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GB/T 12672-2025

Replacing GB/T 12672-2009

Acrylonitrile-Butadiene-Styrene (ABS) Resin

丙烯腈-丁二烯-苯　烯（ABS）树脂

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Foreword

This document was drafted in accordance with the provisions of GB/T 1.1-2020 Directives for standardization - Part 1: Rules for the structure and drafting of standardizing documents.

This document serves as a replacement of GB/T 12672-2009 Acrylonitrile-butadiene-styrene (ABS) resin. In comparison with GB/T 12672-2009, apart from structural adjustments and editorial modifications, the main technical changes are as follows:

c) Other technical requirements for ABS resin have been changed (see Table 1; Table 1 of the 2009 Edition);

Please note that certain contents of this document may involve patents. The institution issuing this document assumes no responsibility for identifying such patents.

This document was proposed by China Petroleum and Chemical Industry Federation.

This document shall be under the jurisdiction of National Technical Committee 15 on Plastics of Standardization Administration of China (SAC/TC 15).

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This document was firstly issued in 1990, and firstly revised in 2009. This is the second revision.

1 Scope

This document specifies the classification and designation, requirements, inspection rules, marking and accompanying documentation, packaging, transportation and storage of acrylonitrile-butadiene-styrene (ABS) resin (hereinafter referred to as the “ABS resin”), and describes the corresponding test methods.

This document is applicable to acrylonitrile-butadiene-styrene materials, primarily composed of styrene (and/or substituted styrene) and acrylonitrile copolymers as the

continuous phase, and polybutadiene and other components in specified quantities as the dispersed phase.

This document is not applicable to flame-retardant, reinforced, or otherwise modified ABS resins.

2 Normative References

The contents of the following documents constitute indispensable clauses of this document through 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.

3 Terms and Definitions

This document contains no terms or definitions that require clarification.

4 Classification and Designation

The classification and designation of ABS resin shall comply with the provisions of GB/T 20417.1.

5 Requirements

5.1 For ABS resin with food safety requirements, it shall comply with the provisions of GB 4806.7.

5.2 ABS resin shall be natural-colored granules, free of impurities.

5.3 Other technical requirements for ABS resin shall comply with the provisions of Table 1.

a For the designation of product grades only.

6 Test Methods

6.1 Preparation of Injection Moulded Test Specimens

Prepare the injection moulded test specimens of ABS resin according to the provisions of GB/T 20417.2. Before moulding, spread the ABS resin material in an enamel tray to a thickness of less than 3 cm, then place it in a blast drying oven and dry at a temperature of 80°C±5°C for at least 2 h. Test specimens shall be prepared using GB/ISO moulds conforming to GB/T 17037.1. Unless otherwise specified, the test specimen type and dimensions shall conform to the following: a) Tests of the tensile modulus of elasticity and tensile yield stress: Type A1 multipurpose test specimens conforming to GB/T 37426;

6.3 Granular Appearance

The test shall be conducted according to the provisions of SH/T 1541.1.

6.4 Melt Mass-flow Rate

6.7 Charpy Notched Impact Strength

Notches shall be machined within 1 h to 4 h after injection moulding of test specimens, using the Type A notches specified in GB/T 1043.1.

The Charpy notched impact strength shall be determined according to GB/T 1043.1.

6.8 Vicat Softening Temperature

The Vicat softening temperature shall be determined according to GB/T 1633, using the B50 method (using a force of 50 N and a heating rate of 50°C/h).

6.9 Rockwell Hardness

The Rockwell hardness shall be determined according to GB/T 3398.2, using an R scale.

6.10 Yellowness Index

The tristimulus values of the test specimens shall be measured using the reflection method. The measuring instrument is an optical geometry of di:8 with an aperture of 25.4 mm, including specular light. The tristimulus values are expressed using the CIE standard D65 light source, in the X10Y10Z10 color system (10° field of view). Three test specimens are stacked on the integrating sphere reflector, with the center lines of the test specimens and the measurement window aligned.

6.11 Moulding Shrinkage

7 Inspection Rules

7.1 Inspection Classification and Inspection Items

7.2 Batching Rules and Sampling Protocol

7.2.1 Batching rules

ABS resin products of the same grade, produced on the same production line using the same raw materials and through the same process, are batched.

7.2.2 Sampling protocol

Production inspection can be conducted by sampling at the silo sampling port, or a specific sampling protocol can be determined based on the actual situation, such as the production