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NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA

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GB/T 10006-2021 / ISO 8295:1995

Replacing GB/T 10006-1988

Plastics - Film and sheeting -
Determination of the coefficients of friction

塑料 薄膜和薄片 摩擦系数的测定
(ISO 8295:1995, IDT)

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Foreword

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

This Standard replaces GB/T 10006-1988 "Plastics - Film and sheeting - Determination of the coefficients of friction". Compared with GB/T 10006-1988, the main technical changes are as follows:

- Modify the scope (see clause 1; clause 1 of the 1988 edition);
- Modify the normative references (see clause 2; clause 2 of the 1988 edition);
- Modify the terms and definitions (see clause 3; clause 3 of the 1988 edition);
- Add the note "The coefficient of friction of films usually ranges between 0.2 and 1" (see note 1 to 3.4.2);
- Modify the principle (see clause 4; clause 4 of the 1988 edition);
- Add the test device requirement that "Either the sled or the test table can be used as the moving part"; modify figure 1; delete figure 2 (see 5.1 and figure 1; 5.1, figure 1, and figure 2 of the 1988 edition);
- Modify the naming, order of subclauses, and structure of the "Test apparatus" (see clause 5; clause 5 of the 1988 edition);
- Add the test speed setting requirement of "500 mm/min $\pm$ 10 mm/min" (see 5.2.3);
- Add the requirement for checking the transition time when using the force-measuring system of a tensile tester (see 5.2.4);
- Modify "Directly connect the sled and the load cell" to "The spring shall be replaced by a rigid connection" (see 5.2.5; 5.6 of the 1988 edition);
- Add the overshoot requirement for the coefficient of friction (see the note to 5.2.5);
- Modify specimen requirements (see clause 6; clause 7 of the 1988 edition);
- Modify the conditioning (see clause 7; clause 8 of the 1988 edition);
- Add the general rules of test procedure (see 8.1);
- Modify the test procedure of "Film against film" and "Film in contact with metal or another material" (see 8.2 and 8.3; 9.1 and 9.2 of the 1988 edition);

- Modify the calculation of results of static coefficient of friction and dynamic coefficient of friction (see 9.1 and 9.2; 10.1 and 10.2 of the 1988 edition);
- Delete the requirement of "Significant figures for result calculation" (see 10.3 of the 1988 edition);
- Add a description of precision (see clause 10);
- Modify the test report requirements (see clause 11; clause 11 of the 1988 edition);
- Add "Preliminary precision" (see annex A).

This Standard, using translation method, is identical to ISO 8295:1995 "Plastics - Film and sheeting - Determination of the coefficients of friction".

This Standard was proposed by China National Light Industry Council.

This Standard shall be under the jurisdiction of National Technical Committee 48 on Plastic Products of Standardization Administration of China (SAC/TC 48).

Drafting organizations of this Standard: Beijing Technology and Business University, Yunnan Hongta Plastic Co., Ltd., Shantou S.E.Z. Xiongwei Plastic Packing Co., Ltd., Guangdong Tianan New Material Co., Ltd., FSPG Hi-tech Co., Ltd., Shanghai Royal New Materials Technology Co., Ltd., Institute of Plastics Processing & Application of Light Industry, China National Centre for Quality Supervision & Test of Plastics Products (Beijing), Kunshan Access Testing Technology Services Co., Ltd., Labthink Instruments Co., Ltd.

Main drafters of this Standard: Xu Bo, Wang Lei, Hu Jinmei, Bei Nan, Wu Qichao, Liang Meiyong, Wei Liming, Li Tianhua, Chen Xin, Zou Jianfeng.

The previous edition of the standard replaced by this Standard was released as follows:

- GB/T 10006-1988.

Plastics - Film and sheeting -

Determination of the coefficients of friction

1 Scope

1.1 This Standard specifies a method for determining the coefficients of starting and sliding friction of plastic film and sheeting when sliding over itself or other substances. This Standard is intended to be used for non-sticky plastic film and sheeting (in the following text, referred to simply as "film") of up to 0.5 mm thickness.

1.2 This Standard serves primarily for quality control. It does not give a comprehensive assessment of the machinability on packaging or processing machines since other effects, e.g. electrostatic charges, air cushion, local rise of temperature and abrasion are, as a rule, involved.

1.3 The static frictional force increases as a rule, with the time the surfaces are in contact. Therefore, to get comparable results, this time span is specified.

1.4 Slip properties are sometimes generated by additives in the plastic material. The additives have varying degrees of compatibility with the film matrix. They may bloom or exude to the surface and change the slip properties. Since these effects are time-dependent, measurements on such films have to be related to the age of the film.

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 291:1977¹⁾ Plastics - Standard atmospheres for conditioning and testing

3 Terms and definitions

For the purposes of this Standard, the following terms and definitions apply.

1) ISO 291:1977 has been replaced by ISO 291:2008.

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