



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

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Replacing GBJ 6-1986

**Standard for modular coordination of industrial buildings
(English Translation)**

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1 General

1.0.1

This standard is formulated in order to make the geometric dimensions of the main components and assemblies of the factory building conform to the building modulus, achieve standardization and serialization, and facilitate industrial production.

1.0.2

This standard applies to the following situations.

- 1 Design prefabricated or partly prefabricated reinforced concrete structures, steel structures and mixed structure workshops of reinforced concrete and steel;
- 2 Size coordination between related disciplines in plant architectural design;
- 3 Compile the general design atlas of building components and accessories of the factory building.

1.0.3

The types of components and accessories used in each factory building at the same location should be unified. The types of components used in the same plant shall be uniform.

1.0.4

The shape of the factory building should be regular, simple, and the axes should be orthogonal.

1.0.5

During the architectural design of the plant, the building components with the same purpose should be interchangeable.

1.0.6

In addition to conforming to this standard, the architectural design of the factory building shall also comply with the current relevant national standards.

2.1.1 Modular coordination

Dimensional coordination based on basic or expanded modules.

2.1.2 Connecting size

Due to the technical requirements of the upper column section, in order to coordinate with the minimum clearance distance between the upper column and the upper column required for the normal operation of lifting equipment such as bridge type, girder crane or single girder suspension crane, the outer edge of the side column or the factory building The offset value set between the outer edge of the high-span upper column and the longitudinal positioning axis at the high-span and low-span.

2.1.3 Inserting distance inserting size

Due to the technical requirements of the upper column section or structural needs such as deformation joint treatment, the distance between two positioning axes inserted in a certain span direction or column distance direction of the factory building.

2.1.4 Modular size

Comply with the dimensions specified by the modulus sequence.

2.1.5 Technical size technical size

The minimum size value of the cross-section or thickness of the building components that meet the building function and technological requirements is in an economically optimal state.

2.1.6 Logo size coordinating size

Conforms to the requirements of the modulus sequence, and is used to mark the vertical distance between the building as the axis plane, the positioning plane or as the axis, and the positioning line, as well as the distance between the boundaries of building components, building assemblies, building products, and related equipment. size.

2.2 Symbols

M - basic modulus, 1M is 100mm;

be--deformation seam width;

ac - contact size;

ai - insertion distance;

aop-the headroom size required for hoisting the wall panel;

an-the positioning dimension between the member and the positioning axis;

beta--wall thickness;

b--section width of components;

h-height of component section;

n - multiple.

3 Basic Regulations

3.0.1

The base of the planar and vertical coordination modulus of the plant building should be the expanded modulus of 3M.

3.0.2

When the cross-sectional size of the plant building components is less than or equal to 400mm, it should be upgraded according to 1/2M; when it is larger than 400mm, it should be upgraded according to 1M.

3.0.3

Single axis should be adopted for the vertical and horizontal positioning of the building components of the factory building; when the insertion distance or contact size needs to be set, dual axes can be used.

4.1.4 The column spacing of the wind-resistant columns at the gable of the reinforced concrete factory building should adopt the expansion modulus 15M sequence (Figure 4.1.1).

4.2 The positioning of the main components of the reinforced concrete structure workshop

4.2.1 The positioning of reinforced concrete factory building walls, columns and transverse positioning axes shall meet the following requirements.

1 Except for the column at the deformation joint and the end column, the center line of the column shall coincide with the transverse positioning axis; the column at the transverse

deformation joint shall adopt double columns and two transverse positioning axes, and the center line of the column shall be from the positioning axis Move 600mm to both sides, and the width of the joint between the two transverse positioning axes [Figure 4.2.1(a)] should be determined in combination with individual design;

2 The inner edge of the gable wall shall coincide with the transverse positioning axis, and the center line of the end column shall be moved inwardly from the transverse positioning axis by 600mm [Figure 4.2.1(b)].

Figure 4.2.1 Positioning of Wall Columns and Transverse Positioning Axis

4.2.2 The positioning of reinforced concrete factory building walls, side columns and longitudinal positioning axes shall meet the following requirements.

1 The outer edge of the side column and the inner edge of the wall should coincide with the longitudinal positioning axis [Figure 4.2.2(a)];

2 In workshops with crane girders, when the lifting capacity, column spacing or construction requirements of the crane need to be met, a contact dimension may be added between the outer edge of the side column and the longitudinal positioning axis [Figure 4.2.2(b)]. 3M sequence is used, but when the wall structure is masonry, 1/2M sequence can be used for the contact size.

Figure 4.2.2 Positioning of walls, side columns and longitudinal positioning axes

4.2.3 The positioning of the central column and the longitudinal positioning axis of the reinforced concrete structure factory building shall meet the following requirements.

1 For the center column of a factory building of equal height, a single column and a longitudinal positioning axis should be arranged, and the center line of the column should coincide with the longitudinal positioning axis [Figure 4.2.3-1(a)];

2 For the center column of a factory building of equal height, when the insertion distance needs to be set in adjacent spans, the center column can adopt a single column and two longitudinal positioning axes, the insertion distance should conform to 3M, and the column center line should coincide with the insertion distance center line [Fig. 4.2.3-1(b)];

3 When a single column is used at the high and low spans, the outer edge of the upper column on the high span and the inner edge of the sealing wall should coincide with the longitudinal positioning axis [Figure 4.2.3-2(a)];

When the outer edge of the upper column cannot coincide with the longitudinal positioning axis, two longitudinal positioning axes should be used, and the insertion distance should be the same as the connection dimension [Figure 4.2.3-2(b)], or equal to the thickness of the wall [Figure 4.2.3-2(c)] or equal to the wall thickness plus contact size [Figure 4.2.3-2(d)];

4 When double columns are used at the high and low spans, two longitudinal positioning axes shall be adopted, and the insertion distance shall be set. The positioning of the