



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

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**Plastics - Polyoxymethylene(POM) moulding and extrusion
materials - Part 2: Preparation of test specimens and
determination of properties**

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1 Scope

This document specifies methods for the preparation of test specimens AND the determination of properties, for polyoxymethylene molding and extrusion materials.

This document specifies the handling of the tested material, as well as the state conditioning requirements for the tested material prior to molding and the specimen prior to testing. This document specifies the methods and conditions for specimen preparation, as well as the method for measuring the specimen.

This document applies to POM molding and extrusion materials.

This document lists properties and test methods, for characterizing polyoxymethylene molding and extrusion materials. These properties are selected from general test methods. Some other particularly important or widely used test methods, for POM molding and extrusion materials, are also covered in this document, along with characteristic properties: melt flow rate and tensile modulus of elasticity.

In order to obtain comparable and reproducible test results, it is intended to be carried out, in accordance with the sample preparation process and state conditioning method, sample size, test method, which is specified in this document. Test data, which uses different specimen sizes or specimen preparation methods, may not be consistent.

2 Normative references

The contents of the following documents constitute essential provisions of this document

through normative references in the text. Among them, for dated references, only the version corresponding to the date applies to this document; for undated references, the latest version (including all amendments) is applicable to this document.

ISO 62 Plastics - Determination of water absorption

ISO 75-2 Plastics - Determination of temperature of deflection under load - Part 2:

Plastics and ebonite

ISO 178 Plastics - Determination of flexural properties

IEC 60296 Fluids for electrotechnical applications - Unused mineral insulating oils for transformers and switchgear

IEC 62631-3-1 Dielectric and resistive properties of solid insulating materials - Part 3-1: Determination of resistive properties (DC Methods) - Volume resistance and volume resistivity - General method

IEC 62631-3-2 Dielectric and resistive properties of solid insulating materials - Part 3-2: Determination of resistive properties (DC methods) - Surface resistance and surface resistivity

3 Definitions and terms

There are no terms and definitions, that need to be defined, in this document.

ISO and IEC maintain terminology databases for standardization, at the following websites:

4.1 Overview

Specimens shall be prepared, using injection molding. Specimens shall be prepared, using the same process and the same processing conditions. Standard conditions are as given in Table 1.

Materials shall be kept in moisture-proof containers until processing.

4.2 Pretreatment of materials before molding

Material samples generally do not require pretreatment, prior to processing.

Note: POM molding material particle surfaces can absorb moisture, which may cause surface defects in molded specimens. In order to ensure that the surface of the specimen is free of defects, the material can be dried at a temperature of 80 °C, for at least 4 h.

4.3 Injection

Specimens shall be prepared, according to ISO 294-1, ISO 294-3 or ISO 294-4, using the conditions specified in Table 1.

tracking indices of solid insulating materials (IEC 60112:2009, IDT);

- GB/T 9341-2008 Plastics - Determination of flexural properties (ISO 178:2001, IDT);

- GB/T 11546.1-2008 Plastics - Determination of creep behavior - Part 1: Tensile creep (ISO 899-1:2003, IDT);

- GB/T 17037.1-2019 Plastics - Injection moulding of test specimens of thermoplastic materials - Part 1: General principles, and molding of multipurpose and bar test specimens (ISO 294-1:2017, MOD);

- GB/T 17037.3-2003 Plastics - Injection moulding of test specimens of thermoplastic materials - Part 3: Small plates (ISO 294-3:2002, IDT);

- GB/T 17037.4-2003 Plastics - Injection moulding of test specimens of thermoplastic materials - Part 4: Determination of moulding shrinkage (ISO 294-4:2001, IDT);

- GB/T 19466.3-2004 Plastics - Differential scanning calorimetry (DSC) - Part 3: Determination of temperature and enthalpy of melting and crystallization (ISO 11357-3:1999, IDT);

- GB/T 19467.1-2004 Plastics - Acquisition and presentation of comparable single-point data - Part 1: Moulding materials (ISO 10350-1:1998, MOD);

- GB/T 31838.2-2019 Dielectric and resistive properties of solid insulating materials - Part 2: Determination of resistive properties (DC Methods) - Volume resistance and volume resistivity - General method (IEC 62631-3-1:2016, IDT);

- GB/T 31838.3-2019 Dielectric and resistive properties of solid insulating materials - Part 3: Determination of resistive properties (DC methods) - Surface resistance and surface resistivity (IEC 62631-3-2:2015, IDT);

- GB/T 36800.2-2018 Plastics - Thermomechanical analysis (TMA) - Part 2:

Determination of coefficient of linear thermal expansion and glass transition temperature (ISO 11359-2:1999, IDT);

- GB/T 37426-2019 Plastics - Test specimens (ISO 20753:2018, MOD).