulding of test specimens of thermoplastic materials — Part 3: Small plates*

ISO 294-4:2001, *Plastics — Injection moulding of test specimens of thermoplastic materials — Part 4: Determination of moulding shrinkage*

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

ISO 899-1:2003, *Plastics — Determination of creep behaviour — Part 1: Tensile creep*

ISO 1133:2005, *Plastics — Determination of the melt mass-flow rate (MFR) and the melt volume-flow rate (MVR) of thermoplastics*

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 3167:2002, *Plastics — Multipurpose test specimens*

ISO 10350-1:1998, *Plastics — Acquisition and presentation of comparable single-point data — Part 1: Moulding materials*

ISO 11357-3:1999/Amd1:2005, *Plastics — Differential scanning calorimetry (DSC) — Part 3: Determination of temperature and enthalpy of melting and crystallization — Amendment 1*

ISO 11359-2:1999, *Plastics — Thermomechanical analysis (TMA) — Part 2: Determination of coefficient of linear thermal expansion and glass transition temperature*

IEC 60093:1980, *Methods of test for volume resistivity and surface resistivity of solid electrical insulating materials*

IEC 60112:2003, *Method for the determination of the proof and the comparative tracking indices of solid insulating materials*

IEC 60243-1:1998, *Electrical strength of insulating materials — Test methods — Part 1: Tests at power frequencies*

IEC 60250:1969, *Recommended methods for the determination of the permittivity and dielectric dissipation factor of electrical insulating materials at power, audio and radio frequencies including metre wavelengths*

IEC 60296:2003, *Fluids for electrotechnical applications — Unused mineral insulating oils for transformers and switchgear*

## 4 Preparation of test specimens

### 4.1 General

Specimens shall be prepared by injection moulding. It is essential that they are always prepared by the same procedure, using the same processing conditions. The standard conditions are given below.

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