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GB 28007-2011

General Technical Requirements for Children's Furniture

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Foreword

Chapter 5 and Chapter 6 of this standard are compulsory and the others are recommendatory.

This standard was drafted according to the rules specified in GB/T 1.1-2009.

Please pay attention to some contents of this document which may relate to patents. The issuing organizations of this document are not responsible for the identification of these patents.

This national standard was proposed by China National Light Industry Council.

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General Technical Requirements for Children's Furniture

儿童家具通用技术条件

1 Scope

This standard specifies the terms and definitions, general requirements, safety requirements, warning signs, test methods, inspection rules and marking, instructions for use, packaging, transport and storage of children's furniture.

This standard is applicable to those furniture products designed or deemed for children between 3~14 years old.

2 Normative References

The following documents are essential for the application of this standard. For dated reference, only the dated editions are applicable to this standard. For undated references, the latest edition of the respective normative document (including all the amendments) is applicable to this standard.

GB/T 1931 Method for Determination of the Moisture Content of Wood

GB/T 2828.1-2003 Sampling Procedures for Inspection by Attributes - Part 1: Sampling Schemes Indexed by Acceptance Quality Limit (AQL) for Lot-by-lot Inspection

GB/T 2912.1 Textiles - Determination of Formaldehyde - Part 1: Free and Hydrolized Formaldehyde (Water Extraction Method)

GB/T 3920 Textiles - Tests for Colour Fastness - Colour Fastness to Rubbing

GB/T 4893.1 Furniture - Assessment of Surface Resistance to Cold Liquids

GB/T 4893.2 Furniture - Assessment of Surface Resistance to Wet Heat

GB/T 4893.3 Furniture - Assessment of Surface Resistance to Dry Heat

GB/T 4893.4 Furniture - Assessment of Adhesion of Surface Coatings - Cross Cut

GB/T 4893.7 Furniture - Assessment of Surface Resistance to Alternation of Heat and Cold

GB/T 4893.8 Furniture - Assessment of Wearability of Surface Coatings

GB/T 4893.9 Furniture - Test for Surfaces - Assessment of Resistance to Impact

GB 5296.6 Instructions for Use of Products of Consumer Interest - Part 6: Furniture

GB/T 6669-2008 Flexible Cellular Polymeric Materials - Determination of Compression Set

GB 6675-2003 National Safety Technical Code for Toys

GB/T 6739 Paints and Varnishes - Determination of Film Hardness by Pencil Test

GB/T 7573 Textiles - Determination of pH of Aqueous Extract

GB/T 10357.1 Test of Mechanical Properties of Furniture – Strength and Durability of Tables

GB/T 10357.2 Test of Mechanical Properties of Furniture - Stability of Chairs and

Stools

GB/T 10357.3 Test of Mechanical Properties of Furniture - Strength and Durability of Chairs and Stools

GB/T 10357.5 Test of Mechanical Properties of Furniture - Strength and Durability of Storage Units

GB/T 10357.7 Test of Mechanical Properties of Furniture - Stability of Tables

GB/T 13667.1-2003 General Specification for Steel Book Shelves

GB/T 17592 Textiles - Determination of the Banned Azo Colorants

GB/T 17657-1999 Test Methods of Evaluating the Properties of Wood-based Panels and Surface Decorated Wood-based Panels

GB 17927 (All the parts) Upholstered Furniture - Assessment of the Resistance to Ignition of Mattress and Sofa

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

GB/T 19941 Leather and Fur - Chemical Tests - Determination of Formaldehyde Content

GB/T 19942 Leather and Fur - Chemical Tests-Determination of Banned Azo Colourants

GB/T 22048 Toys and Children's Products - Determination of Phthalate Plasticizers in Polyvinyl Chloride Plastic

GB/T 24430.2 Bunk Beds for Domestic Use – Safety - Part 2: Test

QB/T 1952.1 Upholstered Furniture - Sofa

QB 1952.2 Upholstered Furniture - Spring Mattress

QB/T 2280 Office Chair

QB/T 2537 Leather - Tests for Colour Fastness - Colour Fastness to Cycles of To-and-fro Rubbing

QB/T 2724 Leather - Chemical Test - Determination of PH

QB/T 3826 Corrosion-resistant Testing Method of the Metal Deposits and Conversion Coatings for the Light Industrial Products - Neutral Salt Spraying Test (NSS)

3 Terms and Definitions

The following terms and definitions are applicable to this standard.

