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Discussion on the Quality and Safety of Building Structure Reinforcement Engineering

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Abstract: Reinforcement of building structure is the most economical and environmentally friendly method to solve the safety problems of existing building structures. However, in existing building structure reinforcement projects, due to many factors such as design, construction technology, materials, etc., various project quality problems will appear, threatening people's lives, property safety and social stability. Therefore, we must pay attention to the quality and safety management of building structure reinforcement projects.

Keywords: Building Structure; Reinforcement; Quality; Safety

With the acceleration of urbanization, the scale and quantity of construction projects are gradually expanding. This not only allows us to obtain more construction space, but also allows us to face many problems, such as how to deal with the large amount of construction waste generated by new buildings. How to ensure the safety of building structures, etc. In this environment, a large amount of data has shown that building reinforcement will be more economical and environmentally friendly than new buildings and more in line with sustainable development. Therefore, as people pay more attention to the environment, more people turn their attention to the reinforcement of building structures. As people's requirements for the quality of life are getting higher and higher, the requirements for the safety and quality of the building structure are gradually increasing. Relying on traditional construction technology and management will no longer meet the requirements for the safety and stability of the overall structure of the building. Therefore, use it is very important to do a good job in the reinforcement treatment and management of the building structure with modern technology.

1. Analysis of reasons for building structure reinforcement

In recent years, the technical specification system related to the construction industry in our country has become more and more perfect, and some new reinforcement technologies have been developed to gradually improve the level of building structure reinforcement, but some problems that have emerged cannot be ignored. Due to the rapid development of social economy and the continuous improvement of people's material living standards, the requirements for building structures have also increased. In existing buildings, the original design can no longer meet the diverse needs of people, so people will find ways to adjust and improve the structural settings and function application of the building, this will inevitably have a certain impact on the building structure. In addition, natural disasters are also one of the factors that affect the quality and safety of building structures. For example, after an earthquake, the building will have a certain degree of cracks or deformation such as torsion and shear due to the earthquake. If the building structure is not reinforced in time, the problem will not be effectively solved for a long time, and its overall performance will be affected. and security impact.

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In addition, the original building structure is restricted by factors such as construction technology and management level during the construction period, which will also cause structural safety problems. Structural problems that occur during the life of the building, if they are not handled in time, will not be able to adapt to the current requirements of people. The weak safety performance of the building can easily lead to safety accidents, so it is necessary to strengthen the existing building structure.

2. Quality and safety control in the design plan of building structure reinforcement engineering

2.1 According to local conditions, choose suitable identification methods

According to the actual conditions of each region and each project, choosing the most suitable identification method at this stage will not only make it easier to obtain the actual situation of the engineering structure's stress and loss, but also facilitate the smooth progress of the project. Before appraisal, you must be familiar with the original construction drawings of the project, and use the structural design parameters as an important reference for the appraisal and analysis of the project to obtain structural data closer to the actual situation of the existing structure of the project, and provide reliable appraisal for the next step of building structure reinforcement design data results.

2.2 Comparison and selection of multiple schemes to obtain the best results

The quality, economy and safety of building structure reinforcement projects are decisive for the quality, economy, and safety of the building structure reinforcement design, so attention must be paid. In order to obtain the best design plan, the following steps must be followed. First, on the basis of the existing appraisal results, the building structure reinforcement design is carried out according to the existing design methods and technologies, and multiple alternative design plans are formed. Second, analyze and compare each plan in terms of economy and technology, and form a data analysis report. Finally, a comprehensive comparison of multiple schemes is carried out, and the design with the highest comprehensive scores of quality, economy and safety is selected as the structural reinforcement design scheme of this project.

