



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

GB 51022-2015

**Technical Code for Steel Structure of Light-weight Building with
Gabled Frames**

门式刚架轻型房屋钢结构技术规范
(English Translation)

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1.0.1

This Code is formulated with a view to normalizing the design, fabrication, installation and acceptance of steel structure of light-weight building with gabled frames, achieving safety and usability, advanced technology, economy and rationality and ensuring quality.

1.0.2

This Code is applicable to single-story steel structure buildings with the height of building no greater than 18m, the height-width ratio less than 1, single-span or multi-span solid-web gabled frame as the load-bearing structure, light-weight roof, without bridge crane or with Class A1-A5 bridge crane at a lifting capacity of no greater than 20t or 3t suspension crane.

This Code is not applicable to buildings with high corrosive medium effect on the steel structure as specified in GB 50046 Code for Anticorrosion Design of Industrial Constructions.

1.0.3

Design, fabrication, installation and acceptance of the steel structure of light-weight building with gabled frames shall meet the provisions of both this Code and national current relevant standards.

2.1.1 Light-weight building with gabled frames

The single-storey building that variable or constant section solid-web frame is adopted for the load-bearing structure and light-weight steel roof and light-weight exterior wall are adopted for the enclosure system.

2.1.2 Height of building

The average height from the outdoor ground to the roof. Where the roof slope angle is not greater than 10° , cornice height may be taken. Where the roof slope angle is greater than 10° , the average of the cornice height and the roof ridge height shall be taken. For single-slope building, where the roof slope angle is not greater than 10° , smaller cornice height may be taken.

2.1.3 Mezzanine

An indoor platform connected between one side and rigid frame column, which is generally arranged along the longitudinal direction of the building and few arranged along the gable.

2.1.4 Leaning stanchion

An axial compression member with the upper and lower ends hinged.

2.1.5 Diagonal brace

Bracing member for supporting the inclined beam and the compression flange of the column.

2.1.6 End wall column

The column arranged at the gable and for transferring the wind load on the gable to the horizontal brace of the roof.

2.1.7 Opening

The part which is not arranged with permanent effective enclosure on the exterior surfaces (wall surface and roof).

2.1.8 Open building

The building that at least 80% of each wall surface is the opening.

2.1.9 Partially enclosed building

The building that total area of the opening on the wall surface under external positive wind pressure exceeds that of the opening on its remaining exterior surfaces (wall surface and roof) and 10% the gross area of this wall, and opening ratio of the remaining exterior surfaces doesn't exceed 20%.

2.1.10 Enclosed building

The building without the opening in accordance with the definition of the partially enclosed building or open building in the enclosed space.

2.1.11 Edge strip

The zone at the building end and edge divided on the exterior wall and the roof during the determination of the coefficient for the wind load on the enclosure structure member and panel.

2.1.12 End zone

The zone at the building end and edge divided on the exterior wall and the roof during the determination of the coefficient for the wind load on the main rigid frame.