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

GB/T 46837-2025

**Plastics - Elasticity index - Determination of elastic property of
melts**

塑料 弹性指数 熔体弹性性能的测定

(English Translation)

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document is modified to adopt ISO 23673:2021 "Plastics - Elasticity index - Determination of melt elastic properties".

The technical differences between this document and ISO 23673:2021, and the reasons therefor, are as follows.

---ISO 6721-1 (see Chapter 3) has been replaced with the normatively referenced GB/T 33061.1 to conform to Chinese technical documentation;

---ISO 6721-10 (see Chapters 3, 4, 5, 6, and 7) has been replaced by the normatively referenced GB/T 33061.10.

Adapt to my country's technical documents.

The following editorial changes have been made to this document.

---The notation for "strain" has been changed from "epsilon" to "gamma" (see Chapters 8 and 9).

This document was proposed by the China Petroleum and Chemical Industry Federation.

This document is under the jurisdiction of the National Technical Committee on Plastics Standardization (SAC/TC15).

1 Scope

This document describes a method for determining the melt elastic index of plastics or elastomers using a vibration rheometer, including the measurement of shear storage modulus.

Measurement methods and principles.

This document applies to all thermoplastics and thermoplastic elastomers.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

GB/T 33061.1 Determination of dynamic mechanical properties of plastics - Part 1: General rules (GB/T 33061.1-2025, ISO 6721-1:2011, MOD) GB/T 33061.10 Determination of dynamic mechanical properties of plastics-Part 10: Determination of complex shear rates using a parallel plate vibration rheometer Shear viscosity (GB/T 33061.10-2025, ISO 6721-10:2015, MOD)

3 Terms and Definitions

The terms and definitions defined in GB/T 33061.1 and GB/T 33061.10, as well as the following terms and definitions, apply to this document.

elasticity index

Characteristic indices describing the elastic properties of melts of plastics or elastomers are defined as measured at a fixed angular frequency under specific strain, stress, and temperature.

The energy storage modulus G' .

Note: The unit is Pascal (Pa).

4 General Requirements

The parallel plate fixture used in the test shall comply with the provisions of GB/T 33061.10.

If a conical plate clamp is used, the requirements are the same as those for a flat plate clamp when the included angle between the conical plates is less than 5°.

5.1 Testing Instruments

It shall comply with the provisions of GB/T 33061.10, wherein the fixtures used for the test may be conical plates or parallel plates that meet the requirements.

5.2 Temperature Control Unit

It should comply with the provisions of GB/T 33061.10.