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NATIONAL STANDARD OF THE
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GB/T 40797-2021 / ISO 23233:2016

**Rubber, vulcanized or thermoplastic - Determination of
resistance to abrasion - Driven, vertical abrasive disc
method**

硫化橡胶或热塑性橡胶 耐磨性能的测定 垂直驱动磨盘法

(ISO 23233:2016, Rubber, vulcanized or thermoplastic - Determination of resistance
to abrasion using a driven, vertical abrasive disc, IDT)

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Foreword

This Standard 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 Standard uses translation method to identically adopt ISO 23233:2016 “Rubber, vulcanized or thermoplastic - Determination of resistance to abrasion using a driven, vertical abrasive disc”.

The Chinese documents which have consistency with the international normative references in this Standard are as follows:

- GB/T 2481.1-1998, Bonded abrasives - Determination and designation of grain size distribution - Part 1: Macrogrits F4 to F220 (eqv ISO 8486-1:1996);
- GB/T 2484-2018, Bonded abrasive products - General requirements (ISO 525:2013, MOD);
- GB/T 2941-2006, Rubber - General procedures for preparing and conditioning test pieces for physical test methods (ISO 23529:2004, IDT).

This Standard made the following editorial modifications:

- Changed the standard name to “Rubber, vulcanized or thermoplastic - Determination of resistance to abrasion - Driven, vertical abrasive disc method”;
- Included the content of the amendment of ISO 23233:2016/AMD1:2017.

Attention is drawn to the possibility that some of the elements of this Standard may be the subject of patent rights. The issuing authority shall not be held responsible for identifying any or all such patent rights.

This Standard was proposed by China Petroleum and Chemical Industry Federation.

This Standard shall be under the jurisdiction of Subcommittee on General Test methods of National Technical Committee on Rubber and Rubber Products of Standardization Administration of China (SAC/TC 35/SC 2).

The drafting organizations of this Standard: Zhongce Rubber Group Co., Ltd., Shuangqian Group Shanghai Tire Research Institute Co., Ltd., Wanli Tire Co., Ltd., Shandong Linglong Tire Co., Ltd., Triangle Tire Co., Ltd., Sailun Group Co., Ltd., Double Star Group Co., Ltd., Gotwell Scientific Instruments (Qingdao) Co., Ltd., Fengshen Tire Co., Ltd., Guizhou Tire Co., Ltd., Beijing Rubber Industry Research and Design Institute Co., Ltd.

Rubber, vulcanized or thermoplastic - Determination of resistance to abrasion - Driven, vertical abrasive disc method

WARNING 1 -- Persons using this document shall have practical experience with formal laboratory work. This document does not point out all possible safety issues. It is the user's responsibility to take appropriate safety and health measures and to ensure compliance with the relevant national regulations.

WARNING 2 -- Some of the steps specified in this document may involve the use or generation of certain wastes, which may be hazardous to the local environment. Appropriate safe handling and post-use disposal provisions shall be specified in the relevant documentation.

1 Scope

This Standard describes a method for determining the abrasion resistance of rubber with a vertically driven abrasive disc.

The wheel-shaped rubber specimen and the grinding disc are perpendicular to each other and are pressed against each other according to the set load. Abrasion mass loss is determined by setting different slip angles, rotational speeds and certain loads between the wheel-shaped specimen and the grinding disc for slippage. Test results are expressed in terms of mass loss per unit run distance and/or abrasion resistance index compared to a reference compound.

This document applies to comparative testing, quality control, normative compliance testing, arbitration testing, and R&D work.

Since the test device can independently set various wear parameters, such as: slip angle, grinding disc rotation speed and load, this method can be widely used in the wear test of various rubber products (especially tires).

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 525, *Bonded abrasive products - General requirements*

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