



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

GB/T 41758.2-2022

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

Issued on: October 12, 2022

Implemented on: October 12, 2022

Issued by: SAMR; SAC

Table of Contents

Foreword...	3
Introduction...	7
1 Scope...	8
2 Normative references...	8
3 Terms and definitions...	11
4 Preparation of test specimens...	11
5 Conditioning of test specimens...	12
6 Determination of properties...	12
References...	15

Foreword

This document was drafted in accordance with the rules given in GB/T 1.1-2020, Directives for standardization - Part 1: Rules for the structure and drafting of standardizing documents.

This document is Part 2 of GB/T 41758 Plastics - Polyketone (PK) moulding and extrusion materials. The following parts have been released for GB/T 41758:

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

This document is modified from ISO 21970-2:2019 Plastics - Polyketone (PK) moulding and extrusion materials - Part 2: Preparation of test specimens and determination of properties.

The technical differences between this document and ISO 21970-2:2019 and the reasons are as follows:

- Use the normatively referenced GB/T 41758.1 to replace ISO 21970-1 (see Chapter 1), to adapt to the technical conditions in China;
- Use the normatively referenced GB/T 17037.1 to replace ISO 294-1 (see 4.3), to adapt to the technical conditions in China;

- Use the normatively referenced GB/T 2918 to replace ISO 291 (see Chapter 5), to adapt to the technical conditions in China;
- Use the normatively referenced GB/T 19467.1 to replace ISO 10350-1 (see Chapter 6), to adapt to the technical conditions in China;
- Use the normatively referenced GB 2536 to replace IEC 60296 (see Table 2), to adapt to the technical conditions in China;
- Use the normatively referenced GB/T 3682.1 to replace ISO 1133-1 (see Table 2), to adapt to the technical conditions in China;
- Use the normatively referenced GB/T 37426 to replace ISO 20753 (see Table 2), to adapt to the technical conditions in China;
- Use the normatively referenced GB/T 1033.1 to replace ISO 1183-1 (see Table 2), to adapt to the technical conditions in China;
- Use the normatively referenced GB/T 1033.2 to replace ISO 1183-2 (see Table 2), to adapt to the technical conditions in China;

Plastics - Polyketone (PK) moulding and extrusion materials

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

1 Scope

This document describes the preparation of test specimens and test methods for the determination of properties of polyketone moulding and extrusion materials. It specifies requirements for the handling of the test material and/or the conditioning of the test material before moulding and the test specimens before testing.

The determination method of properties is selected from the general test methods in GB/T 19467.1. This document also lists other test methods widely used or of special significance for moulding and extrusion materials, as well as the determination methods for characteristic properties in GB/T 41758.1.

In order to ensure that the test results are reproducible and repeatable, it is necessary to use the methods for preparation of test specimens and state conditioning specified in

this document, as well as the specified specimen size and test method. Test data obtained using specimens prepared under different conditions or using specimens of different dimensions may not be consistent.

2 Normative references

The following documents are normatively referenced in this document and are indispensable for its application. For dated references, only the version corresponding to that date is applicable to this document; for undated references, the latest version (including all amendments) is applicable to this document.

GB/T 1033.1, Plastics - Methods for determining the density of non-cellular plastics - Part 1: Immersion method liquid pycnometer method and titration method (GB/T 1033.1-2008, ISO 1183-1:2004, IDT)

GB/T 1033.2, Plastics - Methods for determining the density of non-cellular plastics - Part 2: Density gradient column method (GB/T 1033.2-2010, ISO 1183-2:2004, MOD)

GB/T 1033.3, Plastics - Methods for determining the density of non-cellular plastics - Part 3: Gas pycnometer method (GB/T 1033.3-2010, ISO 1183-3:1999, IDT)

GB/T 9345.4, Plastics - Determination of ash - Part 4: Polyamides (GB/T 9345.4-2008, ISO 3451-4:1998, IDT)

GB/T 12006.2, Plastics - Polyamides - Part 2: Determination of water content (GB/T 12006.2-2009, ISO 15512:1999, MOD)

GB/T 16422.1, Plastics - Methods of exposure to laboratory light sources - Part 1: General guidance (GB/T 16422.1-2019, ISO 4892-1:2016, IDT)

GB/T 16422.2, Plastics - Methods of exposure to laboratory light sources - Part 2: Xenon-arc lamps (GB/T 16422.2-2014, ISO 4892-2:2006, IDT)

GB/T 16422.3, Plastics - Methods of exposure to laboratory light sources - Part 3: Fluorescent UV lamps (GB/T 16422.3-2014, ISO 4892-3:2006, IDT)

GB/T 16422.4, Plastics - Methods of exposure to laboratory light sources - Part 4: Open-flame carbon-arc lamps (GB/T 16422.4-2014, ISO 4892-4:2004, IDT)

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

GB/T 19466.2, Plastics - Differential scanning calorimetry (DSC) - Part 2: Determination of glass transition temperature (GB/T 19466.2-2004, ISO 11357-2:1999, IDT)

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

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

GB/T 31838.2, Solid insulating materials - Dielectric and resistive properties - Part 2: Resistive properties (DC methods) - Volume resistance and volume resistivity (GB/T 31838.2-2019, IEC 62631-3-1:2016, IDT)

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

GB/T 31838.6, Solid insulating materials - Dielectric and resistive properties - Part 6: Dielectric properties (AC method) - Relative permittivity and dielectric dissipation factor (frequencies 0.1 Hz ~ 10 MHz) (GB/T 31838.6-2021, IEC 62631-2-1:2018, IDT)

GB/T 36800.2, Plastics - Thermomechanical analysis (TMA) - Part 2: Determination of coefficient of linear thermal expansion and glass transition temperature (GB/T 36800.2-2018, ISO 11359-2:1999, IDT)

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

GB/T 41758.1, Plastics - Polyketone (PK) moulding and extrusion materials - Part 1: Designation system and basis for specifications (GB/T 41758.1-2022, ISO 21970-1:2019, MOD)