

ICS 91.100.30
CCS Q 14



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

GB 13476-2009

**[GB/T 13476-2009] Pretensioned spun concrete piles [including
2014 MODIFICATION 1]
(English Translation)**

Issued on: March 28, 2009

Implemented on: March 1, 2010

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine of the People's Republic of China**

Table of Contents

Foreword...	3
1 Scope...	6
2 Normative references...	6
3 Product classification...	7
4 Raw materials and general requirements...	9
5 Technical requirements...	12
6 Test methods...	15
7 Inspection rules...	19
8.Mark...	22
9 Storage and transportation...	23
10 Product certificate...	25

Foreword

Clause 5.1.2, clause 5.1.3, clause 5.2, clause 5.3 and clause 5.6 in this Standard are mandatory; the rest are recommended.

Consistent degree between this Standard and Japanese industrial standard JIS A

5373.2004 "Precast Prestressed Concrete Products" is non-equivalent.

This Standard replaces GB 13476-1999 "Pretensioned Spun Concrete Piles".

Compared with GB 13476-1999, main differences of this Standard are as follows.

- Revise the representation method of normative references (chapter 2 in edition 1999; chapter 2 in this Standard);
- Revise the product classification (chapter 3 in edition 1999; chapter 3 in this Standard);
- Revise raw materials and general requirements (chapter 4 in edition 1999; chapter 4 in this Standard);
- Revise technical requirements (chapter 5 in edition 1999; chapter 5 in this Standard);

- Revise test method (chapter 6 in edition 1999; chapter 6 in this Standard);
- Revise inspection rules (chapter 7 in edition 1999; chapter 7 in this Standard);
- Revise marks (chapter 8 in edition 1999; chapter 8 in this Standard);
- Revise storage and transport (chapter 9 in edition 1999; chapter 9 in this Standard);
- Adjust the product certificate (chapter 10 in this Standard);
- Delete the provisions on product classification.
- Add pile specifications and minimum reinforcement area of prestressed steel (Table

1 in this Standard);

- Add the requirements for minimum thickness of end plate (Table 2 in this Standard);
- Add the requirements for aggregates used for piles that have anti-freeze, impermeability and other special requirements (4.1.2.3 in this Standard);
- Add quality requirements for silica sand powder, superfine slag powder, coal ash, silica fume and other admixtures (4.1.6.1 in this Standard);
- Add shear performance requirements and test methods of piles (4.2.3 in this Standard);

Wang Chong, Yu Yuanbao, Wei Yiling, Wang Xinxiang, Xu Xiangyuan, Yu Yachao, He Yaohui, Lang Wengang, Zhou Zhaodi, Xu Xinghua, Zhang Jiechun, Zhang Yao, Huang Haiyan, Xie Xiaofeng, Xie Biao and Liao Zhenzhong.

This Standard was first-time released in 1992 and first-time revised in 1999. This is the second revision.

Pretensioned Spun Concrete Piles

1 Scope

This Standard specifies the pretensioned spun concrete piles (hereinafter referred to as piles) - classification, raw materials and general requirements, technical requirements, testing methods, inspection rules, marking, storage and transportation, product certificate, etc.

This Standard applies to centrifugal shaping pretensioned concrete piles for industrial and civil buildings, ports, municipal works, bridges, railways, highways, water conservancy

and other projects.

2 Normative references

The articles contained in the following documents have become part of this document when they are quoted herein. For the dated documents so quoted, all subsequent modifications (including all corrections) or revisions made thereafter do not apply to this Standard. However, the parties who reach an agreement according to this Standard are encouraged to study whether the latest versions of these documents may be used. For the undated documents so quoted, the latest versions (including all modification sheets) apply to this document.

GB 175 Common Portland cement

GB/T 700 Carbon structural steels

GB/T701 Hot rolled low carbon steel wire rods

GB 1499.2 Steel for the reinforcement of concrete - Part 2.Hot rolled ribbed bars

GB/T 1596-2005 Fly ash used for cement and concrete

GB/T 5223.3-2005 Steel bars prestressed concrete

GB 8076 Concrete admixtures

GB/T 14684 Sand for building

GB/T 14685 Pebble and crushed stone for building

GB/T 18046-2008 Ground granulated blast furnace slag used for cement and concrete

GB/T 18736-2002 Mineral admixtures for high strength and high performance concrete

GB/T 50081 Standard for test method of mechanical properties on ordinary concrete

GB 50164 Standard for quality control of concrete

GBJ 107 Standard for evaluation of concrete compressive strength

JC/T 540 Cold-drawn low-carbon wire for concrete products

JC/T 94 End plate for pretensioned spun concrete piles

JC/T 950-2005 Ground silica sand used for pretensioned spun high-strength concrete piles

JGJ 63 Standard of water for concrete

3.1 Product class and code

Piles are divided into prestressed concrete piles and prestressed high-strength concrete piles. The code of prestressed concrete pile is PC; the code of prestressed high-strength concrete piles is PHC.

3.2.1 According to the outer diameters of piles, it is divided into 300 mm, (350 mm), 400

mm, (450 mm), 500 mm, (550 mm), 600 mm, 700 mm, 800 mm, 1 000 mm, 1 200 mm, 1

300 mm, 1 400 mm, etc.

Note: Specifications in brackets are non-preferred series, the basic dimensions are shown in Annex A.

3.2.2 Piles are divided into type A, type AB, type B and type C according to effective

prestressed value.

3.3.1 Structural shapes and basic dimensions of piles shall conform to the provisions in

Figure 1 and Table 1.

3.3.2 Length of pile shall include pile body and joints.

t - Wall thickness;

L - Length;

D - Outer diameter.

Prestressed high-strength concrete piles of type A that have an outer diameter of 500 mm, wall thickness of 100 mm and length of 12 m are marked as follows.

PHC 500 A 100-12 GB 13476

4.1.1 Cement

Use Portland cement, ordinary Portland cement and Portland slag cement of which the strength is not lower than 42.5; the quality shall conform to the provisions of GB 175.