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PEOPLE'S REPUBLIC OF CHINA**

GB/T 32456-2025

Replacing GB/T 32456-2015

**General technical specification for energy saving heating
system of rubber and plastics machines**

橡胶塑料机械用节能型加热系统通用技术规范

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document replaces GB/T 32456-2015 "General Technical Requirements for Electromagnetic Heating Energy Saving Systems for Rubber and Plastic Machinery" and is compatible with GB/T 32456- Compared with 2015, in addition to structural adjustments and editorial changes, the main technical changes are as follows.

- Changed the scope (see Chapter 1, Chapter 1 of the 2015 edition);
- Added energy-saving heating system, far-infrared heating system, quartz high-conductivity heating system and traditional heating system for rubber and plastic machinery System terms and definitions (see 3.1, 3.4, 3.5, 3.6);
- Changed the terms and definitions of electromagnetic heating energy-saving system and soft start (see 3.2, 3.3, 3.1, 3.5 of the 2015 edition);
- Deleted the terms and definitions of electromagnetic heater, electromagnetic heating controller, heating component and system specific energy consumption (see the 2015 edition 3.2, 3.3, 3.4, 3.6);
- Changed the composition of the device (see Chapter 4, Chapter 4 of the 2015 edition);
- Added general requirements (see 5.1);
- Added technical requirements for energy saving rate of energy-saving heating system compared with traditional heating system (see 5.2.1);
- Deleted the technical condition that the system should work reliably according to the set program within the design process parameter range (see 2015 edition 5.1.1);
- Added technical requirements for heating rated power deviation of energy-saving heating system (see 5.2.2);
- Deleted the technical requirement that when there are multiple heaters, the temperature of each heater can be set separately (see 5.1.2 of the 2015 edition);
- Deleted the technical requirements for the deviation between the set heating temperature and the actual temperature after stabilization (see 5.1.3 of the 2015 edition);
- Changed the technical requirement that there should be no abnormal conditions between each energy-saving heater (see 5.2.3, 5.1.5 of the 2015 edition);
- Changed the technical requirements for soft start of energy-saving heating systems (see 5.2.4, 5.1.4 of the 2015 edition);

- Changed the technical requirements for sound and light alarms when electromagnetic heaters fail (see 5.2.5, 5.1.6 of the 2015 edition);
- Deleted the technical requirements for system specific energy consumption (see 5.1.7 of the 2015 edition);
- Changed the technical requirements for the maximum temperature limit of electromagnetic heating induction coils and connecting wires (see 5.2.6, 2015 edition 5.1.8);
- Changed the technical requirements for the maximum temperature limit of the materials used for the insulation layer of energy-saving heating systems (see 5.2.7, 2015 edition 5.1.9);
- Changed the safety requirements for insulation resistance (see 5.3.2, 5.2.2 of the 2015 edition);
- Added safety requirements for leakage current in working state (see 5.3.3);
- Changed the safety requirements for withstand voltage between conductors and protective grounding (see 5.3.4, 5.2.3 of the 2015 edition);
- Deleted the temperature limit of the outer surface of the electromagnetic heater (see 5.2.4 of the 2015 edition);
- Deleted the safety requirements for emission of harassment (see 5.2.5 of the 2015 edition);
- Added safety requirements for posting heat hazard warning signs on easily accessible external surfaces of energy-saving heating systems after installation (see 5.3.5);
- Changed the safety requirements for magnetic induction intensity and electric field intensity (see 5.3.7, 5.2.7 of the 2015 edition);
- Added the safety requirement that energy-saving heating systems should be equipped with protective covers (see 5.3.8);
- Added safety requirements for the protection level of the wiring terminals of energy-saving heating systems (see 5.3.9);
- Deleted the impact test requirements in the mechanical environmental adaptability (see 5.3.1.2 of the 2015 edition);
- Changed the appearance quality requirements (see 5.5, 5.4 of the 2015 edition);
- Added the test methods for general requirements (see 6.1);
- Added the detection method of energy saving rate of energy-saving heating system compared with traditional heating system (see 6.2.1);

- Deleted the system action correctness detection method (see 6.1.1 of the 2015 version);
- Added the detection method of heating rated power deviation of energy-saving heating system (see 6.2.2);
- Deleted the function test method for setting the temperature of each electromagnetic heater in the system (see 6.1.2 of the 2015 edition);
- Deleted the detection method of allowable deviation of system heating temperature (see 6.1.3 of the 2015 edition);
- Changed the detection method of no abnormal conditions between energy-saving heaters (see 6.2.3, 6.1.5 of the 2015 edition);
- Changed the detection method of soft start of energy-saving heating system (see 6.2.4, 6.1.4 of the 2015 edition);
- Changed the detection method when electromagnetic heater fails to alarm (see 6.2.5, 6.1.6 of the 2015 edition);
- Deleted the detection method of system specific energy consumption (see 6.1.7 of the 2015 edition);
- Changed the safety requirement test method for insulation resistance (see 6.3.2, 6.2.2 of the 2015 edition);
- Added the safety requirement detection method for leakage current under working condition (see 6.3.3);
- Changed the safety requirement test method for withstand voltage between conductor and protective ground (see 6.3.4, 6.2.3 of the 2015 edition);
- Deleted the temperature limit of the outer surface of the electromagnetic heater (see 6.2.4 of the 2015 edition);
- Deleted the safety requirements for emission of harassment (see 6.2.5 of the 2015 edition);
- Added the safety requirements and test methods for posting heat hazard warning signs on easily accessible external surfaces of energy-saving heating systems after installation (see 6.3.5);
- Changed the detection methods of magnetic induction intensity and electric field intensity (see 6.3.7, 6.2.7 of the 2015 edition);
- Added the safety requirement test method that energy-saving heating systems should be equipped with protective covers (see 6.3.8);
- Added the safety requirements test method for the protection level of the wiring terminals of energy-saving heating systems (see 6.3.9);