

ICS 91.080.01

CCS P 20



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

GB/T 50344-2019

Replacing GB/T 50344-2004

Technical standard for inspection of building structure

Issued on: November 22, 2019

Implemented on: June 1, 2020

**Issued by: Ministry of Housing and Urban-Rural Development of the
People's Republic of China;
State Administration for Market Regulation**

Table of Contents

- 1 General
- 2 Terms and symbols
 - 2.1 Terminology
 - 2.2 Symbols
- 3 Basic Regulations
 - 3.1 Classification of building structure detection
 - 3.2 Basic requirements for testing work
- 4 The original records should be signed by the testing and recording personnel.
- 5 The entrusting party suspects that there are hidden danger components, etc.

1 General

1.0.1 This standard is formulated in order to unify the inspection and evaluation methods of building structures, achieve advanced technology, reliable data, and scientific evaluation.

1.0.2 This standard applies to the detection and evaluation of building structures.

1.0.3 Cultural relic buildings and structures or components affected by special corrosive substances can be tested according to the provisions of this standard.

1.0.4 The inspection and evaluation of building structures shall not only comply with the provisions of this standard, but also comply with the relevant current national standards.

2.1.1 Inspection of building structure

Inspection work implemented to assess the quality of building structure engineering or identify the performance of existing building structures.

2.1.2 Inspection batch inspection lot

The test items are the same, the quality requirements and production processes are basically the same, and the test objects are composed of a certain number of components.

2.1.3 sampling inspection sampling inspection

Samples are drawn from the test batch, and the test method for the quality of the test batch is determined by testing the samples.

2.1.4 Testing zone

An area with one or several measuring points arranged according to the requirements of the detection method.

2.1.5 Testing point

In the survey area, the detection points of the detection data are obtained.

2.1.6 method of non-destructive test

During the detection process, the detection method has no influence on the existing performance of the structure.

2.1.7 method of part-destructive test

During the detection process, there is a partial and temporary impact on the existing performance of the structure, but the detection method can be repaired.

2.1.8 Rebound method

It is a method to detect the compressive strength and strength homogeneity of materials by measuring the rebound value and related parameters.

2.1.9 Ultrasonic-rebound combined method

A method for detecting the compressive strength of concrete by measuring the ultrasonic sound velocity value and rebound value of concrete.

2.1.10 drilled core method

A method of testing the strength of a material by drilling a cylindrical test piece from a structure or member.

2.1.11 Ultrasonic method

A method for detecting defects and compressive strength of non-metallic materials by measuring relevant acoustic parameters of ultrasonic pulse waves.

2.1.12 post-install pull-out method

A method for testing the compressive strength of concrete by installing a pull-out instrument on the hardened concrete surface to test the pull-out force.

2.1.13 Penetration method

A method for detecting the strength of component materials by measuring the penetration

depth of steel nails.

2.1.14 The method of axial compression in situ on brick wall

A method for testing the compressive strength of masonry by performing a compressive test on a brick wall with an in-situ press.

2.1.15 The method of flat jack

A compression test is carried out on a brick wall with a flat hydraulic jack to detect the compressive stress, modulus of elasticity and compressive strength of the brick wall.

2.1.16 in situ single shear method the method of single shear

A method of testing the shear strength of a masonry wall by performing a shear test along a single horizontal mortar joint in the masonry wall.

2.1.17 The method of double shear

A method for testing the shear strength of a brick wall by performing a double-sided shear test on a single block of bricks.

2.1.18 The method of point load

A method for estimating the compressive strength of masonry mortar by applying a point load on the large surface of the mortar sheet.

2.1.19 The method of local compression on mortar flake

The local compressive test is carried out on the mortar sheet specimen by the partial pressure instrument, and the method of estimating the compressive strength of the masonry mortar according to the local compressive load value; it can also be called the selective pressure method.

2.1.20 cylinder pressure method the method of column

The sampled mortar is crushed, dried and sieved into particles with a certain gradation requirement, loaded into a pressure-bearing cylinder and subjected to a cylinder pressure load, the degree of fragmentation is measured, and the cylinder pressure ratio is used to test the compressive strength of the masonry mortar.

2.1.21 Ultrasonic inspection

A method of detecting metal material or weld defects using an ultrasonic flaw detector.

2.1.22 Radiographic inspection

A method for detecting steel or weld defects from fluorescent screens or negative films obtained by transilluminating steel workpieces with X-rays or gamma-rays.

2.1.23 magnetic particle inspection

It is a method to detect defects such as cracks on the surface and near the surface of steel based on the magnetic marks formed by the magnetic powder on the surface of the test piece.

2.1.24 penetrant inspection

A method of detecting cracks on the surface of a material using a penetrant.

2.1.25 normal height

The vertical height of a certain location of the building relative to ± 0.000 .

2.1.26 axis displacement displacement of axes

The deviation between the actual position of the structure or component axis and the design requirements can also be called axis deviation.

2.1.27 degree of gravity vertical

Within the specified height range, the degree to which the surface of the component deviates from the line of gravity.

2.1.28 degree of plainness

The degree of unevenness on the surface of a structural member.

2.1.29 Dimensional errors

The difference between the actual geometry and the design geometry.

2.1.30 deflection deflection

Under the action of load, etc., the linear displacement in the direction perpendicular to the original axis or neutral plane caused by deflection at a certain point on the axis or neutral plane of the structural member.

2.1.31 deformation deformation

The relative displacement between two points in a structure or member caused by an action.