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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 35612-2024

Replacing GB/T 35612-2017

Green product assessment - Wood-plastic composites

绿色产品评价 木塑制品

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Foreword Foreword

The document is drafted in accordance with the rules given in GB/T 1.1-2020, Directives for standardization-Part 1: Rules for the structure and drafting of standardizing documents.

It replaces GB/T 35612-2017, Green product assessment-Wood-plastic composites. Apart from structural adjustments and editorial changes, the main technical changes are: the definition of green wood-plastic products has been changed (3.1, against 3.1 of the 2017 edition); the basic requirements have been changed (4.1.4 and 4.1.6 to 4.1.7, against 4.1.1 to 4.1.3 of the 2017 edition); a classification of the benchmark values of the assessment indicators has been added, together with the environmental attribute of whether a wastewater treatment installation is present, the quality attributes of the migration limits for harmful elements, of the mould resistance and of the durability of the mould resistance, and the low-carbon attribute (Table 1); the benchmark values for the addition rate of recycled raw materials under the resource attributes, for the environmental performance of the packaging and for the flame retardant under the quality attributes have been changed (Table 1, against Table 1 of the 2017 edition); the heavy metals of the substrate or co-extruded layer and the heavy metals of the coated layer, limited to coloured paint, have been deleted from the quality attributes (Table 1 of the 2017 edition); and the assessment method has been changed (Clause 5, against Clause 5 of the 2017 edition).

The document was proposed by the China Building Materials Federation and is under the

jurisdiction of the National Technical Committee on Lightweight and Decorative Building Materials of Standardization Administration of China (SAC/TC 195). It was first issued in 2017, and the present edition is the first revision.

1 Scope

The document lays down the assessment requirements and the assessment method for the green product assessment of wood-plastic products.

It applies to the product assessment of green wood-plastic products.

2 Normative references

The following documents are cited normatively in the text and their content constitutes indispensable provisions of the document. For dated references only the edition cited applies; for undated references the latest edition, including all amendments, applies.

GB/T 2589 General principles for calculation of the comprehensive energy consumption; GB/T 7119 Evaluating guide for water saving enterprise; GB 6675.4-2014 Safety of toys-Part 4: Migration of certain elements; GB/T 15337 General rules for atomic absorption spectrometric analysis; GB 17167 General principles for equipping and managing the measuring instruments of energy in organization of energy consumption; GB/T 17657-2022 Test methods of evaluating the properties of wood-based panels and surface decorated wood-based panels; GB/T 18455 Packaging recycling marking; GB 18580 Formaldehyde emission limits for wood-based panels and their products used in interior decoration and refurbishment materials.

GB/T 19001 Quality management systems-Requirements; GB/T 22048 Toys and children's products-Determination of certain phthalate plasticizers; GB/T 23331 Energy management systems-Requirements with guidance for use; GB/T 24001 Environmental management systems-Requirements with guidance for use; GB/T 26125 Electrical and electronic products-Determination of six regulated substances, namely lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls and polybrominated diphenyl ethers; GB/T 29365-2012 Wood-plastic composites-Method of artificial weathering test; GB/T 29899 Determination of the release of volatile organic compounds from wood-based panels and their products-Small chamber method.

GB/T 32161 General principles for the assessment of eco-design products; GB/T 33761 General principles for green product assessment; GB/T 35469-2017 Test method for the mould resistance of wood-plastic composites for building; GB/T 37837 General rules for quadrupole inductively coupled plasma mass spectrometry; GB/T 45001 Occupational health and safety management systems-Requirements with guidance for use; GBZ 1 Hygienic standard for the design of industrial enterprises; GBZ/T 189.8 Measurement of physical agents in workplace-Part 8: Noise; GBZ/T 192.1 Determination of dust in the air of

workplace-Part 1: Total dust concentration; JC/T 2222 Terminology of wood-plastic composites; LY/T 2554 Determination of the biomass content of wood-plastic composites-Fourier transform infrared spectroscopy.

3 Terms and definitions

The terms and definitions given in GB/T 33761 and JC/T 2222 and the following apply.

