



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

**GB/T 39690.2-2020**

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**Plastics. Mixtures of polypropylene (PP) and polyethylene (PE) recyclate derived  
from PP and PE used for flexible and rigid consumer packaging - Part 2:  
Preparation of test specimens and determination of properties**

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### Foreword

GB/T 39690 "Plastics - Mixtures of polypropylene (PP) and polyethylene (PE) recyclate derived from PP and PE used for flexible and rigid consumer packaging" is divided into two parts:

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

This Part is Part 2 of GB/T 39690.

This Part is drafted in accordance with the rules given in GB/T 1.1-2009.

This Part, using translation method, is identical to ISO 18263-2:2015 "Plastics

- Mixtures of polypropylene (PP) and polyethylene (PE) recyclate derived from PP and PE used for flexible and rigid consumer packaging - Part 2: Preparation of test specimens and determination of properties".

China's documents which have a consistent correspondence with the international documents normatively referenced in this Part are as follows:

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

GB/T 1033.2-2010 Plastics - Methods for determining the density of non-

cellular plastics - Part 2: Density gradient column method (ISO 1183-2:2004, MOD);

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

GB/T 1040.1-2018 Plastics - Determination of tensile properties - Part 1: General principles (ISO 527-1:2012, IDT);

GB/T 1040.2-2006 Plastic - Determination of tensile properties - Part 2: Test conditions for moulding and extrusion plastic (ISO 527-2:1993, IDT);

GB/T 1043.1-2008 Plastics - Determination of Charpy impact properties - Part 1: Non-instrumented impact test (ISO 179-1:2000, IDT);

GB/T 2035-2008 Terms and definitions for plastics (ISO 472:1999, IDT);

GB/T 2918-2018 Plastics - Standard atmospheres for conditioning and testing (ISO 291:2008, MOD);

Plastics - Mixtures of polypropylene (PP) and polyethylene (PE) recyclate derived from PP and PE used for flexible and rigid consumer packaging - Part 2: Preparation of test specimens and determination of properties

## 1 Scope

This Part of GB/T 39690 specifies methods of preparation of test specimens and the standard methods to be used in determining the properties of mixtures of polypropylene (PP) and polyethylene (PE) recyclate derived from PP and PE used for flexible and rigid consumer packaging for moulding and extrusion.

Recyclate from packaging used for the transport, handling, or storage of hazardous goods is not to be used. Since it is impossible to get the information about stabilizer levels of recyclate, it is necessary to add stabilizer as needed.

This Part specifies the requirements for pretreatment conditions and conditioning of the test specimens.

## 2 Normative references

The following documents are indispensable for the application of this document.

For the dated references, only the editions with the dates indicated are applicable to this document. For the undated references, the latest edition (including all the amendments) are applicable to this document.

ISO 178 Plastics - Determination of flexural properties

ISO 179-1 Plastics - Determination of Charpy impact properties - Part 1: Non-instrumented impact test

ISO 179-2 Plastics - Determination of Charpy impact properties - Part 2: Instrumented impact test

ISO 291 Plastics - Standard atmospheres for conditioning and testing

ISO 472 Plastics - Vocabulary

ISO 527-1 Plastics - Determination of tensile properties - Part 1: General principles

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

ISO 1133-1 Plastics - Determination of the melt mass-flow rate (MFR) and melt volume-flow rate (MVR) of thermoplastics - Part 1: Standard method

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

ISO 1183-2 Plastics - Methods for determining the density of non-cellular plastics - Part 2: Density gradient column method

ISO 1183-3 Plastics - Methods for determining the density of non-cellular plastics - Part 3: Gas pycnometer method

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

ISO 15270 Plastics - Guidelines for the recovery and recycling of plastics

waste

ISO 18263-1 Plastics - Mixtures of polypropylene (PP) and Polyethylene (PE)

recyclate derived from PP and PE used for flexible and rigid consumer

packaging - Part 1: Designation system and basis for specification

ISO 19069-2 Plastics - Polypropylene (PP) moulding and extrusion materials

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

ISO 20753 Plastics - Test specimens

### **3 Terms and definitions**

For the purposes of this document, the terms and definitions given in ISO 472 and ISO 15270 apply.

### **4 Preparation of test specimens**

The test specimens shall be prepared in accordance with ISO 19069-2 and shall be tested in accordance with methods indicated in Table 1. It is essential that specimens are always prepared by the same procedure using the same conditions.

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