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**LIGHT INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

QB/T 2888-2007

**Polyurethane fascicular microfibre synthetic leather
(English Translation)**

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1 Scope

This standard specifies the classification, requirements, test methods, inspection rules, signs, packaging, transportation and storage of polyurethane fascicular microfiber synthetic leather.

This standard applies to synthetic leather, which has fascicular microfiber structure, as made of sea-island composite fiber nonwoven fabric, through polyurethane resin wet coagulation, solvent extraction, finishing process.

2 Normative references

The provisions in following documents become the provisions of this Standard through reference in this Standard. For the dated references, the subsequent amendments (excluding corrections) or revisions do not apply to this Standard; however, parties who reach an agreement based on this Standard are encouraged to study if the latest versions of these documents are applicable. For undated references, the latest edition of the referenced document applies.

GB/T 250-1995 Grey scale for assessing change in colour (eqv ISO 105/A02-1993)

GB/T 251-1995 Grey scale for assessing staining (eqv ISO 105/A03-1993)

GB/T 2828.1-2003 Sampling procedures for inspection by attributes - Part 1:

Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection (IDT)

ISO 2859-1:1999)

GB/T 2918-1998 Plastics - Standard atmospheres for conditioning and testing

GB/T 3920-1997 Textiles - Tests for colour fastness - Colour fastness to rubbing (eqv ISO 105-X12:1993)

GB/T 4689.21-1996 Leather - Determination of absorption of water (eqv ISO 2417:1972)

GB/T 4744-1997 Textile fabrics - Determination of resistance to water penetration - Hydrostatic pressure test (eqv ISO 811:1981)

GB/T 8949-1995 Polyurethane dry-processing artificial leather

GB/T 11547-1989 Plastics - Determination of the effects of liquid chemicals,

5.3.3 Length

Use a measuring tool, which has an accuracy of 1 cm, to measure the length of each roll, accurate to 1 cm.

5.4 Appearance

Carry out visual inspection under natural light. The color difference shall be carried out, according to the provisions of GB/T 250-1995.

5.5 Determination of apparent density

5.5.1

Cut 3 pieces of specimen. Measure the thickness of 4 points, along the periphery of each piece. Take the average value, accurate to 0.01 mm.

5.5.2

Weigh the mass of the specimen, accurate to 0.1 mg.

5.5.3

The results are calculated according to formula (1). Take the arithmetic mean of the test results of three specimens, with an accuracy of 0.01 g/cm³.

Where:

ρ - The apparent density, in grams per cubic centimeter (g/cm³);

m - The mass of specimen, in grams (g);

A - The area of specimen, in square millimeters (mm²);

b - The thickness of specimen, in millimeters (mm).

5.6 Tensile load and elongation at break

Make measurements, according to the provisions of QB/T 2710-2005. Test speed is (100 ± 10) mm/min. Record the maximum load during stretching. Take the arithmetic mean of the test results of three specimens, accurate to 1 N.

5.7 Tear load

5.7.1

The tensile testing machine shall meet the requirements of QB/T 2710-2005. Self-tightening clamps are available.

5.7.2

Test procedure

Cut 3 specimens of 100 mm x 5 mm along the longitudinal and lateral directions, respectively. Cut the specimen from the center of the short side of each specimen, along the direction parallel to the long side; the cut length is 70 mm.

Clamp the two cut ends on the tensile testing machine in opposite directions. Carry out the test, at a tensile speed of (100 ± 10) mm/min. Record the maximum load when the specimen is torn.

5.7.3

The test results are represented by the arithmetic mean of the test results of each group of specimens, accurate to 1 N.

5.8 Peeling load

The peeling load shall be tested, according to the provisions in 5.9 of GB/T 8949-1995.

The size of the specimen is 100 mm x 20 mm; the bonding length is 70 mm; the adhesive can be polyurethane resin; the specimen shall be firmly bonded; the drying temperature shall be such that the adhesive can be dried. The specimen is peeled off about 20 mm; the speed of the stretching machine is (100 ± 10) mm/min.

5.9 Burst

The bursting test shall be carried out according to the provisions of QB/T 2712-2005.

When the specimen is placed, the surface layer is upward; the base layer is in contact with the steel ball. Record the load, when the specimen is stretched to a height of 7.0 mm.

5.10 Folding fastness

The folding fastness is tested, according to the provisions of QB/T 2714-2005. Cut two groups of specimens, along the lateral direction, each group has 2 pieces. The surface layer of the specimens is folded inward. The two groups of specimens are folded, for

200000 times at $(23 \pm 2) ^\circ\text{C}$ and 25000 times $(-10 \pm 1) ^\circ\text{C}$, respectively. Then observe the changes of the outer and inner parts of the folded part.

5.11.1 Method

The test bench of the rubbing testing machine is a semi-circular plate, which has a radius of 20 cm. The rubbing element is a curved surface, which has a surface radius of 45 mm; the test load is 1.96 N; the reciprocating speed is 30 times/min; the number of rubbings is 100. It is respectively expressed in the lowest level of the test results of each group of specimens.

5.11.2 Dry rubbing

Cut 2 specimens of 220 mm x 25 mm. Conduct the test according to 5.11.1. Judge the grade according to GB/T 251-1995.

5.11.3 Wet rubbing

After immersing the white cotton cloth in distilled water for 10 minutes, the water content shall be carried out according to the provisions of GB/T 3920-1997; the test

P - Moisture permeability, in milligrams per square centimeter per hour ($\text{mg}/\text{cm}^2\cdot\text{h}$);

m0 - The mass of the first weighing cup and specimen, in milligrams (mg);

m1 - The mass of the second weighing cup and specimen, in milligrams (mg);

m2 - The mass of the third weighing cup and specimen, in milligrams (mg);

m3 - The mass of the fourth weighing cup and specimen, in milligrams (mg);

A - The moisture permeability area of the specimen, in square centimeters (cm^2).

5.13 Water absorption

5.13.1

Water absorption shall be measured according to GB/T 4689.21-1996.