



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

GB/T 5137.3-2020

**Test methods of safety glazing materials used on road vehicles
- Part 3: Radiation, high temperature, humidity, fire and
simulated weathering resistance tests**

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Foreword

GB/T 5137 "Test methods of safety glazing materials used on road vehicles" is divided into 5 parts.

- Part 1.Mechanical properties tests;
- Part 2.Optical properties tests;
- Part 3.Radiation, high temperature, humidity, fire and simulated weathering resistance tests;
- Part 4.Determination of solar characteristic;
- Part 5.Resistant-to-chemical and resistant-to-temperature changes test.

This Part is Part 3 of GB/T 5137.

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

This Part replaces GB/T 5137.3-2002 "Test methods of safety glazing materials used on road vehicles - Part 3.radiation, high temperature, humidity, fire and simulated weathering resistance tests". Compared with GB/T 5137.3-2002, in addition to editorial changes, the main technical changes of this Part are as follows.

- ADD terms and definitions (see Clause 3);

- Delete test application conditions (see Clause 4 of the 2002 edition);
- Delete the requirement that equivalent light sources can be used in radiation resistance test (see 5.2.1; 5.2.1 of the 2002 edition);
- ADD requirements for cutting test samples (see 5.3, 6.3, 7.3, 8.3, 9.3);
- Delete the expression of results of each test item; ADD the content related to the test process in the expression of results to the test procedure or to the sample requirements (see 5.4, 6.4, 7.4, 8.4, 9.4; 5.5, 6.3, 7.3, 8.3, 9.6 of the 2002 edition);
- ADD the requirement of the sample placement time before the test (see 5.4.1, 6.4.1, 7.4.1, 9.4.2.1);
- ADD the apparatus requirements for heat resistance test, humidity resistance test, and fire resistance test (see 6.2, 7.2, 8.2);
- ADD the treatment method of heat resistance test when overtemperature effect occurs (see 6.4.3);
- ADD test methods for rigid plastics (see 7.4, 9.4.2);
- ADD the sample size requirements for the fire resistance test (see 8.3);
- ADD the calculation and expression of the results of the fire resistance test (see 8.4);
- Modify the sample size of the simulated weathering resistance test (see 9.3;

9.3 of the 2002 edition);

- Delete the wear resistance requirements of the simulated weathering resistance test (see 9.5.2, 9.6 of the 2002 edition).

This Part uses the redraft law to modify and adopt ISO 3917.2016 "Road vehicles - Safety glazing materials - Test methods for resistance to radiation, high temperature, humidity, fire and simulated weathering".

Compared with ISO 3917.2016, this Part has a lot of adjustments in structure. Annex A lists the comparison table for clause-subclause number of this Part and ISO 3917.2016.

There are technical differences between this Part and ISO 3917.2016. The clauses involved in these differences have been marked by a vertical single line (|) at the blank of the outer margin. Annex B gives a table of the relevant technical differences and their causes.

This Part also makes the following editorial changes.

- CHANGE the standard name.

This Part was proposed by Ministry of Industry and Information Technology of the PRC.

This Part shall be under the jurisdiction of National Technical Committee of Auto Standardization (SAC/TC 114).

Drafting organizations of this Part. China Building Material Test & Certification Group Co., Ltd., Fuyao Glass Industry Group Co., Ltd., AGC Automotive (China) Co., Ltd., Jiangsu Tiemao Glass Co., Ltd., Dongguan Benson Automobile Glass Co., Ltd., Momentive Performance Materials (Shanghai) Trading Co., Ltd., Covestro Polymers (China) Co., Ltd., Shentong Technology Group Co., Ltd., Xinyi Auto Parts (Tianjin) Co., Ltd., Xinyi Automobile Parts (Wuhu) Co., Ltd., National Safety Glass and Quartz Glass Quality Supervision and Inspection Center.

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The previous editions of the standard replaced by this Part were released as follows.

- GB 5137.3-1985, GB/T 5137.3-1996, GB/T 5137.3-2002.

Test methods of safety glazing materials used on road vehicles - Part 3. Radiation, high temperature, humidity, fire and simulated weathering resistance tests

1 Scope

This Part of GB/T 5137 specifies the methods of radiation, heat, humidity, fire and simulated weathering resistance tests for safety glazing materials used on road vehicles.

This Part applies to the tests of safety glazing materials used on road vehicles.

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.

GB/T 5137.1 Test methods of safety glazing materials used on road vehicles
- Part 1. Mechanical properties tests (GB/T 5137.1-2020, ISO 3537.2015, MOD)

3 Terms and definitions

For the purposes of this document, the terms and definitions given in QC/T 1119 apply.

4 Test conditions

Unless otherwise specified, the test shall be conducted under the following environmental conditions.

5 Radiation resistance test

Ozone-free quartz tube type medium-pressure mercury vapor arc lamp. The axis of the lamp housing shall be vertical. The nominal size of the lamp is 360 mm long, 9.5 mm in diameter, 300 mm $\pm$ 14 mm in arc length. Its working power is 750 W $\pm$ 50 W.

The test uses a special flat test piece or a test piece cut from a flat part of the product as a sample. When cutting the test piece, if the product is safety glazing