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PEOPLE'S REPUBLIC OF CHINA

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GB/T 2941-2006 / ISO 23529:2004

Replacing GB/T 2941-1991, GB/T 5723-1993, GB/T 9865.1-1996, GB/T 9868-1988

**Rubber – General Procedures for Preparing and
Conditioning Test Pieces for Physical Test Methods**

(ISO 23529:2004, IDT)

橡胶物理试验方法试样制备和调节通用程序

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Foreword

This Standard equivalently adopted ISO 23529:2004 *Rubber – General Procedures for Preparing and Conditioning Test Pieces for Physical Test Methods* (English Version).

This Standard replaced the following standards such as GB/T 2941-1991 *Standard Temperature, Humidity and Time for Environmental Regulation and Testing of Rubber Samples*; GB/T 5723-1993 *Rubber, Vulcanized or Thermoplastic—Determination of Dimensions of Test Pieces and Products for Test Purposes*; GB/T 9865.1-1996 *Rubber, Vulcanized or Thermoplastic - Preparation of Samples and Test Pieces - Part 1: Physical Tests*; and GB/T 9868-1988 *Rubber - General Directions for Achieving Elevated or Subnormal Temperatures for Test Purposes*.

This Standard equivalently translated ISO 23529:2004.

For the benefit of use, this Standard also makes the following editorial changes:

- a) Delete the foreword of the international standard;
- b) Change “this International Standard” into “this Standard”;
- c) Use decimal point “.” to replace the comma “,” serving as a decimal point;
- d) Add NOTE to the test control conditions of the comparison test in 3.2 for the purpose of meet the requirements of actual operation, and provide guidance for reducing unnecessary disputes;
- e) For the benefit of use, add “C-30-P-4-V indicates that the abrasive is black silicon carbide, the particle size is 30, the hardness code is P, the abrasive tool organization number is 4, and ceramic bond; C-60-P-4-V indicates that the particle size is 60, the rest is the same as C-30-P-4-V” to the NOTE of 5.2.3.3.
- f) Add an informative annex (Annex A) for the maintenance of the cutter; so that benefit the user to use and maintain the cutter.

Basing on the ISO 23529:2004, this Standard revised the following 4 standards such as GB/T 2941-1991, GB/T 5723-1993, GB/T 9865.1-1996, GB/T 9868-1988. This Standard includes all the contents of the above 4 standards; its described technical contents are the same as the scope covered by the original standards. Their major technical differences are as follows:

- Add the requirements for test piece confirmation and record keeping (Clause 2 of this Edition);
- Revise the laboratory humidity control tolerance from the original $\pm 5\%$, $\pm 2\%$ to $\pm 5\%$, $\pm 10\%$ (4.2 of GB/T 2941-1991; 3.2 of this Edition);

- Revise the temperature tolerance for testing outside the standard test temperature; namely, from the original 100°C below $\pm 1^{\circ}\text{C}$, ($101^{\circ}\text{C}\sim 200^{\circ}\text{C}$) $\pm 2^{\circ}\text{C}$, $201^{\circ}\text{C}\pm 3^{\circ}\text{C}$ to 0°C and below $\pm 2^{\circ}\text{C}$, 0°C above $\sim 100^{\circ}\text{C}$ (including 100°C) below $\pm 1^{\circ}\text{C}$, 100°C above $\pm 2^{\circ}\text{C}$ (3.4 of GB/T 2941-1991; 8.2.2 of this Edition);
- Delete the common measuring instruments in Annex A; and thickness gauge for Method A in Annex B (Annexes A and B in GB/T 5723-1993);
- Adjust the maintenance of the cutter into informative annex (6.2 of GB/T 9865.1-1996; Annex A of this Edition);
- Revise the requirements for test temperature control box from the original specific requirements into the principle requirements (Clauses 3, 4, 5, 6 of GB/T 9868-1988; Clause 9 of this Edition).

This Standard's Annex A is informative; while Annex B is normative.

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

This Standard shall be under the jurisdiction of Rubber Physics and Chemical Test Method Subcommittee of National Technical Committee for Standardization of Rubber and Rubber Products (SAC/TC 35/SC 2).

This Standard was entrusted to Rubber Physics and Chemical Test Method Subcommittee of National Technical Committee for Standardization of Rubber and Rubber Products to interpret.

Drafting organization of this Standard: Beijing Research & Design Institute of Rubber Industry.

Chief drafting staffs of this Standard: Wu Jiangtao, Feng Chunyang, Ma Weide, and Liu Yuhuan.

The historical editions replaced by this Standard are as follows:

- GB 2941-1982, GB/T 2941-1991;
- GB 5723-1985, GB/T 5723-1993;
- GB 9865-1988, GB/T 9865.1-1996;
- GB 9868-1988.

Rubber – General Procedures for Preparing and Conditioning Test Pieces for Physical Test Methods

WARNING - Persons using this Standard should be familiar with normal laboratory practice. This standard does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user to establish appropriate safety and health practices and to ensure compliance with any national regulatory conditions.

1 Scope

This Standard specifies general procedures for the preparation, measurement, marking, storage and conditioning of rubber test pieces for use in physical tests specified in other Standards, and the preferred conditions to be used during the tests. Special conditions applicable to a particular test or material or simulating a particular climatic environment are not included, nor are special requirements for testing whole products.

This Standard also specifies the requirements for the time-interval to be observed between forming and testing of rubber test pieces and products. Such requirements are necessary to obtain reproducible test results and to minimize disagreements between customer and supplier.

2 Test Piece Confirmation and Record Keeping

Records shall be kept of the identity of each test piece so that it is identifiable with the sample supplied and such that all the relevant details of preparation, storage, conditioning and measurement are traceable to each individual test piece.

Each sample or test piece shall be individually identifiable by marking or segregation at each stage of its preparation and testing. Where marking is used as the method of identification, the markings shall be sufficiently durable to ensure that the test piece or sample remains identifiable until discarded. Where grain effects may be significant, the direction of the grain shall be identified on each sample or test piece.

The method of marking shall not affect the properties or the sample or test piece and shall avoid significant surfaces, i.e. surfaces which are to be directly tested (as in e.g. abrasion tests) or surfaces at which a fracture will terminate during the test (as in e.g. tear or tensile tests).

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