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

YD/T 757-2013

**Technical specifications for communication towers of angle
steel**

角钢类通信塔技术条件

(English Translation)

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Foreword

This Standard is prepared according to the rules provided in GB/T 1.1-2009 "Directives for standardization - Part 1. Structure and Drafting of Standards".

This Standard replaces YD/T 757-1995 "Technical Specifications of Microwave Tower".

Compared with YD/T757-1995, the main revisions are as follows.

1 Add the scope of application. Communication towers of steel angle and similar steel

structure;

2. Update the reference standards;
3. Add provisions on materials;
4. Design section is revised in accordance with the new norms;
5. Add contents on zinc coating restoration;
6. Add stipulations on trial assembly;
7. Revise marking, packaging and transportation section;

8. Revise inspection rules.

This Standard was proposed by and under the jurisdiction of China Communications Standards Association.

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This Standard was first published on June 28, 1995.

Technical Specifications for Communication Towers of Angle Steel

1 Scope

This Standard specifies technical requirements for manufacturing, inspection rules, package marking, storage and transportation, etc. of communication towers of angle steel.

This Standard applies to the design and manufacturing of mobile communication tower, microwave communication tower and other communication towers that are mainly made of angle steel, connected through fasteners, and adopt hot-dip galvanization for corrosion resistance as well as similar steel structure.

2 Normative references

The following documents are indispensable for application of this document. For the dated documents so quoted, only the dated versions apply to this document. For the undated documents so quoted, the latest versions (including all modification sheets) apply to this document.

GB 50009-2001 Load code for the design of building structures GB 50205-2001 Code for Acceptance of Construction quality of Steel Structures GB/T 41 Hexagon nuts - Product grade C GB/T 709 Dimension shape weight and tolerances for hot-rolled steel plates and sheets GB/T 2828.1 Sampling procedures for inspection by attributes - Part 1. Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection GB/T 2829 Sampling procedures and tables for periodic inspection by attributes (Apply to inspection of process stability) GB/T 3098.1 Mechanical properties of fasteners. Bolts, screws and studs GB/T 3098.2 Mechanical properties of fasteners - Nuts - Coarse thread GB/T 3323 Methods for radiographic inspection and classification of radiographs for fusion welded butt joints in steel GB/T 11345 Method for manual ultrasonic testing and classification of testing results for ferritic steel welds GB/T 13912 Metallic coatings - Hot dip galvanized coatings on fabricated iron and steel articles - Specifications and test methods YD 5098-2005 Specifications of Engineering Design for Lightning Protection and Earthing Design for

Telecommunication Bureaus (Stations)

3 General provisions

3.1

The organization that manufactures the communication towers shall have corresponding qualifications.

3.2 Design and manufacture of communication towers shall comply with relevant

provisions of this Standard; where it is not covered by this Standard, relevant national and industry standards shall prevail.

3.3 Manufacture of communication towers shall comply with the requirements of drawings;

when the design has to be changed, it shall be approved by design organization, and the design organization provides the design changes.

3.4 When new technologies, new processes and new materials are adopted, it is better to evaluate the conformity to safe-use requirements through verification.

3.5 Communication tower manufacturing process shall comply with the requirements of relevant national security, environmental and occupational health regulations.

4.1.1 Steel varieties, specifications, performances, etc. shall comply with existing national

product standard and design requirements and there shall be quality conformity certificate;

there shall be spot check before use of steel. Quality of imported steel shall comply with design and the requirements of standard specified in contract.

4.1.2 When the design has no special requirements, allowable thickness deviation of hot

rolled steel plate shall comply with the provisions on deviation of class N in GB/T 709.

4.1.3 Steel surface quality. The surface shall be free of cracks, folds, scars, inclusions and cold-lap; for corrosion, pitting and scratches on surface, the depth may not be 1/2 greater than negative allowable thickness deviation of the steel, and the accumulated error is within negative allowable deviation range.

4.1.4 Steel splicing shall be approved by design organization.

4.2 Welding material

4.2.1

Varieties, specifications, performances, etc. of welding materials shall comply with existing national product standard and design requirements; there shall have quality conformity certificate.

4.2.2 Welding rod coating shall not fall off; welding core shall not get rusty; welding wire

surface shall be smooth and free of burrs, rusting, oxide skin and other defects that have adverse effect on welding performance.

4.3.1 Varieties, specifications and grades of bolts, nuts, gaskets, turnbuckles, steel

stranded wire, wire rope clip, shackle and other connecting pieces and fasteners and anticorrosion form shall meet design requirements; there shall have quality conformity certificate.

4.3.2 Mechanical properties of bolts and nuts shall be able to meet the provisions of GB/T

3098.1 and GB/T 3098.2.

4.3.3 Galvanized layer thickness of fasteners shall meet design requirements and the provisions of GB/T 13912.

4.3.4 Other requirements for fasteners are based on existing relevant national standard.

5.1.1 Design reference period of communication tower structure is 50 years; design

working life is generally 50 years; security of structure is of level two; earthquake fortification of microwave tower shall not be lower than class B; earthquake fortification of mobile communication tower shall not be lower than class C. For any special requirements, construction party and design organization negotiate to determine according to relevant standard.

5.1.2 Calculation of wind load that communication tower structure bears shall follow the provisions of existing national standard GB 50009 "Load Code for the Design of Building Structures (Version 2006)"; designed reference wind pressure is based on a fifty-year return period and reference wind pressure may not be less than 0.35 kN/m².

5.1.3 Tower top shall fitted with lightning rod and other air termination to ensure that