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

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**Pre-fabricated aluminum alloy low-rise housing and mobile
housing
(English Translation)**

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard was proposed by the Standard Rating Institute of the Ministry of Housing and Urban-Rural Development.

This standard is under the jurisdiction of the Technical Committee for Standardization of Building Structures of the Ministry of Housing and Urban-Rural Development.

Drafting organizations of this standard. Guangdong Academy of Building Research Group Co., Ltd., Guangdong Aluminum Youjia Technology Co., Ltd., Guangdong Jianke Architectural Design Institute Co., Ltd., School of Civil Engineering and Transportation, South China University of Technology, Guangzhou University, Zhaoqing Fiskkin it belongs to Technology Co., Ltd., Zhaoqing Leading Building Material Testing Co., Ltd., Zhaoqing Asia Aluminum Factory Co., Ltd.

1 Scope

This standard specifies the terms and definitions, classification and marking, general requirements, Requirements, test methods, inspection rules, labels, product instructions and product certificates.

This standard applies to low-rise residential buildings with fire resistance class 4 and public buildings with fire resistance class 4 and energy saving class B.

2 Normative references

The following documents are indispensable for the application of this document. For dated reference documents, only the dated version is suitable Used in this document. For undated references, the latest version (including all amendments) applies to this document.

GB/T 699 High-quality carbon structural steel GB/T 700 carbon structural steel GB/T 706 hot rolled section steel GB/T 819.1 Cross recessed countersunk head screws Part 1: Class 4.8 GB/T 819.2 Cross recessed countersunk head screws Part 2: Grade 8.8, stainless steel and non-ferrous metal screws GB 845 cross recessed pan head tapping screws GB 846 cross recessed countersunk head tapping screws GB/T 1804 General tolerance linear dimension unmarked tolerance GB/T 3098.1 Mechanical properties of fasteners bolts, screws and studs GB/T 3880.2 General Industrial Aluminum and Aluminum Alloy Plates and Strips Part 2: Mechanical Properties GB/T 3880.3 General industrial aluminum and aluminum alloy plates and strips Part 3: Dimensional deviation GB/T 5023.1 Polyvinyl chloride insulated cables with rated voltages up to and including 450/750V Part 1: General requirements GB/T 5237.1~ GB/T 5237.5 Aluminum alloy building profile GB/T 5782 Hexagon head bolts GB/T 5783 Hexagon head bolts full thread (DIN933) GB/T 5836.2 Unplasticized polyvinyl chloride (PVC-U) pipe fittings for building drainage GB/T 6170 Type 1 hexagon nut (DIN934) GB/T 6892 General industrial aluminum and aluminum alloy extruded profiles GB/T 8478 Aluminum alloy doors and windows GB/T 9978.1-2008~GB/T 9978.9-2008 Fire resistance test method of building components GB 9787 Hot-rolled equilateral angle steel size, shape, weight and allowable deviation GB 18580 The limit of formaldehyde emission in wood-based panels and products of interior decoration materials GB/T 14683 Silicone and modified silicone building sealant GB/T 14846 Aluminum and aluminum alloy extruded profile size deviation GB/T 15102 Impregnated plastic film paper facing artificial board GB/T 15227 Test method for airtight, watertight and wind pressure resistance of building curtain wall GB/T 16938 General technical conditions for fasteners bolts, screws, studs and nuts GB/T 19889.3 Acoustics Measurement of sound insulation of buildings and building components Part 3: Laboratory measurement of airborne sound insulation of building components GB/T 21086-2007 Building curtain wall GB/T 22083 Classification and requirements of building sealants GB 50009 Building structure load code GB 50011 Code for seismic design of buildings GB 50015 Code for Design of Building

Water Supply and Drainage GB 50016 Code for fire protection of building design GB 50017 Steel Structure Design Code GB 50057 Code for lightning protection design of buildings GB 50176 Code for Thermal Design of Civil Buildings GB 50189 Energy-saving design standard for public buildings GB 50205 Code for Construction Quality Acceptance of Steel Structure Engineering GB 50242 Code for construction quality acceptance of building water supply and drainage and heating engineering GB 50352 General Rules for Civil Building Design GB 50429 Code for Design of Aluminum Alloy Structure GB 50576 Specification for Construction Quality Acceptance of Aluminum Alloy Structure Engineering GB 50896-2013 Technical specification for engineering application of profiled metal plate CJJ/T 98 Technical Specification for Building Water Supply Plastic Pipeline Engineering DL/T 475 Grounding device characteristic parameter measurement guide HB/T 3099 Specification for materials used for preformed solid vulcanized structural gaskets of building rubber gaskets JG 3050 Insulating electrical casing and accessories for construction JG J 26 Energy-saving design standard for residential buildings in severe cold and cold areas JG J 75 Energy-saving design standard for residential buildings in hot summer and warm winter areas JG J/T 101 Building Seismic Test Regulation JG J 134 Energy-saving design standard for residential buildings in hot summer and cold winter areas JG J/T 139 Glass curtain wall engineering quality inspection standard

3 Terms and definitions

The following terms and definitions apply to this document.

Aluminum alloy house A house constructed of aluminum alloy materials in all or part of the main force-bearing structure, floor slab, and enclosure structure.

Integrated house

Houses assembled on-site using factory-produced modules. Usually called modular building.

Assembled house

Houses assembled on-site using factory-produced parts, components and components.

Mobile house

Factory production, with independent use function, can change the location of the house through the overall transportation, the integration of the overall hoisting installation houses.

4.1.1 Classified by whether it can be moved

Prefabricated aluminum alloy houses can be divided into aluminum alloy low-rise houses (code-named LH) and aluminum alloy mobile houses (code-named MH).

4.1.2 Classification by purpose

The classification and code by purpose should comply with the requirements of Table 1.

Table 1 Use classification and code

4.1.3 Classification by applicable climate regions

According to the applicable climate zone classification and code, it should meet the requirements of Table 2.

4.2.1 Marking method

The marking should be composed of house category, purpose, applicable climate zone, number of floors, area and total height.

4.2.2 Marking example

Example. If it is suitable for a two-story prefabricated aluminum alloy low-rise residential house with an area of 150m² and a total height of 7.7m in a cold area,

5.1 Design requirements

5.1.1

Aluminum alloy low-rise houses and mobile houses shall determine the floor and roof live load according to the use purpose according to GB 50009;

According to the applicable area, determine the wind load and snow load according to GB 50009, and determine the seismic fortification standard and earthquake action according to GB 50011.

5.1.2

The bearing capacity and deformation limits of aluminum alloy structural members and their connections shall meet the requirements of GB 50429.

Parts and connections should meet the requirements of GB 50017.

5.1.3

The design service life of the main structure of aluminum alloy low-rise houses and mobile houses is 50 years.

5.1.4

The design of civil buildings should meet the requirements of GB 50352.