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

GB/T 23451-2023

Lightweight panels for partition wall used in buildings

建筑用轻质隔墙条板

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Foreword

This document was issued on 7 September 2023 by the State Administration for Market Regulation; Standardization Administration of the PRC and takes effect on 1 April 2024.

It is a GB/T standard: recommended rather than compulsory, but it is the text a Chinese reviewer applies when assessing a submission.

1 Scope

GB/T 23451-2023 covers the prefabricated lightweight panel that is stood up dry to form non-loadbearing partition walls inside buildings, a product the document separates from boards and blocks by defining it as a panel with a length of not less than 2.2 m and a stated length-to-width ratio. The opening clauses fix how panels are classified, what specifications they are supplied in, and how each one is marked, so that a delivery can be identified on site. General provisions then reach back into production, requiring the cement, the calcined gypsum and the other constituents to conform to their own national standards before anything is cast. Requirements and the matching test methods follow, and the inspection rules divide the checking into the exit-factory inspection a plant runs before a batch leaves and the further inspection classes set alongside it. A closing clause covers marking, transportation and storage, the stage at which slender panels are most easily chipped or cracked. Panels of this type are made in many small plants from locally sourced binders and fillers, and a wall built from them cannot be put right once it is jointed and finished, so the checks sit ahead of delivery rather than after it. Written for panel producers, testing laboratories, contractors and the designers who specify partition systems.

This document specifies the classification, specifications and marking, general provisions, requirements, test methods, inspection rules, marking, transportation and storage of lightweight panels for partition wall used in buildings (hereinafter referred to as the lightweight panels).

This document is applicable to the processes such as design, production, inspection and application of non-load-bearing lightweight panels for partition wall used in industrial and civil buildings.

2 Normative References

The contents of the following documents constitute indispensable clauses of this document through the normative references in the text. In terms of references with a specified date, only versions with a specified date are applicable to this document. In terms of references without a specified date, the latest version (including all the modifications) is applicable to this document.

GB 175 Common Portland Cement

GB/T 701 Hot Rolled Low Carbon Steel Wire Rods

GB/T 1452 Test Method for Flatwise Tension Strength of Sandwich Constructions

GB/T 1596 Fly Ash Used for Cement and Concrete

GB/T 2542 Test Methods for Wall Bricks

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

GB 6566 Limits of Radionuclides in Building Materials

GB 8076 Concrete Admixtures

GB/T 9775 Gypsum Plasterboard

GB/T 9776 Calcined Gypsum

GB/T 9978.1 Fire-resistance Tests - Elements of Building Construction - Part 1.General Requirements

YB/T 5294 Low Carbon Steel Wire for General Uses

3 Terms and Definitions

The following terms and definitions are applicable to this document.

3.1 Lightweight Panel

A prefabricated panel with a length of not less than 2.2 m, a length-to-width ratio of not less than 2, made of lightweight materials or by means of lightweight construction, with a surface density not greater than the value specified in this document, and manufactured by mechanized production.

3.2 Hollow Panel

A lightweight panel with several through holes along the length of the board.

3.3 Solid Panel

A non-porous lightweight panel.

3.4 Composite Sandwich Panel

A prefabricated panel made of a composite of two or more materials with different properties or a composite of a face panel and a sandwich material.

3.5 Lightweight Concrete Panel

A prefabricated concrete panel mixed with pumice, ceramsite, fly ash, coal gangue, slag, recycled aggregates and other lightweight aggregates or admixtures, using cement as the cementitious material, and steel bars, steel wire mesh, chopped fibers or other materials as the reinforced materials; or a prefabricated concrete panel molded by foaming process.

3.6 Lightweight Cement Panel

A prefabricated panel for partition wall made with appropriate amounts of additives and admixtures, using alkali-resistant glass fiber mesh, steel wire mesh or steel wire mesh frame, and chopped fibers as the reinforced materials, cement as the cementitious material, or magnesium cementitious material.

NOTE. Lightweight cement panels include glass fiber reinforced cement panels, foamed cement

panels, panels of cement polystyrene particle, etc.

3.7 Panel of Cement Polystyrene Particle

A cement panel made with appropriate amounts of additives and admixtures, using cement, polystyrene particles, etc. as the main materials, and steel wire mesh or steel wire mesh frame as the reinforced material.

3.8 Gypsum Hollow Panel

A hollow panel made with an appropriate amount of additives, using gypsum as the main raw material, with cement content not exceeding 10%, and added with inorganic lightweight aggregates, chopped fibers, alkali-resistant glass fiber mesh, steel wire mesh and other reinforced materials.

3.9 Moisture-proof Gypsum Panel

A gypsum panel that has moisture-proof properties after moisture-proof treatment during the molding process.

3.10 Lightweight Foamed Ceramic Panel

A lightweight ceramic panel foamed and fired at high temperature using one or more of clay, quartz, ceramic fragments, tailings, red mud, fly ash, aeolian sand and other materials as the main raw materials, with the aid of a foaming agent.

3.11 Foamed Ceramic Composite Panel

A lightweight composite panel made of foamed ceramic as the face material and other functional materials as the core material.

3.12 Composite Panel of Cement Polystyrene Particle

A composite panel made of cement-based polystyrene particle composite material as the core material and inorganic sheet material as the face panel.

3.13 Composite Panel of Aluminum Honeycomb

A lightweight composite panel made of single-layer or multi-layer aluminum honeycomb core panel as the core material and inorganic sheet materials bonded on both sides as the face panels.

3.14 Composite Panel of Paper Honeycomb

A lightweight composite panel laminated, pressurized, and bonded using paper honeycomb