



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

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**Code for quality acceptance of the concrete filled steel tubular
engineering**

钢管混凝土工程施工质量验收规范

(English Translation)

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1 General

1.0.1

In order to strengthen the construction quality management of construction projects, unify the acceptance of the construction quality of steel pipe concrete projects, and ensure the project quality, this specification is formulated.

1.0.2

This code is applicable to the acceptance of construction quality of concrete filled steel pipe works in construction projects.

1.0.3

This specification shall be used in conjunction with the current national standard GB 50300 "Unified Standard for Construction Quality Acceptance of Construction Engineering".

1.0.4

The acceptance of the construction quality of steel pipe concrete projects shall not only comply with this specification, but also comply with the provisions of the current relevant national standards.

2.0.1 Steel tubular concrete filled member

A structural member in which concrete is poured in a steel pipe and the steel pipe and the concrete in the pipe work together.

2.0.2 Concrete in the steel tube

Concrete poured in steel pipes with certain work performance requirements.

2.0.3 Through-type steel tubular joint

At the joints between the concrete-filled steel tube columns and the reinforced concrete beams, the steel tube columns on the upper and lower floors adopt the column-beam joints of concrete-filled steel tubes that directly penetrate the core area of the column-beam joints.

2.0.4 Part-through type steel tubular joint

At the joint between the concrete-filled steel tube column and the reinforced concrete beam, the steel tube columns on the upper and lower floors do not directly pass through the core area of the column-beam joint, but use small-diameter thick-walled steel tubes, steel plate fins, etc. to connect the upper and lower concrete-filled steel tube columns at the core area of the column-beam joint. The converted column-to-beam junction is reached. Also known as a transition connection node.

2.0.5 Steel plate fin fin

In the non-penetrating joints of steel tube columns at the joints of steel tube concrete columns and reinforced concrete beams, the steel tube columns do not penetrate the core area of the column beam joints, and are used for the steel plate ribs for the conversion connection of the upper and lower steel tube concrete columns.

3 Basic Regulations

3.0.1

The construction of concrete filled steel pipe projects shall be undertaken by enterprises with corresponding qualifications. The construction quality inspection of concrete filled steel pipe projects should be undertaken by institutions with engineering structure inspection qualifications.

3.0.2

The construction drawing design documents of concrete filled steel pipe shall be reviewed and approved by the organization with the construction drawing design review permit. The detailed design documents of the construction unit shall be confirmed by the original design unit.

3.0.3

Before the construction of the concrete filled steel pipe project, the construction unit shall prepare a special construction plan, which shall be confirmed by the supervision (construction) unit. During winter, rainy and high temperature construction, seasonal

construction technical measures should be formulated.

3.0.4

The materials of steel pipes, steel plates, steel bars, connecting materials, welding materials and concrete filled steel pipes shall comply with the design requirements and the current relevant national standards.

3.0.5

The manufacture of steel pipe components shall comply with the relevant provisions of the current national standard "Code for Construction Quality Acceptance of Steel Structure Engineering" GB 50205. Components leaving the factory shall undergo acceptance inspection according to regulations, and form a factory acceptance record. If pre-assembly is required, it shall be pre-assembled and recorded.

3.0.6

Welders must pass the examination and obtain the qualification certificate, and the certified welders must perform welding within the scope specified in the qualified items of the examination and the qualification certificate

3.0.7

The primary and secondary welds that require full penetration in the design shall be inspected for internal defects of the welds by ultrasonic flaw detection, and radiographic flaw detection shall be used when the defects cannot be judged by ultrasonic flaw detection. The internal defect classification and flaw detection shall comply with the relevant provisions of the current national standards "Manual ultrasonic flaw detection methods and flaw detection results classification of steel welds" GB 11345 and "Radiography of Metal Fusion Welded Joints" GB/T 3323. The quality grade and defect classification of the first and second grade welds shall comply with the provisions in Table 3.0.7

3.0.8

The hoisting sequence of concrete-filled steel tube members and the pouring sequence of concrete inside the steel tube shall meet the requirements of structural strength and stability.

3.0.9

Before the construction of the concrete in the steel pipe, the mix ratio design should be carried out, and the pouring process test should be carried out; the pouring method should be compatible with the structural form.

3.0.10

After the steel pipe components are installed, anti-corrosion and fire-proof coating should be carried out according to the design requirements. Its quality requirements and inspection methods shall comply with the relevant provisions of the current national standard "Code for

Construction Quality Acceptance of Steel Structure Engineering" GB 50205.

3.0.11

The construction quality acceptance of concrete filled steel pipe projects shall be checked and accepted by the supervision (construction) unit on the basis of the construction unit's own inspection and assessment. The procedures should be checked and accepted according to the current national standard "Unified Standard for Construction Quality Acceptance of Construction Engineering" GB 50300. Concrete filled steel tube sub-divisions shall be divided into sub-projects according to the provisions in Table 3.0.11.

4.1 Inspection and acceptance of steel pipe components

master project

4.1.1

The acceptance of steel pipe components should be carried out when they enter the site, and the quality of their processing and manufacturing should meet the design requirements and the contract.

Inspection Quantity. Full inspection.

Inspection method. check the factory acceptance record.

4.1.2

When steel pipe components enter the site, the quantity of components and accessories shall be checked according to the installation process.

Inspection Quantity. Full inspection.

Inspection method. Check the number of components and accessories according to the installation process list.

4.1.3

The specification and quantity of steel plate fins, stiffening ribs, studs and pipe wall openings on steel pipe members shall meet the design requirements.

Quantity to be inspected. 10% of the same batch of components shall be randomly inspected, and no less than 3 pieces.

Inspection method. scale inspection, observation inspection and inspection of factory acceptance records.

General project

4.1.4

There should be no deformation, paint peeling, etc. caused by transportation and stacking of steel pipe components.