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

GB/T 4689.21-2008

**Leather -- Physical and mechanical tests -- Determination of the
static absorption of water**

(English Translation)

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1 Scope

This Standard specifies the determination method for leather in the static absorption of water.

This Standard is applicable to various types of leather.

2 Normative References

Through the reference in this Standard, the clauses of the following documents become clauses of this Standard. In terms of references with a specified date, all the subsequent modification sheets (excluding the corrected content) or revised versions are not applicable to this Standard. However, the various parties that reach an agreement in accordance with this Standard are encouraged to explore the possibility of adopting the latest version of these documents. In terms of references without a specified date, the latest version is applicable to this Standard.

GB/T 6682-1992 Water for Laboratory Use - Specification and Test Methods (neq ISO 3696:1987)

QB/T 2706 Leather - Chemical, Physical and Mechanical and Fastness Tests - Sampling Location (QB/T 2706-2005, ISO 2418:2002, MOD)

QB/T 2707 Leather - Physical and Mechanical Tests - Sample Preparation and Conditioning (QB/T 2707-2005, ISO 2419:2002, MOD)

QB/T 2715 Leather - Physical and Mechanical Tests - Determination of Apparent

Density (QB/T 2715-2005, ISO 2420:2002, MOD)

3 Principle

Immerse a specimen of a certain mass and a certain volume in water; let it stand for a specified time, then, determine the water absorption of the specimen.

4 Instruments

4.1

Kubelka, made of glass (see Figure 1), with a minimum scale of 0.1 mL and an accuracy of ± 0.05 mL. The total volume of the spherical part (A) and the graduated

6 Procedures

6.1

Clean the kubelka (4.1); ensure that it is clean and free of grease. Use the distilled water or deionized water (4.5) to wet the inner surface of the kubelka; pour out the excess water.

6.2

Place Part A of the kubelka at the bottom and Part B upwards; add the distilled water or deionized water (4.5), which is at $20\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$ or $23\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$. Maintain the liquid level between 0 mL and 1 mL of the scale; record the scale reading.

6.3

Place the specimen into Part B of the kubelka; tilt the kubelka, so that the distilled water slowly flows into Part B, so as to completely immerse the specimen. Place the kubelka on a horizontal surface; use the rubber stopper C to cover the mouth, so as to prevent the evaporation of water.

6.4

After the specimen is immersed for the specified time (see NOTE 1 of 6.5), lift up

Part B, so that the water flows into Part A. 1 min after the water-flowing is finished, read the scale of water; calculate the water absorption.

6.5

If it is required to determine the water absorption at intervals, then, promptly lay the kubelka flatwise, so that the water flows back to Part B of the cylinder. Re-immerses the specimen, then, repeat the operation of 6.4.

NOTE 1: for most tests, it is sufficient to determine the water absorption in two time periods.

If possible, the determination may be carried out in accordance with the following time periods: 15 min ± 0.2 min, 30 min ± 0.2 min, 60 min ± 0.2 min, 120 min $\pm$

0.2 min, $24\text{ h} \pm 0.1\text{ h}$.

NOTE 2: the 1 min of water control after the water flows from Part B into Part A cannot be counted as the time of water absorption of the specimen in the previous time period, but it shall be regarded as the water absorption time in the next time period. For example: in the determination of water absorption of the same specimen in 15 min and 60 min, the start time is recorded as "0", and the subsequent operation time is:

---15 min, start water draining (the water flows from Part B into Part A);

---16 min, read the scale of water; make the water flow back again to immerse the specimen;

---60 min, start draining (the water flows from Part B into Part A);

---61 min, read the scale of water.

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