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

JG/T 178-2005

**Cold-formed steel hollow sections for building structures
(English Translation)**

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Foreword

This standard and the international standard ISO 4019-2001 "The size and section characteristics of cold-formed hollow steel for structural use" and ISO 10799-2001 the degree of consistency of the "Technical Delivery Requirements for Cold Formed Welded Hollow Structural Steels" is revised.

The main differences between this standard and ISO 4019-2001 "Crimping and section properties of cold-formed hollow sections for structural use" are as follows.

- Cancel the circular cold-formed hollow steel, square and rectangular cold-formed rectangular steel pipe group spacing and specifications are different;
- Increase the product quality requirements level, divided into I (higher) and II (ordinary);
- Specify the allowable value of the sawing slope of the end of cold-formed rectangular steel pipe;
- Reduce the allowable value of the plane roughness of the Class I product;
- Relaxation of the allowable values of the allowable deviation, bending, torsion and length accuracy of the corners of the Class II products.
- Increase the allowable value of the weight deviation of cold-formed rectangular steel pipe.

The main differences between this standard and ISO 10799-2001 "Cold-formed welded hollow structural steel technology delivery requirements" are as follows.

- Increase the product yield strength grade, divided into 235, 345, 390;
- Increase product performance and quality requirements, divided into I (higher) and II (ordinary);
- Specify the different scope of application of Class I and Class II products;
- Specify the performance of the product of Class I products in two molding modes;

--- Increase the comparison table between the standard grades of common raw material steel grades at home and abroad and the yield strength grade of this standard.

Appendix A and Appendix B of this standard are informative annexes.

This standard was proposed by the Institute of Standards and Ratings of the Ministry of Construction.

This standard is under the jurisdiction of the Ministry of Construction's Standardization Technical Committee for Building Products and Components.

This standard is mainly drafted by. Shanghai Iron and Steel Technology Research Institute of Baosteel Group, East China Architectural Design and Research Institute, Shanghai Metallurgical Design Institute, China National Planning and Design Institute Beijing Guocheng Architectural Design Company, Shanghai Guandal Steel Structure Co., Ltd., Baosteel Greenland Construction Co., Ltd.

Steel Group Guangzhou Steel Tube Plant Co., Ltd., Wuhan Iron and Steel Group Hankou Rolling Mill.

1 Scope

1.1

This standard specifies the terms and definitions, manufacturing process and delivery status, classification and marking, and technical requirements of cold-formed rectangular steel tubes for building structures.

Requirements, dimensions and section characteristics, delivery weight and delivery length, test methods, acceptance rules, packaging, marking and quality certificates.

1.2

This standard is applicable to cold-welded welded rectangular steel pipes for building structures, and is also applicable to other structures such as bridges. Class I steel pipes are suitable for construction.

For the main components in structures such as buildings and bridges and those subjected to large dynamic loads, Class II steel pipes are suitable for general bearing capacity in building structures.

occasion.

2 Normative references

The terms in the following documents become the terms of this standard by reference to this standard. The latest version of the undated reference document this applies to this standard.

Sample sampling method for chemical analysis of GB/T 222 steel and allowable deviation of chemical composition of finished products GB/T 223 steel and alloy chemical analysis method GB/T 228 metal material tensile test method at room temperature GB/T 229 metal Charpy notched impact test method GB/T 699 quality carbon structural steel technical conditions GB/T 700 carbon structural steel GB/T 714 structural steel for bridge GB/T 1591 low alloy high strength structural steel General provisions for GB/T 2101 steel acceptance, packaging, marking and quality certificates GB/T 2975 steel and steel products mechanical properties test sampling position and sample preparation GB/T 3075 metal axial fatigue test method GB/T 4171 high weathering structural steel GB/T 7735 steel pipe eddy current testing method GB/T 11345 steel weld manual ultrasonic flaw detection method and grading of flaw detection results General technical requirements for the delivery of GB/T 17505 steel and steel products

3 Terms and definitions

The following terms and definitions apply to this standard.

A cold-rolled or hot-rolled steel strip is directly subjected to continuous angular deformation, and is formed by a high-frequency welding method to form a rectangular steel pipe, which is also called square deformation molding.

Continuously bending and deforming the cold-rolled or hot-rolled steel strip, forming a round tube after high-frequency welding, and forming a rectangular steel tube by shaping Formula, also known as round square forming.

The height of the same surface of the cold-formed rectangular steel tube that is concave or convex along the width direction is shown in Fig. 3.