3.1 Green wood-plastic composites: wood-plastic composite materials and the products made from them that, over the course of their life cycle, meet the requirements of environmental protection, do no harm or little harm to the ecological environment and to human health, consume little in the way of resources and energy, are of high quality and have low carbon emissions.

4 Assessment requirements

4.1.1 Basic requirements. The state of the pollutant discharge of the producing enterprise is to conform to the relevant environmental protection laws and regulations and to meet the requirements of the national or local pollutant discharge standards, and the enterprise is to have had no major or greater safety or environmental pollution incident in the past three years.

4.1.2 The discharge of wastewater and of air pollutants by the producing enterprise is to meet the national and local discharge standards and the requirements on total quantity control and on the pollutant discharge permit.

4.1.3 The producing enterprise is to set up and operate an environmental management system, a quality management system, an energy management system and an occupational health and safety management system in accordance with GB/T 24001, GB/T 19001, GB/T 23331 and GB/T 45001.

4.1.4 The producing enterprise is to be equipped with energy measuring instruments in accordance with GB 17167, and with environmental protection installations and pollutant detection and on-line monitoring equipment as required by the environmental laws, regulations and standards.

4.1.5 The producing enterprise is to use the advanced processes and techniques that the State encourages, and is not to use techniques, processes, equipment or related materials that the State or the relevant local government departments have restricted or phased out.

4.1.6 The producing enterprise is to carry out the eco-design of wood-plastic products in accordance with the relevant requirements of GB/T 32161. Following the life cycle approach, the durability, reliability, reusability, remanufacturability and ease of recovery of the product are to be taken into account at the design and development stage, so that the effect on resources and the environment of the choice of raw materials, of production, sale,

use, recovery and disposal, and of each of the other links, is lessened.

4.1.7 Green wood-plastic products are to meet the requirements of the highest grade of the corresponding product quality and safety standards.

4.2 Requirements on the assessment indicators. The indicator system is made up of first-level indicators and second-level indicators. The first-level indicators are the resource attribute indicators, the energy attribute indicators, the environmental attribute indicators, the quality attribute indicators and the low-carbon attribute indicators. The indicator system for green benchmark wood-plastic products and for green wood-plastic products is to meet the requirements of Table 1.

Table 1, Requirements on the assessment indicators and the basis of judgement, has columns for the serial number, the first-level indicator, the second-level indicator, the unit, the benchmark value for green benchmark wood-plastic products, the benchmark value for green wood-plastic products, and the basis of judgement. It carries thirty-five numbered lines. The second-level indicators are, under the resource attributes: the reuse rate of process water; the addition rate of recycled raw materials; the recovery and utilization rate of waste wood-plastic products; the source of the wood and bamboo fibre; the content of wood and bamboo fibre; and the packaging of the product. Under the energy attributes: the comprehensive energy consumption per unit of product. Under the environmental attributes: whether a dust recovery installation is fitted; the particulates in the production shop; the noise in the production shop; harmful substances in the product packaging; whether a wastewater treatment installation is present; lead salt stabilizers; phthalates; flame retardants; formaldehyde emission; and volatile organic compounds over 72 h. Under the quality attributes: the migration limits for harmful elements; the ageing resistance of the product; the mould resistance; the durability of the mould resistance; and the resistance to boiling water. Under the low-carbon attributes: the service life of the product, and the product carbon footprint report.

The benchmark values of Table 1 are not reported here. In the extracted text the indicator names, the units and the two columns of benchmark values are printed as separate runs that do not match line for line - for the first three indicators alone, three units are followed by four value entries - so the values could not be paired with the indicators and with the two product grades.

The basis of judgement given for each indicator is legible and is as follows. The reuse rate of process water is calculated in accordance with GB/T 7119, with a report, statistical returns and original records provided as evidence. The addition rate of recycled raw materials is calculated in accordance with A.1, with the purchasing and use lists provided. The recovery and utilization rate of waste wood-plastic products is calculated in accordance with A.2, with recovery certificates, technical documents on the recovery process and a description of the routes and channels of recovery. The source of the wood and bamboo fibre requires the purchasing lists of raw materials and evidence of the quantity added. For