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GB/T 39368-2020

Leather - Physical and mechanical tests - Determination of flex resistance: Vamp flex method

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Foreword

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

This Standard uses the redrafting method to modify and adopt ISO 5402-2:2015, "Leather - Determination of flex resistance - Part 2: Vamp flex method".

Compared with ISO 5402-2:2015, this Standard makes the following technical modifications to adapt to the actual situation of China:

-- With regard to the normative references, this Standard makes technical adjustments to adapt to the technical conditions of China. The adjustments are concentrated in Chapter 2 "Normative references". The specific adjustments are as follows:

* Use GB/T 6682 which modifies and adopts international standards to replace ISO 3696 (see 4.4);

* Use GB/T 39364 which modifies and adopts international standards to replace ISO 2418 (see 5.1);

* Use QB/T 2707 which modifies and adopts international standards to replace ISO 2419 (see 4.2, 5.3.1, 6.5 and 6.9);

-- Modify the "Instance graph of wrinkles of the bending test sample" to an ink drawing [see Figure 2b)];

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-- Add instructions for sampling of non-standard parts (see 5.1);

-- Change paragraph 2 of 5.1 to the note to 5.2 (see 5.2);

-- Change paragraph 2 of 6.5 to the note to 6.5 (see 6.5);

-- Add specific adjustment time requirements after the completion of the wet test; add a note on the adjustment time (see 6.5 and 6.9);

-- Add a footnote to the explanation of "efflorescence" (see footnote).

This Standard also makes the following editorial or structural changes:

-- Change the standard name into "Leather - Physical and mechanical tests - Determination of flex resistance: Vamp flex method";

-- Divide 5.1 into "5.1 Sampling" and "5.2 Sample preparation"; add article titles;

Leather - Physical and mechanical tests -

Determination of flex resistance: Vamp flex method

1 Scope

This Standard specifies the determination method of flex resistance of dry or wet leather and leather coatings.

This Standard applies to the determination of flex resistance of various types of leather whose thickness is less than 3.0 mm.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only the dated version applies to this document. For undated references, the latest edition (including all amendments) applies to this document.

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

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and conditioning (QB/T 2707-2018, ISO 2419:2012, MOD)

3 Principle

Clamp the test surface of the sample on the reversed V-shaped fixture for a bending test; fold it outwards. The relative movement of the fixture causes the sample to bend, so as to form a downward wrinkle that is surrounded by 4 upward wrinkles; check the damage of the sample.

4.1 Flex resistance testing machine, which shall include the following components:

5.1 Sampling

Perform according to the provisions of GB/T 39364. If it is not possible to take samples from standard parts (such as direct sampling from leather products such as shoes), take samples from any part within the available area. The samples shall be representative and indicated in the test report.

5.2 Preparation of specimens

Use a die cutter (4.2) to respectively cut 4 specimens parallel to the back line and perpendicular to the back line from the test surface, two for dry test and two for wet test.

Note: If there are more than two samples in the same batch of products that need to be tested, cut at least two specimens in each direction of each sample, one for dry test, and one for wet test. The total number of specimens in each direction is not less than 4.

5.3.1 Dry test

Carry out the adjustment of specimens in accordance with the provisions of QB/T 2707; carry out the test in the standard atmosphere that is used for the adjustment.

5.3.2 Wet test

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Use about 1 mL of distilled water or deionized water to wipe the meat surface of the sample, to moisten the specimen. Re-wet the sample after every 25 000 times of bending; then, continue the bending test immediately.

6.1 Remove the upper part of the fixture (4.1.1); adjust each pair of fixtures to the maximum separation position.

6.2 Fold the specimen in half, with the test surface of the specimen facing up; install it on the V-shaped fixture; use the upper part of the fixture to fix the specimen; ensure that the sample is not slack. The direction of the back line of the two test samples is consistent with the direction of the moving axis of the fixture; the other two test samples are perpendicular to the direction of the back line and the moving axis of the fixture.

6.3 Slowly move each pair of fixtures closer; observe the specimen; ensure that the center of each specimen has an inward wrinkle (Figure 2). If not, press lightly on the center of the specimen when the fixtures are moved together, to form an inward wrinkle.

6.4 Run the instrument to the specified flex endurance times. The specified flex endurance times can be selected from the following times:

-- Dry test: 50 000, 100 000, 250 000, 500 000, 1 000 000 times;

-- Wet test: 50 000, 100 000 times.

Besides, based on the above-mentioned flex resistance times, take the wet sample out after every 25 000 times, to check the " efflorescence"1); then, wet it again; reinstall the machine to continue the test.

Note: If necessary, other specified flex resistance times can also be used.

6.5 Stop the testing machine and take out the specimen. In good light, inspect the sample with the naked eye and a magnifying glass (4.3). The sample shall be inspected both in the flat and folded state. Record any damage to the flexed part, ignoring the part that is clamped by the fixture. If it is necessary to observe

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