

ICS 59.080.01
CCS W 04

SN

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

SN/T 5230-2019

**Test method for weather resistance of automobile leather
interior**
(English Translation)

Issued on: January 1, 1970

Implemented on: July 1, 2020

Issued by: General Administration of Customs

Table of Contents

Foreword
1 Scope
2 Normative references
3 Terms and definitions
4 Principle
5 Apparatus and equipment
5.1 Test chamber
5.2 UVA type fluorescent ultraviolet lamp
5.3 Wet system
5.4 Blackboard thermometer
5.5 Sample holder
6 Sample preparation
7 Test conditions
8 Test procedure
9 Performance measurement
10 Test results
11 Test report

Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

Please note that certain contents of this document may involve patents. Publication of this document the agency is not responsible for identifying these patents.

This standard was proposed and managed by the General Administration of Customs of the People's Republic of China.

Drafting organizations of this standard. Chengdu Customs of the People's Republic of China, Fuzhou Customs of the People's Republic of China, Natural Environment of Turpan, Xinjiang Experimental Research Center, Tianjin Customs of the People's Republic of China, Sichuan University.

1 Scope

This standard specifies the method of exposure test to fluorescent ultraviolet light source for leather, artificial leather and synthetic leather used in automotive interiors and before and after aging Determination of changes in performance.

This standard is applicable to weather resistance testing of various automotive interior leather, artificial leather and synthetic leather.

2 Normative references

The following documents are indispensable for the application of this document. For dated reference documents, only the dated version applies to this article Pieces. For undated reference documents, the latest version (including all amendments) is applicable to this document.

GB/T 250 Gray Sample Card for Textile Color Fastness Test to Evaluate Discoloration QB/T 2710 Determination of tensile strength and elongation of leather physical and mechanical test

3 Terms and definitions

The following terms and definitions apply to this document.

Fluorescent UV lamp

Fluorescent lamps that generate no less than 80% of the total light energy output in the ultraviolet region of the spectrum (such as below 400 nm).

Irradiance

The radiant flux per unit area of the specified wavelength range, in watts per square meter (W/m²).

Radiant energy

The time integral of irradiance in Joules per square meter (J/m²).

Spectral energy distribution the absolute or relative radiant energy emitted by a light source or received by an object is a function of wavelength.

Weather resistance

The material is exposed to certain climatic conditions (such as sunlight, rain, humidity, temperature and other factors), and its ability to resist performance deterioration.

4 Principle

The samples are subjected to a laboratory fluorescent UV lamp exposure test under controlled environmental conditions to compare the performance of the exposed samples with the original samples Variety.

5.1 Test chamber

The design of the test box can be different. It should be made of corrosion-resistant materials, equipped with fluorescent ultraviolet tubes, heated water trays, water spray or condensation.

Dew system, sample holder and device for controlling and displaying operating time and temperature.

5.2 UVA type fluorescent ultraviolet lamp

Fluorescent ultraviolet lamps whose radiation with a wavelength of less than 300 nm accounts for less than 2% of its total radiation has an emission peak at 343 nm, which is used to Simulate sunlight from 300 nm to 340 nm.

Note: UVA refers to ultraviolet radiation with a wavelength between 315 nm and 400 nm.

If the irradiance at any point in the exposure area is between 70% and 90% of the maximum irradiance in this area, the position of the sample needs to be adjusted.

Perform periodic rotation to ensure that the sample receives the same radiant energy.

5.3 Wet system

The humidity system is used to simulate condensation or rain under atmospheric conditions, which can be realized by condensation. Condensate water vapor formed by heating water the gas produces condensation on the test surface of the sample and makes all samples evenly wetted.

5.4 Blackboard thermometer

In the range of 25 °C ~ 80 °C, put the thermometer in the center of the exposure area, under the same test conditions as the sample, the temperature is transmitted the allowable deviation of the sensor is $\pm 1^{\circ}\text{C}$.

5.5 Sample holder

The sample holder should be made of corrosion-resistant materials, such as oxidation-resistant aluminum alloy or stainless steel. The exposure surface of the sample should be level with the plane formed by the tube.

Row. The effective exposure area of the sample rack shall meet the requirements of the sample size in the performance test method.

6 Sample preparation

The number and size of the samples should meet the requirements in the post-exposure performance test method. Sampling should be at least 5 cm from the edge of the sample.

Note: Due to the performance of the test sample after exposure, a large standard deviation will be generated. In order to avoid unforeseen circumstances (such as testing the force after exposure) when learning performance, the sample is prematurely broken or damaged, etc.), the recommended number of samples is twice the number specified in the relevant performance test method standards.

7 Test conditions

7.1

The ambient temperature of the test room should be within the range of 20 °C to 30 °C.

7.2

Environmental test conditions. use fluorescent ultraviolet lamp at 340 nm with an irradiance of 0.89 W/m² and the temperature of the blackboard is 70 °C Expose for 8 hours, and then condense at a blackboard temperature of 50 °C for 4 hours, which is a cycle. According to the characteristics of the sample and the final use environment, select Choose the appropriate number of cycles.

8 Test procedure

8.1

Install the sample on the sample holder so that the exposure surface of the sample faces the light source and ensure that the surface of the sample is flat.

8.2

To ensure consistent cycle conditions, the exposure area should be filled with samples. When the sample is not full, a blank sample holder should be used.

8.3

Before placing the sample in the test box, the test equipment should be adjusted and set up to meet the required test conditions and then the test should be started. The test should be kept in the whole Continue to run within a cycle.

8.4

During the sample exposure process, the irradiance should be monitored regularly to ensure that the sample is evenly exposed.