

ICS 59.140.30



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

GB/T 22890.1-2024

**Leather - Determination of water resistance of flexible leather -
Part 1: Repeated linear compression(penetrometer)
(English Translation)**

Issued on: March 15, 2024

Implemented on: October 1, 2024

Issued by: State Administration for Market Regulation

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Foreword

This document was drafted in accordance with the rules provided in GB/T 1.1-2020 Directives

for Standardization - Part 1.Rules for the Structure and Drafting of Standardizing Documents.

This is Part 1 of GB/T 22890 Leather - Determination of Water Resistance of Flexible Leather.

GB/T 22890 has issued the following parts.

---Part 1.Repeated linear compression (penetrometer);

---Part 2.Repeated angular compression (Maeser).

This document serves as a replacement for GB/T 22890-2008 Leather - Physical and Mechanical Tests - Determination of Water Resistance of Flexible Leather. In comparison with

GB/T 22890-2008, apart from structural adjustments and editorial modifications, the main technical changes are as follows.

---The principle is refined (see Chapter 4; Chapter 3 of Version 2008);

- "circuit system (optional component)" is added to the test machine (see 5.1);
- The provisions for sampling at non-standard locations are added (see 6.1);
- The provisions for sampling when the direction of the ridge line cannot be identified are added (see 6.2);
- The air conditioning time of specimen is modified, and the description of the test conditions is added (see 6.3; 5.3 of Version 2008);
- The provisions for the value-taking method and accuracy of water absorption and water permeability test results are added (see 8.2 and 8.3).

This document modifies and adopts ISO 5403-1.2011 Leather - Determination of Water Resistance of Flexible Leather - Part 1.Repeated Linear Compression (penetrometer).

In comparison with ISO 5403-1.2011, this document makes the following structural adjustments.

- "3 Terms and Definitions" is added, and the subsequent chapter numbers are postponed in sequence;
- The second paragraph of 5.1 is modified into "6.2 Preparation of Specimens";
- 5.3 ~ 5.5 are merged into "6.3 Conditioning and Weighing of Specimens".

The technical differences between this document and ISO 5403-1.2011, and the causes for these

differences are as follows.

Leather - Determination of Water Resistance of Flexible
Leather - Part 1.Repeated Linear Compression
(penetrometer)

1 Scope

This document describes a test method for the determination of the dynamic waterproof performance of leather through repeated linear compression.

This document is applicable to the determination of the waterproof performance of various types of soft leather (especially soft leather for shoes).

2 Normative References

The contents of the following documents constitute indispensable clauses of this document through the normative references in the text. In terms of references with a specified date, only

versions with a specified date are applicable to this document. In terms of references without a

specified date, the latest version (including all the modifications) is applicable 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 and Conditioning

(QB/T 2707-2018, ISO 2419.2012, MOD)

3 Terms and Definitions

This document does not have terms or definitions that need to be defined.

4 Principle

Form the specimen into a groove shape and partially immerse it in water, then bend it, and measure the time required for water to permeate the leather specimen. This test can also determine the water absorption rate of the specimen (by mass fraction) and the water permeability of the specimen (by mass).

NOTE: this method adopts compression bend, while GB/T 22890.2 uses folding bend. Since the two test methods belong to different bending types, there is no comparability between the

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