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NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA

ICS 79.080

B 70

GB/T 28995-2012

Special paper for wood-based panels decoration

人造板饰面专用纸

Issued on: December 31, 2012

Implemented on: June 01, 2013

Issued by: General Administration of Quality Supervision, Inspection and Quarantine;

Standardization Administration of the People's Republic of China.

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Special paper for wood-based panels decoration

1 Scope

This Standard specifies terms and definitions, classification, requirements, inspection methods, inspection rules as well as marks, packaging, transportation, storage of special paper for wood-based panels decoration.

This Standard is applicable to special paper for wood-based panels decoration, including base paper, printed paper, impregnated decorative paper, wear impregnated decorative paper, overlay paper, impregnated overlay paper, wear overlay paper, wear impregnated overlay paper, balance paper and impregnated balance paper.

This Standard is not applicable to kraft paper, pre-painted paper and tissue paper.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

GB/T 450-2008, *Paper and board - Sampling for testing and identification of machine and cross direction wire side and felt side*

GB/T 451.1-2002, *Paper and board - Determination of size and deviation*

GB/T 451.2-2002, *Paper and board - Determination of grammage*

GB/T 456-2002, *Paper and board - Determination of smoothness*

GB/T 458-2008, *Paper and board - Determination of air permeance*

GB/T 459-2002, *Paper and board - Determination of dimensional instability*

GB/T 461.1-2002, *Paper and board - Determination of capillary rise (Klemm method)*

GB/T 462-2008, *Paper, board and pulp - Determination of moisture content of analytical sample*

printed base paper, with color, figure, pattern

3.4 impregnated decorative paper

impregnated paper that solid color paper or print base paper is impregnated with amino resin and dried to a certain extent, with certain resin content and volatile content; after heating and pressing, it can be glued to each other or glued to the artificial board substrate

3.5 wear impregnated decorative paper

impregnated decorative paper that contains certain wear-resistant materials, with certain wear resistance

3.6 overlay paper

paper that is covered at the outermost layer of the substrate surface to protect the decorative layer, with a certain absorption and good transparency

3.7 wear overlay paper

overlay paper that contains a certain amount of wear-resistant material

3.8 impregnated overlay paper

impregnated paper that the overlay paper is impregnated with amino resin and dried to a certain extent, with a certain resin content and volatile content; after heating and pressing, it can be glued with impregnated decorative paper

3.9 wear impregnated overlay paper

impregnated overlay paper that contains a certain amount of wear-resistant material

3.10 balance paper

paper with a certain absorption and covering property that plays a role of strengthening and balancing in the slab

3.11 impregnated balance paper

impregnated paper that the balance paper is impregnated with amino resin and dried to a certain extent, with a certain resin content and volatile content; after heating and pressing, it can be glued to each other or to the substrate

3.12 crease

folding of decorative base paper due to various reasons; the crease cannot be eliminated on the surface of the final product after dipping and pressing, which

falling off, resulting in small dots of the base paper color on the surface of the decorative paper

3.22 stain

dirty spots and spots with non-design pattern texture on the surface of decorative paper

3.23 width variation

after printing, the difference between the actual printing width of the entire pattern and the effective printing width of the design

3.24 misregister

during the printing process, the maximum overprint deviation between each color, including longitudinal registration error and horizontal registration error

3.25 wrinkle

unevenness on the surface of the decorative paper due to various reasons

3.26 missing print

a phenomenon that during printing process, the ink in the mesh of the plate roller is not transferred to the decorative base paper, which causes the lack of decorative paper pattern texture

3.27 blade streaks

the ink on the layout is not scraped clean, causing the excess ink to be transferred to the decorative paper and the vertical impressions formed are called blade streaks

3.28 doctor blade mark

intermittent horizontal streaks during printing process due to the bounce or unstable oscillation of the squeegee; it is also called jump blade mark

3.29 torn off edges

defects on the edges of decorative paper rolls

3.30 base weight

the mass of paper per unit area, in grams per square meter (g/m²)

NOTE: Rewrite the definition of Clause 3 in GB/T 451.2-2002.

3.40 light fastness

the ability of paper to retain its original color after exposure to sunlight or artificial light

3.41 penetration time

when the paper is immersed in the specified test solution, the time required for it to be completely saturated, expressed in seconds (s)

4 Classification

4.1 According to the role of special paper in the slab, it is classified into:

- overlay paper;
- decorative paper;
- balance paper.

4.2 According to decorative paper processing process, it is classified into:

- base paper;
- printed paper;
- impregnated decorative paper.

