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

GB/T 15102-2017

Replacing GB/T 15102-2006

**Fibreboard and particleboard surfaced with paper impregnated
with thermosetting resins**

浸渍胶膜纸饰面纤维板和刨花板

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Quarantine;
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1 Scope

China's national product standard for melamine-faced board - fibreboard and particleboard surfaced with decorative paper impregnated with thermosetting resin. It specifies the classification, the requirements, the test methods, the inspection rules, and the marking, packaging, transport and storage. This is the most-used panel in furniture manufacture. A sheet of printed decor paper is impregnated with melamine-formaldehyde resin, laid on a particleboard or MDF core and pressed at temperature, and the resin cures into a hard, closed surface bonded directly to the board. There is no separate laminate and no adhesive layer, which is why it is cheap, and the surface is harder and more scratch-resistant than a painted or foil-wrapped one, which is why it is used for everything from kitchen carcasses to office desks. What can go wrong divides into two. The surface can fail - the resin can be under-cured, in which case it is soft, marks and releases formaldehyde, or over-cured, in which case it is brittle and crazes; the paper can be poorly impregnated and delaminate at an edge; the print can fade. And the board beneath can fail regardless of the surface, by swelling when it meets water at a cut edge. So the requirements cover both: the surface properties - abrasion, scratch, stain and cigarette resistance, resistance to cracking, gloss and colour fastness, and the steam or boiling water test that reveals an incomplete cure - and the panel properties of the substrate, with the formaldehyde emission class, which for a product used at this scale indoors is the requirement most closely watched. Issued on 29 December 2017 and in force since 1 July 2018, it replaces GB/T 15102-2006.

This Standard specifies the classification, requirements, test methods, inspection rules, marking, packaging, transportation and storage of surface decorated fiberboard and particleboard with paper impregnated thermosetting resins. This Standard is applicable to indoor surface decorated fiberboard and particleboard with paper impregnated

thermosetting resins.

2 Normative References

The following documents are indispensable to the application of this Standard. In terms of references with a specified date, only versions with a specified date are applicable to this Standard. The latest version (including all the modifications) of references without a specified date is also applicable to this Standard.

GB/T 2828.1-2012 Sampling Procedures for Inspection by Attributes - Part 1. Sampling Schemes Indexed by Acceptance Quality Limit (AQL) for Lot-by-lot Inspection

GB/T 11718-2009 Medium Density Fiberboard

GB/T 17657-2013 Test Method of Evaluating the Properties of Wood-based Panels and Surface Decorated Wood-based Panels

GB/T 18259-2009 Terms of Wood-based Panel and Its Surface Decoration

GB 18580 Indoor Decorating and Refurbishing Materials - Limit of Formaldehyde Emission of Wood-based Panels and Finishing Products

GB/T 19367 Wood-based Panels - Determination of Dimensions of Panels

3 Terms and Definitions

What is defined in GB/T 18259-2009, and the following terms and definitions are applicable to this Standard. In order to make it convenient for the users, some terms and definitions in GB/T 18259-2009 are listed again as follows:

3.1 Surface Decorated Fiberboard and Particleboard with Paper Impregnated Thermosetting Resins

3.9 Dents Dents refers to jagged defects on the decorative panel layer during the processing of the edging. NOTE. Definition

2.2.4.69 in GB/T 18259-2009 is modified.

3.10 Blisters Blisters refers to abnormal protrusions on the surface caused by gas. NOTE. Definition

2.1.73 in GB/T 18259-2009 is modified.

3.11 Bulge Bulge refers to abnormal protrusions on the surface caused by solid objects. NOTE. Definition

2.2.4.70 in GB/T 18259-2009 is modified.

3.12 Light Fastness Light fastness refers to the surface color's resistance to sunlight or the illumination of artificial light. NOTE. Definition

2.2.4.72 in GB/T 18259-2009 is modified.

4 Classification

4.1 In terms of substrate.

---Surface decorated fiberboard with paper impregnated thermosetting resins;

---Surface decorated particleboard with paper impregnated thermosetting resins.

4.2 In terms of decorative panel.

---Single-sided surface decorated fiberboard and particleboard with paper impregnated thermosetting resins;

---Double-sided surface decorated fiberboard and particleboard with paper impregnated thermosetting resins.

4.3 In terms of surface condition.

---Plane surface decorated fiberboard and particleboard with paper impregnated thermosetting resins;

---Embossed surface decorated fiberboard and particleboard with paper

6.2.1.1 Micrometer. division value.

0.01 mm.

6.2.1.2 Steel ruler. division value.

0.5 mm.

6.2.1.3 Steel tape. division value. 1 mm.

6.3.1 Preparation and dimension of sample and test piece

6.3.1.1 Sample and test piece shall be taken from products that are kept for over 24 h after manufacture.

6.3.1.2 Surface decorated fiberboard and particleboard with paper impregnated thermosetting resins shall be cut into 5 samples in accordance with Figure 1. Each sample shall be marked with a number and a symbol of "" in the top right corner. Sample 1, Sample 3 and Sample 5 shall be adopted to prepare "numbered" test pieces; Sample 2 and Sample 4 shall be adopted to prepare "random" test pieces. Please refer to Table 5 for the dimension, quantity and number of the test pieces. In terms of the prepared test pieces, the edges shall be straight, and two adjacent edges shall form a right angle. The specification of numbered test pieces that are prepared from Sample 1, Sample 3 and Sample 5 shall comply with the stipulation in Figure 2. When there

6.3.6 Determination of static intensity and elasticity modulus Determination of static intensity and elasticity modulus shall comply with the method stipulated in

4.7 in GB/T 17657-2013. On the decorative surface of single-sided surface decorated fiberboard and particleboard with paper impregnated thermosetting resins, test pieces shall receive equalization treatment.

6.3.7 Determination of surface bonding strength Determination of surface bonding strength shall comply with the method stipulated in

4.16 in GB/T 17657-2013. Test pieces shall receive equalization treatment.

6.3.8 Determination of grip force Determination of grip force shall comply with the method stipulated in

4.21 in GB/T 17657-2013. Test pieces shall receive equalization treatment.

6.3.9 Determination of surface resistance to heat and cold circulation Determination of surface resistance to heat and cold circulation shall comply with the method stipulated in

4.38 in GB/T 17657-2013.

6.3.10 Determination of surface resistance to scratch Determination of surface resistance to scratch shall comply with the method stipulated in

4.39 in GB/T 17657-2013.

6.3.11 Determination of surface resistance to abrasion Determination of surface resistance to abrasion shall comply with the method stipulated in

4.44 in GB/T 17657-2013. Pattern shall receive 100 r abrasion; plain color shall receive 350 r abrasion.

7 Inspection Rules

7.1 Inspection Classification Inspection shall be divided into exit-factory inspection and model inspection.

7.1.1 Exit-factory inspection Exit-factory inspection shall include.

- a) Appearance quality;
- b) Specification and dimension;
- c) Surface resistance to abrasion, contamination corrosion, fracturing, vapor and formaldehyde emission in physical and chemical properties test.

7.1.2 Model inspection Model inspection shall include all the items in appearance quality, specification, dimension, physical and chemical properties test. Under any of the following circumstances, model inspection shall be conducted.