3.1

Children's furniture

Furniture products designed or deemed for children between 3~14 years old.

3.2

Tall desk / table product

Desk/table of which its height exceeds 1000mm and it comes with book shelve or similar structure at the upper part.

3.3

Folding mechanism

The mechanism, connected by hinge or pivot, may generate extruding and/or shearing

Except for door, cover, push and pull part and its hardware, product shall be free from dangerous extruding and shearing points under regular working load. If folding mechanism or folding stand is provided, safety stopping or locking devices shall be equipped to prevent accidental movement or folding. Product shall not be folded in the test specified in 7.5.4 (folding test).

5.1.5 Turning door, turning plate

Closing force of turning door or turning plate shall be larger or equal to 8N.

5.1.6 Enclosure-type furniture

If the product is provided with airproof space (e.g. the space formed by door or cover with other parts); the continuous enclosed space is more than 0.03m³; and all the internal dimensions [length, width & height] are more than or equal to 150mm, then at least one of the following requirements shall be met:

- To set up two unblocked ventilation openings - each area of 650mm² and spacing distance at least 150mm; or a ventilation opening with equivalent area to integrate the two openings (650mm²) and the space between them. When the furniture is placed at any position on the floor, and placed at the room corner where two walls intersect 90 degree, the ventilation openings shall be remained unblocked. Net or similar part with good air permeability may be fitted at ventilation opening;

- Cover, door and similar devices shall not be equipped with automatic locking device. The opening force shall not be greater than 45N when tested according to 7.5.6 (test on closing part test)

5.1.7 Mechanical performance

The following requirements shall be met after the test according to 7.5.7 (test on mechanical performance):

- a) Components and parts shall be free from fracture, crack or shedding;
- b) No abrasion or deformation which significantly impacts to usage function;
- c) No permanent looseness if pressing the firm parts by hand;
- d) The connecting part shall be free of looseness;
- e) The switch of moving parts (door, drawer, etc.) shall be flexible;
- f) Metal parts shall be free from obvious deformation, damage or shedding;
- g) As for the upholstered furniture, the outer fabrics shall be without breakage and broken spring, hem without thread slippage and bedding material without breakage or displacement;
- h) Product shall be free from overturning in the stability test.

5.1.8 Others

Children's furniture shall meet the following requirements:

- a) Except the zone above 1600mm from the ground or where the children stand, glass components shall not be used;
- b) Exposed nose end of tubular parts shall be sealed;
- c) Drop-off prevention devices shall be provided for the push-pull parts, such as drawer, keyboard holder, to avoid harmfulness to children in the case of accidental pulling;
- d) All the tall desk/table and cabinet products with height more than 600mm shall be provided with fastenings to fix them onto building, and the installation and usage methods shall be illustrated in the instructions for use;

6.4 As for the swivel chair with lift up-down pneumatic rod, the warning "Danger! Please do not lift up-down frequently for playing" shall be indicated at the appropriate place of the product.

6.5 The above warning words such as "Danger", "Warning" and "Notice" shall not be smaller than four-font-black-bold type; and the warning contents shall not be smaller than five-font-black-bold type.

7 Test Methods

7.1 Determination of appearance dimension deviation

The specimen shall be placed on flat plate or flat and smooth ground, and determined by steel ruler or tape with accuracy not lower than 1 mm [Translator: not greater than 1 mm?]. The dimension deviation is the difference between the measured value and the indicated value.

7.2 Appearance inspection

It shall be carried out under natural light or approximate natural light with 300 lx ~ 600 lx illuminance (for example 40 W daylight lamp), and 700 mm ~ 1000 mm sighting distance. When dispute exists, it shall be inspected by three people jointly, the majority conclusion shall be adopted as the inspection result.

7.3 Physical and chemical properties test

7.3.1 Liquid resistance test shall be carried out according to the requirements of GB/T 4893.1.

7.3.2 Adhesion test shall be carried out according to the requirements of GB/T 4893.4.

7.3.3 Damp and heat resistance test shall be carried out according to the requirements of GB/T 4893.2.

7.3.4 Dry and heat resistance test shall be carried out according to the requirements of GB/T 4893.3.

7.3.5 Cold and hot temperature difference resistance test shall be carried out according to the requirements of GB/T 4803.7.

