



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

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**Unified standard for safety of scaffold in construction
(English Translation)**

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A.1 Mechanics testing methods of accessories

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Explanation of wording in this standard

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1 General provisions

1.0.1 This standard is formulated in order to unify the design, construction, use,

1 General provisions

1.0.1

This standard is formulated in order to unify the design, construction, use, management of construction scaffolding and ensure that it is technologically advanced, safe, applicable, economical, reasonable.

1.0.2 This standard applies to the design, construction, use, management of scaffolding

for housing construction projects and municipal engineering construction.

1.0.3 In addition to complying with this standard, the design, construction, use, management of construction scaffolding shall also comply with the relevant national standards.

2.1.1 Scaffold

It is a structural frame composed of rods or structural units and accessories that are reliably connected, can withstand corresponding loads, has safety protection functions, provides operating conditions for building construction. It includes operation scaffold and shoring scaffold.

2.1.2 Operation scaffold

Scaffolding which is composed of rods or structural units and accessories through reliable connections, supported on the ground, buildings or attached to engineering structures, to provide a working platform and safety protection for construction. It includes floor-standing operation scaffold, cantilever scaffold, attached lifting scaffold, etc. as formed by various types of rods (components), which are referred to as operation scaffold.

3.1.1 Before scaffolding installation and dismantlement, a special construction plan

shall be prepared according to the characteristics of the project; its implementation shall be organized after approval.

3.1.2 The structural design of the scaffolding shall be able to ensure the stability of the scaffolding structural system.

3.1.4 Scaffolding shall be reasonably constructed, firmly connected, easy to erect and dismantle, safe and reliable to use.

4 Materials and accessories

4.0.1

The steel pipes used for scaffolding shall be ordinary steel pipes, which are specified in the current national standard "Straight seam welded steel pipe" GB/T 13793 or "Welded steel pipes for low pressure liquid delivery" GB/T 3091; their materials shall comply with the steel grade Q235 requirements of current national standards "Carbon structural steels" GB/T 700, or the steel grade Q345 requirements of "High strength low alloy structural steels" GB/T 1591.

4.0.3

The material of structural parts made of cast iron or cast steel shall comply with the requirements of KTH-330-08 in the current national standard "Malleable iron castings" GB/T 9440 or ZG270-500 in "Carbon steel castings for general engineering purpose" GB/T 11352.

4.0.7

The base plate and base jack shall be processed and manufactured after design and calculation; their materials shall comply with the steel grade Q235 requirements of current national standards "Carbon structural steels" GB/T 700, or the steel grade Q345 requirements of "High strength low alloy structural steels" GB/T 1591. Meanwhile it shall also comply with the following requirements.

4.0.9

The materials of steel lifting rings or embedded anchor bolts shall comply with the provisions of the current national standard "Code for design of concrete structures" GB 50010.

4.0.10

The wire ropes used in scaffolding shall comply with the requirements of current national standards "Steel wire ropes for general purpose" GB/T 20118, "Quality steel wire ropes" GB/T 8918, "General purpose thimbles for use with steel wire ropes" GB/T 5974.1, "Wire rope grips" GB/T 5976.

4.0.14

Scaffolding accessories shall have good interchangeability and be reusable. The exit-factory quality of accessories shall meet the requirements of the current relevant national product standards. The appearance quality of rods and accessories shall comply with the following requirements.

4.0.15

Factory-made accessories shall have the manufacturer's logo.

5.1 Load classification and normal value

5.1.1

The load acting on the scaffold shall be divided into permanent load and variable load.

5.1.4

The standard value of the permanent load of the scaffold shall comply with the following requirements.

5.1.6

Vibrating and impacting objects on the scaffold shall be calculated into the standard value of variable load, based on their own weight multiplied by the dynamic factor. The possible value of the dynamic factor is 1.35.

5.1.7

The standard value of horizontal wind load acting on the scaffold shall be calculated according to the following formula.

5.2 Load combination

5.2.1

Scaffolding design shall be based on the loads that may occur simultaneously on the scaffold, during normal installation and use. Load combinations shall be carried out according to the load-bearing capacity limit state and the serviceability limit state; the most unfavorable load combination shall be used for design.

5.2.3 When designing the normal serviceability limit state of the scaffolding structure

and accessories, the standard combination of loads shall be adopted in accordance with the following provisions.

6.1.1 Scaffolding design shall adopt the limit state design method based on probability

theory and calculate with partial factor design expressions.

6.1.2 The load-bearing structure of the scaffold shall be designed according to the load-bearing capacity limit state and the serviceability limit state; it shall also comply with the following requirements.

6.1.3 Scaffolding shall be designed according to normal installation and normal use

conditions; temporary effects, accidental effects, seismic loads may not be taken into account.

6.1.7 The design value of the bearing capacity of the scaffolding rod's connection nodes shall comply with the following requirements.

6.1.8 The technical parameters, such as the design value of steel strength of steel pipe scaffold, shall comply with the following requirements.

6.1.9 The technical parameters, such as the design value of wood strength of wooden scaffold, shall comply with the provisions of the current national standard "Code for design of timber structures" GB 50005.

6.2.2 The bearing capacity of scaffolding rod's connection nodes shall meet the following requirements.