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**General technical requirements for polyurethane synthetic
leather used for vehicle**

汽车用聚氨酯合成革通用技术条件

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General technical requirements for polyurethane synthetic leather used for vehicle

1 Scope

This Standard specifies general technical requirements, test methods and inspection rules for polyurethane synthetic leather used for vehicle.

This Standard is applicable to polyurethane synthetic leather for vehicle made of cloth base, polyurethane resin as the main raw materials, through wet or dry polyurethane coating and post-processing.

2 Normative references

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

GB/T 250-2008, *Textiles - Tests for colour fastness - Grey scale for assessing change in colour*

GB/T 2912.1-2009, *Textiles - Determination of formaldehyde - Part 1: Free and hydrolyzed formaldehyde (water extraction method)*

GB/T 2918-2018, *Plastics - Standard atmospheres for conditioning and testing*

GB 8410, *Flammability of automotive interior materials*

GB/T 16578.1-2008, *Plastics - Film and sheeting - Determination of tear resistance - Part 1: Trouser tear method*

GB/T 19942-2019, *Leather and fur - Chemical tests - Determination of banned azo colourants*

GB/T 38465-2020, *Test method of artificial leather and synthetic leather - Determination of cold resistance*

GB/T 38612-2020, *Test method of artificial leather and synthetic leather - Determination of tensile load and elongation at break*

QB/T 2537-2001, *Leather - Tests for colour fastness - Colour fastness to cycles of to-and-fro rubbing*

QB/T 2714-2018, *Leather - Physical and mechanical tests - Determination of flex resistance*

QB/T 2726-2005, *Leather - Physical and mechanical tests - Determination of abrasion resistance*

QB/T 4043-2010, *Polyvinyl chloride artificial leather for automotive*

QB/T 4671-2014, *Test Method for Synthetic Leather/Artificial Leather - Resistance to Hydrolysis*

QB/T 4873-2015, *Test methods of artificial leather and synthetic leather - Exposure to laboratory light sources*

QB/T 5068-2017, *Test method of artificial leather and synthetic leather - Test of fogging*

QB/T 5157-2017, *Test method of artificial leather and synthetic leather - Test of color migration*

QB/T 5354-2018, *Test method of artificial leather and synthetic leather - Determination of volatile organic compounds*

QB/T 5447-2019, *Test method of artificial leather and synthetic leather - Determination of odor*

QC/T 941-2013, *Test Method for Mercury in Automobile Materials*

QC/T 942-2013, *Test Method for Hexavalent Chromium in Automobile Materials*

QC/T 943-2013, *Test Method for Lead and Cadmium in Automobile Materials*

QC/T 944-2013, *Test Method for Poly-Brominated Biphenyls (PBBs) and Poly - Brominated Diphenyl Ethers (PBDEs) in Automobile Materials*

3 Terms and definitions

There are no terms and definitions that need to be defined in this Standard.

4 Technical requirements

The physical and chemical properties shall meet the requirements of Table 1.

Carry out the test according to the provisions of method A in GB/T 38465-2020.

5.9 Chemical resistance

Carry out according to the provisions of 6.29 in QB/T 4043-2010.

5.10 Lightfastness

Carry out the test according to the provisions of test method A in QB/T 4873-2015. Select A2 for the test conditions.

5.11 Heat aging resistance

Carry out according to the provisions of 6.24 in QB/T 4043-2010. The oven temperature is $100^{\circ}\text{C}\pm 2^{\circ}\text{C}$. Test time is 168h. After the test, take out the specimen and make the following judgments:

Observe the surface change of the specimen. According to the provisions of GB/T 250-2008, visually determine the level of discoloration and fading under a standard light source. Take the most severe surface discoloration as the test result.

5.12 Surface color migration

Carry out the test according to the provisions of method A in QB/T 5157-2017.

5.13 Color fastness to rubbing

Carry out the test according to the provisions of QB/T 2537-2001.

5.14 Flame retardancy

Test according to the provisions of GB 8410.

5.15 Atomization value

Carry out the test according to the provisions of method B in QB/T 5068-2017.

5.16 Odor

Carry out the test according to the provisions of condition 4 in Table 1 of QB/T 5447-2019.

5.17 Free and hydrolyzed formaldehyde

Carry out the test according to the provisions of GB/T 2912.1-2009.

5.18 Decomposable aromatic amine dyes

Carry out the test according to GB/T 19942-2019.

5.19 Heavy metal

5.19.1 Hexavalent chromium

Carry out the test according to the provisions of QC/T 942-2013.

5.19.2 Lead

Carry out the test according to the provisions of QC/T 943-2013.

5.19.3 Cadmium

Carry out the test according to the provisions of QC/T 943-2013.

5.19.4 HG

Carry out the test according to the provisions of QC/T 941-2013.

5.20 Polybrominated biphenyls and polybrominated diphenyl ethers

Carry out the test according to the provisions of QC/T 944-2013.

5.21 Volatile organic compounds

Carry out the test according to the provisions of QB/T 5354-2018.

6 Inspection rules

6.1 Batch

Products are accepted in batches. Products that are continuously produced with the same raw material, the same formula, the same category, the same specification, and the same process are a batch. The quantity of each batch shall not exceed 500 rolls.

6.2 Sampling method

Randomly select 1 sample from each batch.

6.3 Determination rules

If there are failed items in the inspection results, double samples shall be taken from the batch to reinspect the failed items. If it still fails, the batch is rejected.

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