3. Construction safety management measures for building structure reinforcement projects

3.1 Formulate a scientific, reasonable and effective construction plan

Construction projects have unique characteristics. That is to say, the structural settings, service life, technical requirements and other aspects of different buildings have their own unique characteristics, and their structural safety design requirements are also very different, and in various regions and types of construction projects, the selected building structure reinforcement. The format is also different, so that they can carry out safety management in a more orderly manner and ensure safety. Management work can be done efficiently. In addition, the configuration of safety equipment must be implemented. In the construction of building structure reinforcement, in order to make all the work can be completed safely, it is necessary to be equipped with safety equipment. Therefore, in specific work, relevant personnel should be equipped with safety protection equipment according to the actual situation of the site, and require the staff to protect in accordance with the requirements to improve the quality of safety protection.

3.2 Do a good job in safety inspections during construction

The construction unit shall further implement the quality standards of building structure processing according to the construction plan set in the previous stage, and formulate corresponding construction quality goals according to the construction tasks of each stage of the construction project, and implement them, in order to enhance the reinforcement of the building. The construction quality lays the foundation. At the same time, clarify the specific tasks and responsibilities of various departments and personnel, and formulate reward and punishment mechanisms. For quality problems caused by human factors, relevant managers must hold relevant persons or departments accountable in accordance with relevant management mechanisms, and correct the work attitude of the staff. So that the reinforcement task can be successfully completed.

3.3 Do a good job in safety inspections at the completion stage

For some building reinforcement projects, the construction quality problems that arise are generally caused by the quality of the construction materials and equipment that are not up to standard. For this kind of problem, it is necessary to do a good job of quality inspection of construction materials and equipment before construction. The details are as follows. When construction materials and equipment enter the site, systematic inspections must be done, such as the specifications of the materials and equipment configured. The quantity, etc., and random sampling; The construction materials and equipment should be effectively stored to avoid bad storage environment, so that the materials and equipment will be damaged by damp; During the formal construction, the materials and equipment that need to be used should be re-inspected, focusing on the debugging and debugging of the equipment. Maintenance; After the completion of the construction task, all types of equipment should be repaired and dealt with. The equipment with abnormal operation and quality problems should be replaced and dealt with in time.

4. Construction safety management measures for building structure reinforcement projects

4.1 Do a good job of safety management in the early stage of construction

The management personnel shall, in combination with the established construction plan, further analyze the safety issues that may occur during the construction process in advance, and conduct preventive management of various issues. First of all, the construction unit must establish a complete safety management organization plan, clarify the number, rights and responsibilities of safety management personnel, so that they can carry out safety management in an orderly manner, so that the safety management work can be completed efficient. Second, the configuration of the safety equipment must be performed. In the construction of building structure reinforcement, in order to enable all work to be completed safely, safety equipment must be equipped.

4.2 Do a good job in safety inspections during the construction process

It is very important to do a good job of safety inspection during the reinforcement construction process, which specifically includes the following contents: First, increase the inspection of the staff, and the safety management personnel should actively assume their own responsibilities and obligations, and the qualifications and qualifications of the on-site staff. The quality and ability are reviewed to ensure that the overall quality level of the on-site construction personnel meets the needs of the post, so as to reduce the probability of safety problems in the construction of the project. The second is to implement on-site safety warnings. There are safety risks in areas such as "four ports and five sides" and high-altitude operations. Therefore, warning signs must be set up on site to remind staff to operate safely. Comprehensive inspection of facilities and equipment, timely detection of existing safety problems, and corresponding measures to solve the actual problems. Fourth is to strengthen the management of on-site construction materials and equipment. Relevant personnel should classify on-site according to the quantity and specifications of construction materials and equipment on site, and store them according to requirements. The focus should be on fire prevention and moisture prevention to ensure the quality and safety of construction materials and equipment to improve the effect of reinforcement projects.

5. Conclusion

With the development of society and technology, the need for reinforcement of building structures will become greater and higher. The design theory, technology, materials and management of building reinforcement must continue to develop in order to meet the needs of society. Therefore, about building structure reinforcement, the discussion on the quality and safety of the project will not stop.

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