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**Plastics - Acrylonitrile-butadiene-styrene (ABS)
compound for automobile**

塑料 汽车用丙烯腈-丁二烯-苯乙烯（ABS）专用料

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Plastics - Acrylonitrile-butadiene-styrene (ABS)

compound for automobile

1 Scope

This Standard specifies the classification and naming, technical requirements, test methods, inspection rules, markings and accompanying documents, packaging, transportation and storage of acrylonitrile-butadiene-styrene (ABS) compound for automobile.

This Standard applies to melt-blending ABS compounds for automotive interior parts, exterior parts and functional parts, of which, ABS is the base, heat-resistant agent and/or other additives are added.

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 250-2008, Textiles. Tests for colour fastness. Grey scale for assessing change in colour

GB/T 1033.1-2008, Plastics. Methods for determining the density of non-cellular plastics. Part 1: Immersion method, liquid pycnometer method and titration method

GB/T 1040.2-2006, Plastic. Determination of tensile properties. Part 2: Test conditions for moulding and extrusion plastic

GB/T 1633-2000, Plastics. Thermoplastic materials. Determination of Vicat softening temperature (VST)

GB/T 1843-2008, Plastics. Determination of Izod impact strength

GB/T 2547-2008, Plastic resins. Sampling

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

GB/T 3682.1-2018, Plastics. Determination of the melt mass-flow rate (MFR) and melt volume-flow rate (MVR) of thermoplastics. Part 1: Standard method

5.3 Particle appearance

Perform according to the provisions of SH/T 1541-2006.

5.4 Density

The sample is the middle portion of the type-1A injection molding sample that is prepared in accordance with 5.1.

The conditioning of the sample is carried out in accordance with 5.2.

The test shall be carried out in accordance with the provisions of method A of GB/T 1033.1-2008.

5.5 Melt mass flow rate

The test shall be carried out in accordance with the provisions of method A of GB/T 3682.1-2018. The test condition is U (temperature: 220°C, load: 10 kg). Before the test, the sample shall be dried at $(80 \pm 3)^{\circ}\text{C}$ for 2 h.

5.6 Tensile yield stress

The sample is the type-1A sample that is prepared in accordance with 5.1.

The conditioning of the sample is carried out in accordance with 5.2.

The test is carried out according to GB/T 1040.2-2006; it uses type-1A sample; the test speed is 50 mm/min.

5.7 Bending strength and flexural modulus

The sample is an 80 mm × 10 mm × 4 mm strip sample that is prepared in accordance with 5.1.

The conditioning of the sample is carried out in accordance with 5.2.

The test is carried out according to the provisions of GB/T 9341-2008; the test speed is 2 mm/min.

5.8 Izod notched impact strength

The sample is an 80 mm × 10 mm × 4 mm strip sample that is prepared in accordance with the provisions of 5.1. The notch of the spline shall be processed within 1h ~ 4h after injection molding; the notch type is type-A in GB/T 1843-2008. The spline, of which the notch is processed, is the sample of the Izod notched impact strength.

The conditioning of the sample is carried out in accordance with 5.2.

The sample is an injection molding sample, of which the diameter is (80 ± 2) mm (the thickness does not exceed 10 mm), that is prepared in accordance with 5.1.

The conditioning of the sample is carried out in accordance with 5.2.

The test is carried out in accordance with the provisions of ISO 6452:2007; it uses a method of determining the condensed component mass. The test temperature is $(100 \pm 0.5)^{\circ}\text{C}$; the heating time is (16 ± 0.1) h.

6 Inspection rules

6.1 Inspection classification

The inspection of ABS compounds for automobile can be divided into two types: type inspection and factory inspection.

6.2 Inspection items

All items in Chapter 4 are type inspection items. In any of the following cases, type inspection shall be carried out:

- a) when the new product is tested and certified;
- b) after formal production, if there is a major change in raw materials or processes, which may affect product performance;
- c) when the production is resumed after the production unit is overhauled;
- d) when the factory inspection result is significantly different from the previous type inspection result;
- e) when the superior quality supervision institution proposes a requirement to carry out type inspection.

The factory inspection of ABS compounds for automobile shall include at least density, melt mass flow rate, Izod notched impact strength, and Vicat softening temperature.

6.3 Batch rules

The ABS compounds for automobiles are batched with the products of the same designation which are produced by the same production line, the same raw materials, and the same process. The production factory can also batch the products according to a certain production cycle or storage silo. Products are inspected and accepted in batches.

6.4 Sampling plan

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