



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

GB/T 51231-2016

**Technical Standard for Assembled Buildings with Concrete
Structure**

装配式混凝土建筑技术标准

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Foreword

This document was issued on 10 January 2017 by the State Administration for Market Regulation; Standardization Administration of the PRC and takes effect on 1 June 2017.

It is a GB/T standard: recommended rather than compulsory, but it is the text a Chinese reviewer applies.

The document runs to 83 pages in translation. The identification, the dates, the table of contents and the clauses reproduced on this page are taken from the standard itself.

1 Scope

GB/T 51231 is the Chinese technical standard for precast concrete buildings: buildings assembled on site from factory-made components rather than cast in place. China has pushed prefabrication hard as a way of raising quality and cutting site labour and waste, and this standard is the document that makes such a building designable and approvable. It covers the whole chain: the basic requirements and the modular coordination that lets components repeat; the building design, including the layout, the envelope and the integration of services and fit-out; the structural design of the precast frame, the shear wall and the connections between components, which is where a precast building either works or does not; the production of the components in the factory and their quality control; transport and storage; assembly and construction on site, including the grouted sleeve connections and the cast-in-place joints; and the quality acceptance of the finished work. This is the clear-print edition. For a designer, a precaster or a contractor working in China, this is the governing standard.

1.0.1 This standard is prepared in order to regulate the construction of assembled building with concrete structure and comprehensively improve the environmental, social and economic benefits of assembled building with concrete structure according to the requirements of applicability, economical efficiency, safety, green and esthetic appearance.

1.0.2 This standard is applicable to the design, production, transportation, construction and erection, quality acceptance of assembled building with concrete structure in regions with seismic fortification intensity 8 or below.

1.0.3 Assembled building with concrete structure shall comply with the sustainability principle of the total service life of building, and shall be subject to standardized design, factory production, assembling construction, integrated decoration, informatization management and intelligent application.

1.0.4 The structure system, envelope system, facility and pipeline system and interior decoration system of assembled building with concrete structure shall be integrated to realize complete functions and excellent performance of the building.

1.0.5 The design, production, transportation, construction and erection, quality acceptance of assembled building with concrete structure shall meet the requirements of this standard

as well as those specified in current relevant ones of the nation.

2 Terms and Symbols

2.1 Terms

2.1.1 assembled building

the building with main part of structure system, envelope system, facility and pipeline system and interior decoration system adopting precast parts or components

2.1.2 assembled building with concrete structure

the assembled building with structure system composed of concrete components (precast components)

2.1.3 integration of building systems

the process of uniformly arranging planning, design, production and construction etc. based on the assembly construction so as to realize integration of structure system, envelope system, facility and pipeline system and interior decoration system of building

2.1.4 integrated design

the design of integrating structure system, envelope system, facility and pipeline system and interior decoration system of building

2.1.5 collaborative design

the integrated design of assembled building complying with the requirements of building design, production, transportation, construction and erection through mutual coordination of such systems as architecture, structure, facility and decoration with information technology measures

2.1.6 structure system

the integral system assembled through connecting structural components in reliable mode so as to bear or transfer load action

2.1.7 envelope system

the integral system formed by combining external wall, roofing, external doors and windows and other parts and components used for separating indoor and outdoor environment of building

2.1.8 facility and pipeline system

the integral system formed by combining facilities and pipelines of water supply and drainage, heating, ventilation and air conditioning, electricity and intellectualization, gas etc., which meets the service function of building