



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

GB/T 22889-2021

**Leather - Physical and mechanical tests - Determination of
surface coating thickness**

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Foreword

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

This Standard replaces GB/T 22889-2008 "Leather - Physical and mechanical tests - Determination of surface coating thickness". Compared with GB/T 22889-2008, in addition to editorial changes, the main technical changes of this Standard are as follows:

- Modify the expression method of the results in the "Principle" (see Clause 3; Clause 3 of the 2008 edition);
- Modify and refine the requirements for microscopes (see 4.1; 4.1 of the

2008 edition);

- Add apparatus such as razor blade, grid, and coating unit (see 4.2~4.5);
- Delete apparatus such as scalpel, tissue slicer, and micrometer (see 4.2~4.4 of the 2008 edition);
- Modify and refine the sample preparation method (see 5.3; 5.3~5.4 of the

2008 edition);

- Add the optional method of measurement in the test procedure; refine the

test operations (see Clause 6; Clause 6 of the 2008 edition);

- Adjust the test report (see Clause 8; Clause 8 of the 2008 edition).

This Standard uses the redraft law to modify and adopt ISO 17186:2011

"Leather - Physical and mechanical tests - Determination of surface coating thickness".

Compared with ISO 17186:2011, the structural adjustments of this Standard are as follows:

- Divide 5.1 into "5.1 Sampling" and "5.2 Conditioning"; and change the following clause-subclause numbers in turn (see 5.1 and 5.2);

- Combine 5.2 and 5.3 into "5.3 Sample preparation" (see 5.3).

The technical differences between this Standard and ISO 17186:2011 and their reasons are as follows:

- As for the normative references, this Standard has made adjustments with technical differences, to adapt to the technical conditions of China. The adjustments are mainly reflected in Clause 2 "Normative references". The specific adjustments are as follows:

- ? Replace ISO 2418 with GB/T 39364, which modifies and adopts the international standard (see 5.1 and Clause 8);

- ? Replace ISO 2419 with QB/T 2707, which modifies and adopts the international standard (see 5.2);

- Add the optional tool of the blade, which is in line with the current status of the leather industry and broadens the choice of cutting tools (see 4.2);

- Add the requirements for sampling at non-standard locations, to meet the needs of daily testing (or sampling directly from shoes and clothing) (see 5.1);

- Modify the size requirements for sample preparation, which is in line with current industry habits, enhances operability, and does not affect the test results (see 5.3);

- Delete the description of the confidence interval in the measurement principle method A, so that the standard text is unified before and after (see

6.1.1 of ISO 17186:2011);

- Add the marking of the measuring points in Figure 1, to facilitate the understanding and use of the standard (see Figure 1);
- Add the requirement for the total distance of six equidistant measuring points in method A measurement, to enhance the accuracy of the results (see 6.2.1.5 and 6.2.2.4);
- Add the requirements for the accuracy of the calculation results, which is in line with China's habits and enhances the comparability of results between laboratories (see Clause 7).

For ease of use, this Standard has also made the following editorial changes:

- Adjust part of the content in "1 Scope" to the note of "3 Principle" (see Clause 3);
- Modify the description method of eyepieces with scale (see 4.1);
- Add a subclause title to "5 Sampling and sample preparation" (see Clause 5);
- Add the number of formulas (see 6.2.1.9 and Clause 7);
- Simplify the description of 6.2.2.8 and 6.3.3.8 (see 6.2.2.8 and 6.3.3.8);

Leather - Physical and mechanical tests -

Determination of surface coating thickness

1 Scope

This Standard specifies the test method for the surface coating thickness of leather.

This Standard applies to the determination of the surface coating thickness of all types of leather.

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 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 Principle

A section of leather is taken perpendicular to the coated surface. The thickness of the surface coating is measured using a microscope and expressed both as a thickness and as a percentage to the total thickness.

Note: This method measures the surface coating thickness of the leather under zero compression.

4.1 Light microscope or scanning electron microscope, capable of operating

within a field of view of 1 mmx1 mm or less and meeting any of the following conditions:

- Equipped with a camera image unit connected to a computer (with a

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