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

GB/T 39818-2021

**Plastics - Thermosetting moulding materials - Determination of
shrinkage**

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard uses the redrafting method to modify and adopt ISO 2577.2007 "Determination of shrinkage of plastic thermoset molding materials".

The technical differences between this standard and ISO 2577.2007 and the reasons are as follows.

--- Regarding normative reference documents, this standard has made adjustments with technical differences to adapt to my country's technical conditions and adjustments.

The situation is collectively reflected in Chapter 2 "Normative Reference Documents", and the specific adjustments are as follows.

* Replace ISO 295.2004 with GB/T 5471 which is equivalent to adopting international standards;

---In order to control the accuracy of temperature, increased the requirements of the oven (see 4.3).

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

This standard is under the jurisdiction of the Thermosetting Plastics Subcommittee of the National Plastics Standardization Technical Committee (SAC/TC15/SC11).

Drafting organizations of this standard. Shanghai Fuchen Chemical Co., Ltd., Changzhou Tianma Group Co., Ltd.

Group) Co., Ltd., Shenzhen Zhongan Testing Standard Technology Co., Ltd., Liyang Qiaosen Plastic Co., Ltd., CGN Ruishengfa (Xiamen) New

Materials Co., Ltd., Zhejiang Huafeng New Materials Co., Ltd., Zhejiang Chennuo Polymer Materials Co., Ltd., Changshu Southeast Plastic Co., Ltd., Guilin

Zhilong Electrical Equipment Co., Ltd., Shanghai Eurasian Synthetic Material Co., Ltd.,

Shaxian Hongsheng Plastic Co., Ltd., Nantong Tianhe Resin Co., Ltd.

The company, Shandong Institute of Non-metallic Materials, Jiangmen Xinhui Henglong Home Furnishing Innovation Co., Ltd.

1 Scope

This standard specifies a method for measuring the shrinkage of thermosetting molding material samples and the shrinkage after heat treatment.

These characteristics are useful for the production control of thermosetting materials and the inspection of production uniformity. In addition, understand the initial

Shrinkage is very important to the structure of the mold, and understanding the post-shrinkage is important to determine whether the molding material is suitable for the manufacture of molded parts with precise dimensions.

This standard applies to thermoset molding materials.

2 Normative references

The following documents are indispensable for the application of this document. For dated reference documents, only the dated version applies to this article

Pieces. For undated reference documents, the latest version (including all amendments) is applicable to this document.

GB/T 5471 Compression molding of plastic thermosetting plastic samples (GB/T 5471-2008, ISO 295:2004, IDT)

ISO 10724-1 Injection molding (PMCs) of test specimens of plastic powdered thermosetting molding compounds-Part 1.General principles and more

Use of sample preparation

[Plastics-Injectionmouldingoftestspecimensofthermosettingpowdermoulding

compounds(PMCs)-Part 1.Generalprinciplesandmouldingofmultipurposetestspecimens]

ISO 10724-2:1998 Injection molding of test specimens of plastic powdered thermosetting molding compounds (PMCs) Part 2.Small plates

[Plastics-Injection mouldingoftestspecimensofthermosettingpowder mouldingcompounds (PMCs)-Part 2.Smallplates]

3 Terms and definitions

The following terms and definitions apply to this document.

3.1

Molding shrinkage

At room temperature, measure the difference between the dimensions of the molded part and the cavity.

3.2

Post-shrinkage

After the molded product is formed, the shrinkage during post-processing, storage or use.

4 Instruments

4.1 Moulds, presses, etc., are suitable for the sample preparation specified in Chapter 6. Compression molding should use single-cavity or multi-cavity non-overflow or semi-overflow

?? Type mold. Injection molding should use ISO 10724-2:1998 in Chapter 4 that can produce 60mmx60mmx2mm specimens

D2 type ISO mold.

If necessary, marks can be engraved on the mold near the two ends of the sample to accurately measure the length of the cavity and the sample.

Note. If you use a multi-cavity non-overflow mold, the change in sample density may produce different shrinkage.

4.2 Measuring tool, suitable for measuring the length of the sample and the length of the corresponding mold cavity, and its accuracy should not be less than 0.02mm.

4.3 Oven (only used for post-shrinkage detection), using a blast drying oven, should have an appropriate controllable temperature range, and the temperature control accuracy should be