

CCS H 44



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

GB 50018-2002

Replacing GBJ 18-1987

Technical code of cold-formed thin-wall steel structures

Issued on: September 27, 2002

Implemented on: January 1, 2003

Issued by: MOC; AQSIQ

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1.0.1 This code has been worked out for the purpose of implementing the technical and

economical policies of the country in design and construction of cold-formed thin-walled steel structure so that the design and construction can be technically advanced, economically reasonable, reliable and safe and ensure the quality of the works.

1.0.2 This code applies to the design and construction of cold-formed thin-walled steel

structure works for building engineering.

1.0.3 This code does not cover the special requirements of structure which bearing

dynamic loading directly and cold-formed thin-walled steel structure which undergoing intense corrosive effect.

1.0.4 The design principles of this code are constituted according to the present National

Standard "United Code for Design of the reliability of Building Structure" GB 50068.

1.0.5 When designing cold-formed thin-wall steel structure, it should ensure that the

structure comply with the requirements of intension, stability and rigidity, and accord with the fireproofing and anticorrosion requirements during the course of transportation,

installation and performance, the materials, structure schemes and configuration measures should be selected reasonably taken into account of engineering reality.

1.0.6 Apart from the implementation of this code, the design and construction of

cold-formed thin-wall steel structure shall also be in conformity with relevant standards being now in use in the country.

2.1 Terms

2. 1. 1 Elements The flatplate part between two adjacent longitudinal sides in thin-walled section steel member.

2. 1. 2 Stiffened elements The elements which two longitudinal sides both connect with other elements.

2. 1. 3 Partially stiffened elements The elements which one longitudinal side connects with other elements, and the other is a element which is stiffened by the border crimp which accords with requirements.

2. 1. 4 Unstiffened elements The elements which one longitudinal side connects with other elements, and the other is a free element.

2. 1. 5 Uniformly compressed elements The elements, which undergo the effect of axis 's uniform pressure.

2. 1. 6 Non-uniformly compressed elements The elements which undergo the effect of axis's linear non-uniform distributed stress.

2. 1. 7 Sub-elements The elements which one longitudinal side connects with other elements, and the other is connected with intermediate stiffener according with requirements, or which two longitudinal sides are both connect with intermediate stiffeners according with requirements.

2. 1. 8 Width-to-thickness ratio The ratio of the width and the thickness of elements.

2. 1. 9 Effective width-to-thickness ratio To simplify calculation, the width of elements is discounted when considering compressed elements' strength after using flexuosity. The ratio of the calculated width of elements after discounting and thickness.

before welding. Concrete welding parameters should be determined according to testing to ensure welding quality.

2 Rust, dirt, seeper etc. at welding position should be cleaned clearly before welding.

Drying processing should be performed for welding rod, welding flux.

3 When section steel is butt welded or welded all around section, it

should not start arc

and extinct arc at the same position and should extinct arc after moving some distance from arc starting position that is covered. It should not start arc and extinct are at non-welding position and welding end of parent metal.

4 After finishing welding, it should clean sinter on surface of weld and splashing

substance at two sides clearly and check appearance quality of weld.

6 When performing welding in butt weld, it should adopt proper welding measures

(methods such as leaving space in advance, single or double butt weld with backing etc.) to ensure welding through.

7 Selection of each technological parameter (such as resistance welding time, welding

current, electrode pressure etc.) of resistance spot welding should guarantee measuring up of shearing strength test of welding spot. During performing welding, each parameter should remain relatively stable and contacting surface of weldments should be jointed closely.

8 It should adopt coniform electrode in resistance spot welding and its diameter should

not be less than sJ_i (where t is thickness of outer thinner element among weldments).

During performing welding, fluctuant amplitude should not be more than $1/5$.

11.1.7 Cold-formed thin-walled steel structural member should be packed after coat is dry and packing should protect that member's coat not to be damaged and should guarantee that member cannot be deformed, be damaged, be dissipated during the course of transportation, loading and unloading, stacking.

11.1.8 Installation of cold-formed thin-walled steel structure should accord with following requirements.

1 It should perform checking to member's quality before structure installation. It should take processing when distortion, defect of member exceed allowable deviation.

2 When structure is in hoisting, it should adopt proper measures to avoid permanent deformation and should fill up contacting part of rope buckle and member.

3 It should not use cold-formed thin-walled steel member that is installed to

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