

ICS 93.020
CCS P 27



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

GB 50901-2013

Code for construction of steel-concrete composite structures

钢—混凝土组合结构施工规范

(English Translation)

Issued on: December 19, 2013

Implemented on: July 1, 2014

**Issued by: Ministry of Housing and Urban-Rural Development of the
People's Republic of China;**

**General Administration of Quality Supervision, Inspection and
Quarantine of the People's Republic of China**

Table of Contents

- 1 General
- 2 Terms and symbols
 - 2.1 Terminology
 - 2.2 Symbols
- 3 Basic Regulations
 - 3.1 General provisions
 - 3.2 Construction organization
 - 3.3 Node construction
 - 3.4 Construction detailed design
- 4.5 Steel members
- 5 Concrete Steel Tube Columns
 - 5.1 General provisions
 - 5.2 Construction points
- 6 Steel concrete columns
 - 6.1 General provisions
 - 6.2 Construction points
- 7 Steel concrete beams
 - 7.1 General provisions
 - 7.2 Construction points

1 General

1.0.1

In order to ensure the construction quality of steel-concrete composite structures, achieve advanced technology, reasonable economy, safe construction, energy saving and environmental protection, this specification is formulated.

1.0.2

This specification applies to the construction and acceptance of steel-concrete composite structures for industrial and civil buildings and general structures.

1.0.3

The construction of steel-concrete composite structures shall not only comply with this specification, but also comply with the current relevant national standards.

2.1.1 Steel-concrete composite structure members

A structural member composed of section steel or steel pipe or steel plate combined with reinforced concrete.

2.1.2 Steel-concrete composite structures steel-concrete composite structures

A structure consisting of steel-concrete composite members.

2.1.3 Steel reinforced-concrete columns

Columns with section steel in reinforced concrete section.

2.1.4 Concrete-filled steel tube columns

Columns in which concrete is poured in steel pipes and the steel pipes and the concrete in the pipes share the load, including circular, rectangular, polygonal and other complex cross-section concrete-filled steel pipe columns.

2.1.5 Steel reinforced-concrete beams

Beams configured with profiled steel beams in reinforced concrete sections.

2.1.6 Steel reinforced-concrete com-posite shear walls

A shear wall with profiled steel inside a reinforced concrete section.

2.1.7 Steel-plate reinforced-concrete shear walls

Shear walls with steel plates in reinforced concrete sections.

2.1.8 Steel concealed bracing concrete composite shear walls

A shear wall with steel braces inside a reinforced concrete section.

2.1.9 Steel-concrete composite floorslabs steel-concrete composite floorslabs

The profiled steel plate works together with the cast-in-place concrete to bear the load of the floor or roof slab through the shear connection.

2.1.10 Detailing design

On the basis of engineering design documents, according to the actual construction plan, combined with the construction technology, the engineering design drawings are refined, supplemented and improved.

2.2.1 Geometric parameters

b - width;

d - diameter;

D--Initial deformation amplitude outside the surface of the built-in steel plate;

L - the net distance between the columns on both sides of the built-in steel plate;

h-clear distance between the upper and lower end steel beams of the built-in steel plate.

3.1 General provisions

3.1.1

The steel-concrete composite structure may include frame structure, shear wall structure, frame-shear wall structure, cylinder structure, slab-column-shear wall structure and other structural systems.

3.1.2

Steel-concrete composite structural members can be divided into columns, beams, walls, slabs, etc.

3.1.3

The construction unit of the steel-concrete composite structure project shall have the corresponding project construction qualification, and shall establish a safety, quality and environmental management system.

3.1.4

Before the construction of the steel-concrete composite structure project, the design unit should make a technical disclosure of the design drawings, and the construction unit should organize the participating units to conduct a joint review of the construction drawings.

3.1.5

Before the construction of steel-concrete composite structure project, technical documents such as construction organization design and special construction plan shall be obtained after review.

3.1.6

The construction unit of the steel-concrete composite structure project shall carry out in-depth design on the design drawings and shall be approved by the design unit.

3.1.7

All kinds of measuring instruments used in the construction of steel-concrete composite structures shall be calibrated and used within the validity period.

3.1.8

New technologies, new processes, new materials and new equipment adopted in the construction of steel-concrete composite structures shall be tested and inspected when they are used for the first time, and the results shall be verified by experts.

3.1.9

During the construction of steel-concrete composite structures, concrete measures should be taken to reduce concrete shrinkage.

3.2 Construction organization

3.2.1

The site layout of the steel-concrete composite structure shall be comprehensively determined based on factors such as the cross-operation of steel structure engineering construction and concrete engineering construction, storage yard layout, and operating environment.

3.2.2

In the construction of steel-concrete composite structures, special plans should be prepared for vertical transportation and installation.

3.2.3

For the construction of steel-concrete composite structures, a special safety plan for crossing and high-altitude operations should be prepared.

3.3 Node construction

3.3.1

The connection between steel bars and steel members in steel-concrete composite structures should be based on the design of the joints, and the steel bar bypass method, perforation method, connector method and its combination method can be used.

3.3.2

For important complex joints in the construction of steel-concrete composite structures, it is advisable to carry out simulated construction at a ratio of 1:1 before construction, optimize the design of joints according to the simulated conditions, and carry out process evaluation.

3.4 Construction detailed design

3.4.1

The detailed construction design shall comply with the relevant current national standards and shall be carried out on the basis of the construction drawings. The detailed design drawings shall be approved by the design unit before construction.