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

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**Test methods for natural fibre-reinforced plastic composite
(NFC) deck boards**

天然纤维增强塑料复合（NFC）板试验方法
(English Translation)

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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 is modified to adopt ISO 16616:2015 "Test methods for natural fiber reinforced plastic composite (NFC) panels".

This document has many technical differences compared to ISO 16616:2015.

A list of these technical differences and their causes is given in Appendix A.

The following editorial changes were made to this document.

--- Deleted the note in Table 1;

--- Changed formula (11).

Introduction

Natural fiber reinforced plastic is a composite material that uses natural fiber to reinforce modified plastics. Its main components are plastic and natural fibers.

Natural fibers mainly include waste wood powder, bamboo powder, crop straw, rice husk and hemp straw. Plastics are mainly polyethylene (PE) and polypropylene (PP).

Mainly thermoplastics such as polyvinyl chloride (PVC), new materials, recycled materials or both are used.

Natural fiber reinforced plastics are mainly used to produce outdoor decking, fences, door and window products, furniture, housing components and automotive parts.

To adopt the process of extrusion molding, injection molding and compression molding.

Natural fiber reinforced plastics make use of a large amount of waste plastics and agricultural and forestry processing waste in the production process, which is conducive to promoting energy conservation and emission reduction and protecting the environment.

and reducing resource consumption.

Test methods for natural fiber reinforced plastic composite (NFC) panels

1 Scope

This document describes the test methods for the properties of natural fiber reinforced plastic composite (NFC) panels (hereafter referred to as panels).

This document is applicable to the testing of the properties of natural fiber reinforced plastic composite solid panels and hollow panels.

2 Normative references

The contents of the following documents constitute essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to this document.

GB/T 845-2017 Cross recessed pan head tapping screws (ISO 7049:2011, MOD) GB/T 1033.1 Plastics - Determination of density of non-cellular plastics - Part 1: Immersion method, liquid pycnometer method and titration method (GB/T 1033.1-2008, ISO 1183-1:2004, IDT) GB/T 1043.1 Determination of impact properties of simply supported plastic beams Part 1: Non-instrumented impact test (GB/T 1043.1-2008, ISO 179-1:2000, IDT) GB/T 2411 Plastics and hard rubber - Determination of indentation hardness (Shore hardness) using a durometer (GB/T 2411-2008, ISO 868.

2003, IDT)

GB/T 2918 Standard environment for conditioning and testing of plastic specimens (GB/T 2918-2018, ISO 291:2008, MOD) GB/T 3978 Standard lighting and geometric conditions GB 6675.4 Safety of toys Part 4: Migration of certain elements (GB 6675.4-2014, ISO 8124-3:2010, MOD) GB/T 9341 Determination of flexural properties of plastics (GB/T 9341-2008, ISO 178:2001, IDT) GB/T 11546.2 Determination of creep properties of plastics Part 2: Three-point bending creep (GB/T 11546.2-2022, ISO 899-2:2003, MOD) GB/T 11785 Combustion performance test of floor covering materials-Radiant heat source method (GB/T 11785-2005, ISO 9239-1:2002, IDT) GB/T 16422.2 Plastics laboratory light source exposure test method Part 2: Xenon arc lamp (GB/T 16422.2-2022, ISO 4892-2:2013, IDT) GB/T 17657-2022 Test methods for physical and chemical properties of wood-based panels and veneered wood-based panels GB/T 20146 CIE standard illuminants for colorimetry (GB/T 20146-2006, CIE S005:1999, IDT) GB/T 20147 CIE Standard Chromaticity Observer (GB/T 20147-2006, CIE 10527:1991, IDT) GB/T 20147.4-2023 Chromatography Part 4: CIE 1976 L*a*b* Color Space (ISO/CIE 11664-4.

2019,MOD)

GB/T 24127-2009 Test method for anti-algae performance of plastics GB/T 24128 Plastics Evaluation of the anti-mold effect of plastic anti-mold agents (GB/T 24128-2018, ISO 16869:2008, IDT) GB/T 36800.2 Thermomechanical analysis of plastics (TMA) Part 2: Linear thermal expansion coefficient and glass transition temperature Determination (GB/T 36800.2-2018, ISO 11359-2:1999, IDT) colour measurement