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**GB**

NATIONAL STANDARD OF THE  
PEOPLE'S REPUBLIC OF CHINA

ICS 59.140.30

CCS Y 46

**GB/T 40936-2021**

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**Leather - Physical and mechanical tests - Determination of  
water repellency of garment leather**

服装革防水性能的测定

(ISO 17231:2017, MOD)

**Issued on: October 11, 2021**

**Implemented on: May 1, 2022**

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**Issued by: State Administration for Market Regulation;  
Standardization Administration of PRC.**

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# Leather - Physical and mechanical tests - Determination of water repellency of garment leather

## 1 Scope

This document describes test methods for the water repellency of garment leather.

This document is applicable to the determination of the water repellency of various types of garment leather. It can be referred to in the determination of other types of leather.

## 2 Normative references

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) is applicable to this standard.

GB/T 6682 Water for analytical laboratory use -- Specification and test methods (GB/T 6682-2008, ISO 3696:1987, MOD)

GB/T 39364 Leather - Chemical, physical, mechanical and fastness tests - Sampling location (GB/T 39364-2020, ISO 2418:2017, MOD)

QB/T 2707 Leather -- Physical and mechanical tests -- Sample preparation and conditioning (QB/T 2707-2018, ISO 2419:2012, MOD)

## 3 Terms and definitions

The following terms and definitions apply to this document.

### 3.1 Spray rating

The degree of the water repellency of a leather surface.

## 4 Principles

Install the sample on the ring holder, and keep the holder at an angle of 45° with the horizontal; make the center of the sample be a certain distance below the nozzle. Use a

the outer ring and the inner ring. During the test, place the holder on a fixed base, and make it form an angle of  $(45.0\pm 2.5)^\circ$  with the horizontal; the center of the sample shall be located  $(150\pm 2)$  mm below the center of the metal nozzle's surface.

**5.5** The die knife shall meet the requirements of QB/T 2707, and the inner wall shall be a square with a side of  $(182\pm 2)$  mm.

**5.6** Balance shall be accurate to 0.001 g.

**5.7** The distilled water or the deionized water shall be in line with the provisions of the third-grade water in GB/T 6682.

**5.8** Filter paper or other equivalents shall be prepared.

## **6 Sampling and sample preparation**

### **6.1 Sampling**

Carry out in accordance with the provisions of GB/T 39364. If it is not possible to sample from standard parts (such as sampling directly from clothing), it shall be taken from any part of the sample's available surface. The samples shall be representative and indicated in the test report.

### **6.2 Preparation of samples**

Use a die knife to cut out 3 square samples with a side of  $(182\pm 2)$  mm; ensure that there are no holes, folds, creases, or other damages on the samples.

Note 1: When testing sheep leather with wool, in order to clamp the sample firmly, the wool can be sheared off.

Note 2: If there are more than 2 pieces of leather in the same batch to be tested, cut one sample from each piece of leather to be tested, and the total number of samples shall not be less than 3.

### **6.3 Samples' adjustment in the air**

Carry out in accordance with the provisions of QB/T 2707; weigh the sample after adjustment, and the mass shall be accurate to 0.001 g.

### **6.4 Test conditions**

The test shall be carried out at a temperature of  $(20\pm 2)$  °C or  $(23\pm 2)$  °C. There are no requirements for humidity.

$m_w$  --- The amount of water absorbed by the sample, in grams (g);

$m_2$  --- The mass of the sample after testing, in grams (g);

$m_1$  --- The initial mass of the sample, in grams (g).

Calculate the water absorption rate of the sample  $w$  according to formula (2); use the arithmetic mean of the three samples' water absorption rates as the result, and it shall be accurate to 0.1%.

$$w = \frac{m_w}{m_1} \times 100 \quad \dots\dots\dots ( 2 )$$

Where:

$w$  --- The sample's water absorption rate (%);

$m_w$  --- The amount of water absorbed by the sample calculated according to formula (1), in grams (g);

$m_1$  --- The initial mass of the sample, in grams (g).

## 9 Test report

The test report shall contain the following:

- a) The number of the document;
- b) The detailed information of the sample; if the sampling is inconsistent with GB/T 39364, explain the situation;
- c) The test conditions (standard atmosphere: 20 °C/65%, 23 °C/50% or 27 °C/65%);
- d) The spray rating of each sample (7.4);
- e) The wetting status of the back of the sample's test surface (7.5);
- f) The amount of water absorbed by the sample  $m_w$ ;
- g) The water absorption rate of the sample  $w$ ;
- h) Any deviation from the provisions of this method;
- i) Anomalies in the test.

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