4.3 According to whether there is printing on the surface of the decorative paper, it is classified into:

- solid color paper;
- print base paper.

4.4 According to different technique of decorative paper decoration, it is classified into:

- paper for high pressure method;
- paper for low pressure method.

4.5 According to the light fastness of decorative paper, it is classified into:

- standard level;
- high color retention level.

6.1.5 Appearance quality inspection of impregnated paper

According to Table 3 and Table 4, inspect piece by piece.

6.2 Determination of specifications and allowable deviation

In accordance with GB/T 451.1-2002.

6.3 Inspection of physical and chemical properties

6.3.1 Specimen extraction

In accordance with GB/T 450-2008.

6.3.2 Specimen processing and test conditions

In accordance with GB/T 10739-2002.

6.3.3 Determination of quantification

In accordance with GB/T 451.2-2002.

6.3.4 Determination of moisture content

In accordance with GB/T 462-2008.

6.3.5 Determination of ash content

In accordance with GB/T 742-2008.

6.3.6 Determination of pH value

In accordance with GB/T 1545-2008.

6.3.7 Determination of dry tensile strength lengthwise

In accordance with GB/T 12914-2008. Only determine dry tensile strength lengthwise, in N/15mm.

6.3.8 Determination of wet tensile strength lengthwise

In accordance with GB/T 465.2-2008. But the immersion time is changed to 5s. Only determine wet tensile strength lengthwise, in N/15mm.

6.3.9 Determination of air permeability

In accordance with Gurley method in GB/T 458-2008, expressed in air resistance. The average value of the time measured by 10 test pieces is the air permeability, in s/100mL.

6.3.13 Determination of light fastness

After impregnating solid color paper and printed paper with melamine resin, after the impregnated decorative paper, wear impregnated decorative paper made by drying are laminated on conforming particleboard or medium/high density fiberboard, carry out the determination according to GB/T 15102-2006.

6.3.14 Determination of vertical and horizontal expansion ratio

In accordance with GB/T 459-2002.

6.3.15 Determination of formaldehyde emission

Make 10 test pieces of impregnated paper with a length of (150 ± 1) mm and a width of (50 ± 1) mm. Hang the test piece into a 170°C blast drying oven to process 15min. Then put it in a desiccator and place it in an environment with a room temperature of 20°C ~ 25°C to cool 1h. Then carry out according to 4.12.1 ~ 4.12.7.1 in GB/T 17657-1999. But the unit of result shall be converted from mg/mL to mg/L, to the nearest of 0.1mg/L.

6.3.16 Determination of resin pick-up

In accordance with 6.3.2 in LY/T 1143-2006.

6.3.17 Determination of volatile content

In accordance with 6.3.2 in LY/T 1143-2006.

6.3.18 Determination of precure percent

In accordance with 6.3.2 in LY/T 1143-2006.

6.3.19 Determination of water absorption height

In accordance with GB/T 461.1-2002.

6.3.20 Determination of wearable revolution

Laminate the wear impregnated overlay paper or wear impregnated decorative paper on conforming particleboard or medium/high density fiberboard. There shall be no embossed patterns on the board. Carry out according to 4.38 in GB/T 17657-1999. Take the number of revolutions at the initial wear point as the number of wearable revolution.

7 Inspection rules

7.1 Inspection classification

standard requirements otherwise it shall be determined as conforming.

7.3.2 Sampling plan and rules for determination of physical and chemical properties of impregnated paper

In accordance with GB/T 15102-2006.

7.4 Comprehensive determination

When appearance quality, specification as well as physical and chemical properties meet technical requirements, this batch of products are determined as conforming products otherwise they shall be rejected.

7.5 Inspection report

The inspection report shall contain the following information:

- a) Information about the inspected company;
- b) Information about the inspected product;
- c) Standards on which the inspection is based;
- d) Inspection results;
- e) Anomalies that need to be explained during the inspection.

8 Marks, packaging, transportation and storage

8.1 Marks and packaging

The packaging and marks of paper shall meet the requirements of GB/T 10342-2002. The impregnated paper shall be sealed and packaged. The level of formaldehyde emission shall be marked.

8.2 Transportation

During transportation, the product must be protected from moisture, high temperature, pressure and impact.

8.3 Storage

The storage location shall be rainproof, moisture-proof, sun-proof, well-ventilated and away from fire. The packaged paper shall be stacked according to category, specification and level, and shall be marked accordingly. The sealed impregnated paper shall be laid flat and stored in a constant temperature and humidity room with a room temperature of 10°C ~ 25°C and a relative

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