

Analysis of Construction Technology of High-rise Residential Building Engineering

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1 The Concept of High-rise Residential Building

At present, in our country, the high-rise residential buildings are defined as a residential building with the number of building construction floors are between 11 and 24, then the residential building higher than 24 storeys is the super high-rise building. In modern society, because the population is very large and complex, so the demand for housing is also growing, accordingly, the requirements of construction technology are increasingly stringent. Now, residential buildings can be seen everywhere. In some second-tier cities, the average number of high-rise residential buildings rose to 20 and this data, at present, will also gradually increase with the time pass and higher building technology. It is worth noting that as the number of residential buildings increases, the concrete construction will be more difficult and security risks are higher.

2 Problems Exist in High-rise Residential Building Construction

2.1 Template Engineering Problems

In the concrete construction, the combination of the template installation is very critical, while there is no specialized charter to standardize in the process of concrete implementation. It is hard to be truly accurate in the process of manufacture, installation and combination of template, so

deformation and crack are often happen which will directly cause concrete surface potholes, leakage and deformation phenomenon and make eventual concrete product loss their own function.

2.2 Concrete Pouring and Vibration Problems

Concrete watering time is not appropriate which will lead cement and water fails to achieve an effective response. In the process of making concrete, there is no strict accordance with the corresponding norms to implement the material proportioning work, then the quality of concrete after construction is not satisfactory. In the process of concrete pouring, it is may accompanied with the occurrence of some other problems, like component pouring and uneven vibrating compaction and so on. All these will lead concrete surface to form the potholes.

2.3. Concrete Raw Material Problems

Concrete after mixing will make the water ash content increase after a long period of time and a long distance transportation, which will lead the concrete to be thin, and then can not fully guarantee the quality of concrete. Because of this characteristic of concrete, in the process of modern building construction, for easy transport, construction units usually use commercial concrete.

Abstract: Nowadays, under the situation of the accelerating process of urbanization, our social economic development has also been leaps and bounds and the corresponding construction industry has also been high speed developed. Our country in the field of land resources still insist on a solid strict management control, therefore, in this context, it will inevitably lead the land resources to face with a tense situation which has become a great test for high-rise residential building construction as it appears repeatedly. Normally, high-rise residential buildings have the characteristics of limited operating surface, high investment cost, long construction period and high requirements of construction technology. In view of this, this paper mainly analyzes the high-rise residential building construction technology.

Key words: High-rise residential building; Construction technology; Key points

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3 Technology Points of High-rise Residential Building Construction and Measures Analysis

3.1 Foundation Construction Technology

In high-rise residential buildings, foundation excavation construction is the key step. Normally, large excavation affects foundation construction quality which has a very close relationship with the stability of high-rise residential building. High rise residential building mainly requires to use foundation pit support construction technology and foundation pile foundation construction technology in the process of foundation construction. First of all, foundation pit supporting technology can effectively ensure the security and reliability of the foundation and protect it. Comparing to previously more traditional foundation construction technology, it is low cost and the main materials it will apply are soil nailing wall and arch wall, thus the foundation pit support technology has significant application value. Secondly, pile foundation construction can be strictly implemented in accordance with the building load size, then each grade standard construction, compared with the previous traditional pile technology has the remarkable advantages of effective use and bearing capacity.

3.2 Concrete Construction Technology

(1) Concrete proportioning. In the process of concrete construction, the corresponding construction units should strictly implement the concrete allocation work according to the concrete proportion provided by the laboratory and ensure that the structural strength of concrete itself can be consistent with the corresponding construction standards. In the process of concrete mixing, it needs to fully guarantee the aggregate

and cement to be full fusion so as to prevent the occurrence of honeycomb, pits and other problems. It is worth noting that the concrete mixing mode, time and order should be identified in time to maximum fully guarantee the strength and workability of concrete.

(2) Concrete pouring construction. The corresponding construction units should scientifically and rationally control the pouring process and technology when pouring concrete construction. Construction units should strengthen the research of concrete pouring innovative technology and corresponding secret agents training of technical personnel.

(3) The maintenance of concrete. It is to control the humidity and temperature effectively after the concrete is poured to ensure its workability and strength after hardening. Then to make rational control of the concrete temperature, reduce the surface temperature difference, prevent the occurrence of cracks.

3.3 Structure Transfer Layer Construction

In the construction process of high rise residential buildings, structure transfer layer construction is also important. In accordance with the classification of the structure, it can be divided into simultaneous conversion of structural form and structural axis layout, the upper and lower column axis changes and the upper and lower several types's conversion basing on the function of up and down the floor of the building and for the floor, the structural types selected from upper and lower part are different, and to use the floor to achieve the conversion between the structures. The floor is what we call the structure transfer layer. Transform core wall construction to concrete position through the steel platform system, and use steel platform system in the

conversion position to hang down the foot fixed core copper wall, which is favorable for high rise residential.

In short, the rapid development of the economy has promoted and improved people's living standards and the demand for high-rise buildings will be more stringent, higher, in addition, they become more care about the various functions of high-rise buildings. This requires the construction unit of high rise residential buildings to actively introduce the talents, fully grasp the key points of construction, and make the corresponding quality control work, so that it can promote the increasingly fierce market competition to seize the initiative, so as to promote the sustainable development of the construction industry. Therefore, the study of this paper is very meaningful.

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