7.3.6 Impact resistance test shall be carried out according to the requirements of GB/T 4893.9.

7.3.7 Coating rubbing resistance test shall be carried out according to the requirements of GB/T 4893.8.

7.3.8 Surface rubbing resistance test shall be carried out according to the requirements of 4.38 of GB/T 17657-1999.

7.3.9 Hardness test shall be carried out according to the requirements of GB/T 6739.

7.3.10 Corrosion resistance tests shall be carried out according to the requirements of 7.3.3.7 of GB/T 13667.1-2003.

7.3.11 Salt mist resistance shall be carried out according to the requirements of QB/T 3826.

7.3.12 75 % compression-permanent-deformation test shall be carried out according to the requirements of test methods A of GB/T 6669-2008. The specimen thickness is 25mm, the sampling position is the seating surface of the specimen and may also be on the same material.

7.3.13 Color fastness to rubbing test for the textiles shall be carried out according to the requirements of GB/T 3920.

7.6.3 Determination of transportable element for product surface coating of the product shall be carried out according to the requirements of Appendix C of GB 6675-2003.

7.6.4 Determination of free formaldehyde content for textiles of the product shall be carried out according to the requirements of GB/T 2912.1.

7.6.5 Determination of AZO dyes content for textiles of the product shall be carried out according to the requirements of GB/T 17592.

7.6.6 Determination of free formaldehyde content for leather of the product shall be carried out according to the requirements of GB/T 19941.

7.6.7 Determination of AZO dyes content for leather of the product shall be carried out according to the requirements of GB/T 19942.

7.6.8 Determination of phthalic ester content for plastics of the product shall be carried out according to the requirements of GB/T 82048.

7.7 Flame-retardant performance test

7.7.1 It shall be carried out according to the requirements of GB 17927.1 for the household-use upholstered furniture product.

7.7.2 It shall be carried out according to the requirements of GB 17927.2 for the upholstered furniture product used at public places.

8 Inspection Rules

8.1 Inspection classification

Inspection is classified into factory inspection and type inspection. Factory inspection is the inspection carried out when the products are out of factory or delivered, the inspection items are detailed in 8.2.1; type inspections shall cover all items required by this standard.

8.2 Factory inspection

8.2.1 Factory inspection items include:

- a) Overall dimension deviation;
- b) Appearance;
- c) Edge and point;
- d) Projection;
- e) Folding mechanism;
- f) Overhead door, turning plate;
- g) Closure member test for closed-type furniture;
- h) Opening and spacing;
- i) Warning identification.

8.2.2 Sampling and batching rules

Factory inspection shall be carried out on all-quantity [each] product. Sampling inspection may be carried out in the case of all-quantity inspection is difficult because of large scale. Sampling method is accordance with the requirements of GB/T 2828.1-2003. Adopt normal inspection; one-time sampling scheme; the normal inspection level **II**; and Acceptance Quality Limit (AQL) 6.5. The sample size and distinguishing value shall be in accordance with Table 5.

- c) Controlling index of limited quantity of harmful substance;
- d) Product installation and technical requirements of adjustment;
- e) Product usage method, precautions;
- f) Product fault analysis and dispersal, maintenance method;
- g) After-sales service;
- h) Contents required by warning identification.

9.3 Packaging

Product shall be packaged to avoid bumping, scratching and staining.

9.4 Transport and storage

In the process of transport and storage, the product shall be stacked flatly and smoothly, and with necessary protection to avoid contamination, vermiculation, damping and insolation.

In the storage, the product shall be stacked according to the relevant category, specification and grade.

Appendix A

(Normative)

Mechanical Property Test for Children's Furniture

A.1 Test conditions

The children's furniture assembled or fixed on building structure shall be installed or fastened according to the instructions for use provided by the manufacturer. For the furniture with multiple combination types, the test shall be carried out with the most unfavorable combination type. For the vertically-adjustable furniture, the test shall be carried out at the most unfavorable height position.

The test environment, test equipment and test accuracy requirements of GB/T 10357 are applicable to the following tests.

A.2 Test items

The mechanical property test items for children's furniture are detailed in Table A.1. As for the non cabinet products with demountable or removable parts (such as shelf or sliding parts), the test shall be carried out according to the corresponding test items of the cabinet product in Table A.1.

References

- [1] GB/T 6491-1999 Drying Quality of Sawn Timber
 - [2] “Timber Industry Practical Solutions” –China Forestry Publishing House, Beijing, 1998
-

References and Original Chinese Documents

[1] GB 28007-2011 General technical requirements for Children's furniture.

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