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

GB/T 11206-2009

Replacing GB/T 11206-1989

**Standard test method for rubber deterioration -- Surface
cracking**

橡胶老化试验 表面龟裂法

(English Translation)

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Foreword

This revised standard adopts ASTM D518:1999 "Test Methods for Rubber surface cracking aging." this standard is based on ASTM D518:1999 "Standard Test Method for Rubber Deterioration surface cracking" redrafted. For comparison, in Appendix A the standard lists the reg number and ASTM D518:1999 reg control list numbered.

This standard replaces GB/T 11206-1989 "Standard Test Method for vulcanized rubber surface cracking aging." this standard ASTM D518:1999 technical differences and the reasons are as follows.

- Remove ASTM D518:1999 1.2, as are the use of legal units of measurement in the national standards;
- With GB/T 7762 instead of ASTM D1149, since GB/T 7762 main technical content and ASTM D1149 phase with no technical difference (Chapter 2 of this standard, 7.2, 11.3, 15.5.1 and 20.4);
- Increase in GB/T 528, as shall be prepared dumbbell GB/T 528's provisions (Chapter 2 of this standard, the first Chapter 18);
- Increase in stretching the rectangular specimen type 2 specimens, dimensions of length 100mm, width (10 ± 0.3) mm, thickness (1.0 ± 0.1) mm or (2.0 ± 0.2) mm. The advantages of using this sample size is that the sample belongs to the main narrow shaped specimens, small cross-section, the internal stress Small, easy to draw the corresponding elongation and installed in the sample holder, elongation and high precision (6.1 and 7.1 of this standard);
- Increase its effective work dumbbell tensile test method, because the dumbbell is susceptible to various elongation tensile deformation test, as part of a uniform stress distribution under tension, the distribution of crack crack occurred after aging surface more uniform, fracture surface also the effective work area, easy to detect and observe; dumbbell

tensile properties of the sample can also be conducive to the rubber-like Products made comprehensive evaluation (this standard Chapter 17 ~ Chapter 20);

--- Thickness of the specimen was changed from 1.9mm ~ 2.5mm (2.0 ± 0.2) mm, as in the domestic rubber samples general press (2.0 ± 0.2) mm prepared sample (this standard 6.1,10.1 and 14.1);

--- Increase detailed testing and evaluation methods, help assess test results (this standard Chapter 21 ~ Chapter 22);

--- Increase the informative Appendix B "sample cracks rating Photo", to facilitate the detection of reference rating.

This standard compared with GB/T 11206-1989 main changes are as follows.

--- Increasing the normative references ASTM D4575 (see Chapter 2);

--- Tensile test specimens with cone method instead of a triangular strip specimens bending method (1989 edition, Chapter 8; edition Chapter 13 through 16);

--- Rectangular tensile test specimens law that increase sample sizes from one of two (see 6.1);

--- Increasing the precision and bias section (see Chapter 23).

The Standard Appendix A, Appendix B are informative appendices.

The standard proposed by China Petroleum and Chemical Industry Association.

This standard by the national Common test methods for rubber and rubber goods Technical Committee of Standardization Technical Committee (SAC/TC35/SC2) Centralized.

This standard was drafted. Guangzhou Institute of Materials Co., Ltd., Beijing Rubber Industry Research and Design Institute, Dongguan City, New Materials belite Limited.

1 Scope

This standard specifies the test methods and evaluation methods of surface cracks occur in the static strain aging state rubber samples.

This standard applies to rubber placed under the atmosphere or ozone-containing medium in the aging test under static tensile or bending state.

This standard does not apply to exposure at the discharge generated by the high concentration of ozone environment of an electrically insulating material or rubber parts; not suitable in hard rubber.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms of dated references, all subsequent Amendments (not including errata content) or revisions do not apply to this standard. However, according to the study encourages the parties to the agreement Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB/T 528 vulcanized rubber or thermoplastic rubber tensile stress strain properties (GB/T 528-1998, eqvISO 37.

1994)

GB/T 7762 vulcanized rubber or thermoplastic rubber resistant to ozone cracking static tensile test (GB/T 7762-2003, ISO 1431-1.

1989, MOD)

Test methods for determining the concentration of ozone test chamber ASTM D4575 rubber aging test reference and optional

3 Test Method

3.1

according to the actual state of rubber or rubber, you can select the following test methods.

- a) rectangular sample drawing method;
- b) rectangular specimens bending test method;
- c) the sample cone drawing method;
- d) dumbbell specimen stretching method.

3.2

rubber samples under static tensile or bending is fixed in the sample holder exposed to ambient atmosphere or an ozone-containing medium, after a certain After continuous exposure time by observing the changes in appearance and surface cracking the case of the sample was evaluated.

3.3

Determination of the concentration of ozone is carried out according to the provisions ASTM D4575.

4 Test principle and application

4.1

rubber samples in a static state stretched or bent or placed under an atmosphere containing ozone aging test medium, its surface will be made on the role that factors such as ozone cracking. This is essentially the direction of the crack and the direction of the sample by the stress perpendicular to each other. Observation test Like surface cracking changes can be relatively resistant to evaluate the degree of aging of rubber.

4.2

As the relationship between the test results and determined the life and duplicate samples at different venues is not necessarily reproducible results Sex, so this standard does not apply to the procurement of technical documents. There is no clear correlation between laboratory test results and the actual usage Relations, this standard is mainly used for resistance to two or more rubber material aging cracking performance comparison.

5 A method --- rectangular specimens stretching device

5.1 Sample holder plate

Rectangular sample plates fixed to the static tensile specimens. Sample plate width 1 type specimen is 140mm, a length of about 380mm, thickness