

Industry Standard of the People's Republic of China

Standard Drawing of Foundation Bolt (Anchor Bolt)

HG/T 21545-2006

Chief company for editing: Sinopec Ningbo Engineering Company Limited

Approved by: National Development and Reform Commission of the People's Republic of China

Implementation date: April 1st 2007

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The National Development and Reform Commission approved 87 items of industry standards (see the attachment for standards No., name and implementation date) such as *Pipeline Type Centrifugal Pump* and so on, in which there are 74 items of mechanical industry standards and 13 items of chemical industry standards; they also approved *The First Part of JB/T 9008. 1-2004 Steel Wire Rope Electric Hoist: Type and Basic Parameters, Technical Conditions* and *the Second Part of JB/T 9008. 1-2004 Steel Wire Rope Electric Hoist: Testing Methods*. The modification list for these two items of mechanical industry standards are hereby promulgated and implemented from the date of promulgating.

The above standards for mechanical industry are published by China Machine Press, and chemical industry standards are published by China Planning Press.

Attachment: The No. and name for 13 items of chemical and engineering industry standards

National Development and Reform Commission of the People's Republic of China

October 4, 2006

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Company participated: China Huanqiu Contracting and Engineering Corporation

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General information

1 Task sources and scope of application

1.1 This standard drawing is compiled by China Petroleum & Chemical Engineering Survey and Design Association under the requirement of National Development and Reform Commission FGBGY No. [2004] J872 document and China Petroleum and Chemical Industry Federation SHXKF No. [2004] J155 document. This standard drawing is mainly compiled by Sinopec Ningbo Engineering Company Limited. China Huanqiu Contracting and Engineering Corporation also participated in compiling.

1.2 This standard drawing is applicable to non-seismic regions, and the regions of which the seismic fortification intensity is 6 ~ 8 degrees; Applicable to fixing equipment, machinery and steel structure on foundation or designing for foundation bolt (anchor bolt) on other concrete and reinforced concrete structure.

1.3 The foundation bolt of this standard drawing including two types of structure and stress should be buried in ordinary concrete and under normal temperature. The foundation bolt of this standard drawing doesn't apply to be buried in lightweight concrete and other special concrete.

1.4 When building structure is in corrosive environment, the foundation bolt should be taken protective measures according to requirements of chapter 4 from *Anti-corrosion Design Rules for Industrial Building* (GB 50046).

2 Design basis

This standard drawing should comply with the current national standards and norms.

2.1 Norms

Unified Design Standard for Reliability of Building Structures GB 50068

Load Code of Building Structures GB 50009

Code for Anti-seismic Design of Buildings GB 50011

Code for Design of Concrete Structures GB 50010

Code for Design of Steel Structures GB 50017

Testing Criteria for the Construction Quality of Steel Structure Engineering GB 50205

2.2 Standards :

Carbon Structural Steel GB/T700

Low Alloy and High Strength Structural Steel GB/T1591

Hot rolling Seamless Steel Tube GB/T 8162

Specification and Sizes of Round Steel and Square Steel GB/T 702

Specification and Size of Hot Rolling Thick Copper Plate GB/T 709

General Scheme of Flat Washers for Bolts, Screws and Nuts GB/T 5286

C Grade Hexagon Headed Bolt GB/T5780

C Grade I-type Hexagon Nut GB/T 41

C Grade Flat Washer GB/T95

Square Taper Washers for Common I-steel GB/T 852

Square Taper Washers for Common Slot Section GB/T 853

Regular Screw Threads Diameter and Thread Pitch Series GB/T 193

Regular Screw Threads Basic Size GB/T 196

Regular Screw Threads Tolerance and Fits GB/T 197

3 Materials

3.1 The anchor bolt can be made of Q235 steel specified in current national standards *Carbon Structural Steel* (GB/T 700) or Q345 steel specified in *Low Alloy and High Strength Structural Steels* (GB/T 1591).

3.2 The standard fasteners such as screws, nuts and washer should be consistent with current national standards; Non-standard fasteners can be chosen referring to similar standard fasteners.

3.3 If the foundation bolts are buried in concrete, the concrete strength level should not be lower than C15 (Q235) and C20 (Q345).

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