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

GB/T 7911.1-1987

Replacing GB/T 7911-2013

**High-pressure decorative laminates made from thermosetting
resins impregnated sheets (HPL)**
(English Translation)

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Table of Contents

Foreword

1 Scope

2 Normative references

3 Terms and definitions

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 refers to ISO 4586:2018 (all parts) High-pressure decorative laminates (HPL, HPDL) based on thermosetting resin impregnated paper (usually called laminated board)" was drafted.

This document replaces GB/T 7911-2013 "Thermosetting resin impregnated paper high pressure decorative laminate (HPL)" and GB/T 7911-2013 Compared with the previous version, in addition to structural adjustments and editorial changes, the main technical changes are as follows.

- a) Added surface layer, core layer, pearlescent high-pressure decorative laminate, metal facing high-pressure decorative laminate, color core high-pressure decorative laminate Terms and definitions of panels and metal reinforced core high pressure decorative laminates (see 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8);
- b) The definitions of dry flowers, wet flowers, stains, edge defects, bubbles, delamination and missing corners have been deleted (see 3.2 to 3.8 of the 2013 edition);
- c) The classification has been changed (see 4.1, 4.2, 4.3, 4.4, 4.1, 4.2, 4.3 of the 2013 edition);
- d) Added marking and application areas (see 5.1, 5.2);
- e) Added the requirements for dimensional deviation, flatness, edge straightness and verticality of metal facing type, color core type and metal reinforced core type (see 6.1.3, 6.1.4);
- f) Added requirements for dry heat resistance, radiant heat resistance, room temperature dimensional stability, anti-blistering and density of thin high-pressure decorative laminates (see 6.3.1.1, Table 8);

- g) Changed the high temperature dimensional stability, large ball impact resistance and formability requirements of thin high pressure decorative laminates (see 6.3.1.1, Table 8, Table 5 of the 2013 edition);
 - h) Added requirements for the resistance to dry heat, radiant heat, large ball impact, room temperature dimensional stability and density of thick high-pressure decorative laminates (See 6.3.1.2, Table 9);
 - i) Changed the requirements for high temperature dimensional stability of thick high-pressure decorative laminates (see 6.3.1.2, Table 9, Table 5 of the 2013 edition);
 - j) Added requirements for floor-type high-pressure decorative laminates (see 6.3.1.3, Table 10);
 - k) Added requirements for outdoor high-pressure decorative laminates (see 6.3.1.4, Table 11);
 - l) Added requirements for pearlescent high-pressure decorative laminates (see 6.3.1.5, Table 12);
 - m) Added requirements for metal-faced high-pressure decorative laminates (see 6.3.1.6, Table 13);
 - n) Added requirements for colored core type high pressure decorative laminates (see 6.3.1.7, Table 14);
 - o) Added requirements for metal reinforced core type high pressure decorative laminates (see 6.3.1.8, Table 15);
 - p) Added requirements for the classification of formaldehyde emission limits, total volatile organic compounds (TVOC) and phenol emission limits (see 6.3.2, 6.3.3, 6.3.4);
 - q) The requirements for anti-static performance have been changed, and the flame retardant performance has been changed to flame retardant performance (see 6.4.1, 6.4.2, Table 5 of the 2013 edition);
 - r) Increased density, UV aging resistance, artificial aging resistance, moisture resistance, weather resistance, radiant heat resistance, room temperature dimensional stability, anti-blistering, Total volatile organic compounds (TVOC) and phenol emission test specimen size, quantity and manufacturing requirements (see Table 16);
 - s) The specimen size and number of the test pieces for moisture and heat resistance, ball impact resistance, high temperature dimensional stability, tensile strength, formaldehyde emission, and flame retardancy have been changed.
- Quantity and production requirements (see Table 16, Table 6 of the 2013 edition);
- t) Increased density, UV resistance, artificial aging resistance, moisture resistance, weather resistance, radiant heat resistance, room temperature dimensional stability, anti-blistering,

total Test methods for volatile organic compounds (TVOC) and phenol release (see 7.3.2, 7.3.11, 7.3.12, 7.3.13, 7.3.14, 7.3.15, 7.3.21, 7.3.23, 7.3.27, 7.3.28);

u) The test methods for crack resistance, tensile strength and flame retardancy have been changed (see 7.3.7, 7.3.25, 7.3.30, 7.3.16, 2013 edition 7.3.18, 7.3.21);

v) The requirements and test methods for cigarette burn resistance and aging resistance have been deleted (see Table 5, 7.3.4, and 7.3.22 of the 2013 edition);

1 Scope

This document specifies the classification, marking and application areas, requirements, inspection rules and standards of thermosetting resin impregnated paper high pressure decorative laminates.

Labeling, packaging, transportation and storage, and describes the relevant inspection methods.

This document applies to the production, trade and inspection of thermosetting resin impregnated paper high pressure decorative laminates.

2 Normative references

The contents of the following documents constitute the 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 1040.2-2022 Determination of tensile properties of plastics Part 2: Test conditions for molded and extruded plastics GB/T 2828.1-2012 Sampling procedures for inspection by attributes Part 1: Sampling for batch inspection based on acceptance quality limit (AQL) plan GB 8624-2012 Classification of combustion performance of building materials and products GB/T 16422.1-2019 Plastics laboratory light source exposure test method Part 1: General GB/T 16422.2-2022 Plastics laboratory light source exposure test method Part 2: Xenon arc lamp GB/T 16422.3-2022 Plastics laboratory light source exposure test method Part 2: Fluorescent ultraviolet lamp GB/T 17657-2022 Test methods for physical and chemical properties of wood-based panels and veneered wood-based panels GB/T 18259-2018 Terminology of wood-based panels and their surface decoration GB 18580-2017 Limits of formaldehyde emission from artificial boards and their products for interior decoration and renovation GB/T 19367-2022 Determination of dimensions of wood-based panels GB/T 20284-2006 Single-unit combustion test for building materials or products GB/T 20285-2006 Hazard classification of smoke toxicity of materials GB/T 31762-2015 Determination of phenol release from wood materials and their products -

Small release chamber method GB/T 39600-2021 Formaldehyde emission classification of wood-based panels and their products LY/T 3230-2020 Classification of volatile organic compound emissions from wood-based panels and their products

3 Terms and definitions

The terms and definitions defined in GB/T 18259-2018 and the following apply to this document.

The surface paper, decorative paper impregnated with amino thermosetting resin (mainly melamine resin) and the bottom paper impregnated with phenolic resin are laminated.

A decorative material made through a high-pressure process.

Note 1: It is referred to as high pressure decorative laminate (HPL), including ordinary HPL, floor type, outdoor type, pearl type, metal finishing type, color core type, metal reinforced core type.

Type, etc.