



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

GB 50007-2011

Replacing GB 50007-2002

Code for design of building foundation

建筑地基基础设计规范

(English Translation)

Issued on: July 26, 2011

Implemented on: August 1, 2012

Issued by: Ministry of Housing and Urban-Rural Development

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1.0.1

This code is formulated with a view to implementing technical and economic policies of the nation in foundation design, and achieving safety and usability, advanced technology, economy and rationality, quality guarantee and environmental protection.

1.0.2

This code is applicable to the design of foundation of industrial and civil buildings (including structures). The design of collapsible loess, permafrost and expansive soil foundation and the foundation under the action of seismic and mechanical vibration load shall also meet the requirements of the current corresponding professional standard of the nation.

1.0.3

The design of foundation shall persist in the principle of adjusting measures to local conditions, using local materials, protecting environment and saving resources, comprehensively consider such factors as structure type, material condition and construction condition according to geotechnical engineering investigation data, and elaborately conduct.

1.0.4

The design of building foundation shall not only comply with this code, but also those in the current relevant ones of the nation.

2.1.1 Ground, foundation soils

Soil mass or rock mass which supports foundation.

2.1.2 Foundation

Structure component which transfers various actions borne by the structure to the ground.

2.1.3 Characteristic value of subsoil bearing capacity

Pressure value corresponding to deformation specified within linear deformation section of subsoil pressure deformation curve determined by load test, and its maximum value is the proportion limit value.

2.1.4 Gravity density, unit weight

Gravity borne by rock-soil mass per unit volume, the product of density and gravity acceleration of rock-soil mass.

2.1.5 Rock discontinuity structural plane

Plane which cracks and is easy to crack in rock mass, such as bedding surface, joint, fault, schistosity, etc., also called discontinuous structural plane.

2.1.6 Standard frost penetration

Average value of maximum frost penetration actually measured for more than 10 years in the flat and exposed open area outside the city.

2.1.7 Allowable subsoil deformation

Deformation control value determined in order to guarantee normal use of the building.

2.1.8 Soil-rock composite ground

Ground with larger underlying bed rock surface gradient within the range of main bearing layer of building ground; or ground with densely-spread and exposed clint; or ground with exposed mass boulder or individual clint.

2.1.9 Ground treatment, ground improvement

Engineering measures to be taken in order to increase subsoil bearing capacity or improve its deformability or permeability.

2.1.10 Composite ground, composite foundation

Artificial ground that subsoil and reinforcement formed by reinforcing or replacing partial soil mass jointly bear load.

2.1.11 Spread foundation

Foundation that spreads a certain base area to side edge in order to diffuse the load transmitted from superstructure to make the compressive stress acted on the base meet the design requirements of subsoil bearing capacity and the internal stress of foundation meet the design requirements of material strength.

2.1.12 Non-reinforced spread foundation

Strip foundation under wall or independent foundation under column, composed of such materials as brick, rubble, concrete or rubble concrete, dirt and cement and not reinforced.