

Discussion on construction methods and precautions of building water supply and drainage

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Abstract: As an important construction link in the construction project, the quality of the water supply and drainage directly affects the overall quality of the construction project. Because of the strong function of the water supply and drainage project, the construction quality is easily affected by the construction method. For this reason, construction enterprises should attach importance to the mastery of water supply and drainage construction methods. And further understand the relevant precautions of construction water supply and drainage construction, in order to achieve the purpose of improving the quality of water supply and drainage construction.

Keywords: Construction engineering; water supply and drainage engineering; construction method; precautions

Introduction

Water supply and drainage engineering mainly refers to the construction of water supply systems and drainage systems engineering, and water supply and drainage is also an important manifestation of the basic functions of construction. Therefore, it is of practical significance to control the construction quality of the water supply and drainage project for the future development of the enterprise. Therefore, the construction unit should actively study the advanced water supply and drainage construction methods, so as to ensure that the construction effect of water supply and drainage can meet people's requirements for the performance of building engineering.

1. Construction quality requirements for water supply and drainage construction

The construction units should make clear the relevant requirements of the construction quality of the construction and drainage, and take this as the basis to rationally select the construction methods. The details are as follows: First, we should ensure that it can meet people's basic living needs, provide enough water for people, and meet the needs of building heating system, and achieve effective discharge of kitchen sewage, air conditioning sewage and rainwater, etc., to ensure that it can meet the function of building works, provide high quality services for people. Secondly, it should be ensured that to meet the needs of the safety performance of the construction project. This is mainly to ensure that the quality of the water supply and drainage works can provide adequate water resources to the fire control system, the fire treatment system and the automatic sprinkler system, etc. And then it can also reduce the probability of building fire, reduce the impact of building fire on the building safety, and can also meet the safety requirements of the construc-

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tion project. Thirdly, it is necessary to ensure that the water supply and drainage works meet the economic requirements. This mainly means that after the water supply and drainage system is put into use, its subsequent operation cost control is also very important. And through the rational design of water supply and drainage engineering, we can effectively improve the feasibility and economy of engineering design, and help construction enterprises control the operation cost of water supply and drainage system.

2. Construction characteristics of building water supply and drainage engineering

Construction enterprises should also clear the construction characteristics of building water supply and drainage engineering, so as to make reasonable construction technology plan, select the best construction method, and prepare related matters in advance, so as to lay a good foundation for the quality improvement of water supply and drainage engineering. At present, most of the construction and drainage works are longitudinal distribution, and the horizontal distribution is less. Therefore, all layers of water supply and drainage pipes are stressed. In this case, only relying on regional pipelines to supply water can not only satisfy people's water demand, but also have a great impact on the water supply and drainage pipeline. And through the division of the longitudinal pipeline, it can reduce the loss of the pipeline system, and can also meet the needs of people's domestic water use. Usually, the construction company will divide the water supply and drainage pipeline into three parts: high, medium and low, or directly divided into two regions: high and low, so as to ensure the normal operation of the water supply and drainage engineering. In addition, building fire is the main factor that threatens the safety of construction works, therefore, the construction enterprises should attach importance to the design of the linkage of the fire water system, and ensure that after the discovery of a building fire, it can react in time and protect people's safety to the maximum. Because the current structure of the building is mostly vertical distribution, and for such a large area of building engineering, the construction unit can prepare enough water tanks and pumps to ensure the two water supply needs. However, in this process, it is often necessary to pass a long pipeline, which is very easy to pollute the water quality. This requires construction enterprises to master advanced construction methods, and actively apply advanced pipeline equipment and materials to ensure the quality of water supply and drainage engineering for construction projects.

3. Analysis on construction method of building water supply and drainage

3.1 The reservation method of hole and casing pipe

The reservation and pre-embedded of hole and casing is one of the important construction methods in the construction and drainage engineering. The construction units should prepare the corresponding preparatory work in advance for the reserved and pre-embedded construction for the hole and casing, avoid large deviations from reserved and embedded holes and casings. At the same time, the stability of the structure of the building should be avoided because of the excavation and construction of the hole. In the actual construction, the relevant staff should know the concrete contents of the construction drawings in advance so that the application of the construction technology should be reasonably controlled. Concretely speaking, the construction personnel should record the location information of holes and casing in detail, not only help the construction personnel to check the accuracy of the reserved embedment again, but also provide accurate reference for subsequent vibration construction. In addition, the builders should also correct the pre buried position of the hole and casing in the construction of concrete.

3.2 Installation method of vertical pipe for water supply and drainage

In the past, most of the construction and drainage pipeline construction will take the kitchen and toilet as the starting point for the installation of the pipeline. The pipeline installation method can not only facilitate the construction personnel, reduce the difficulty of construction, but also can effectively improve the efficiency of the construction. However, this construction method also has great disadvantages. Because it is installed in the construction engineering

indoor construction, it hinders the normal function of the indoor function of building engineering, and it also affects the efficiency of indoor area utilization. Therefore, in the pipeline installation of water supply and drainage projects, the current construction enterprises will choose the outside of the building to carry out the installation of plastic pipes. It can not only meet the needs of water supply and drainage engineering, but also enhance the aesthetic feeling of building engineering. At the same time, it will not affect the indoor use area of building engineering, and help to reduce the noise pollution of pipeline engineering. In the actual construction, part of the construction and drainage pipeline project will use the corner of the outer wall as the installation area of the pipeline project. In the process of installation and construction, necessary protective measures for pipelines should be take, so as to prevent them from being exposed to direct sunlight, and then avoid the problem of pipeline rupture or shrinkage. In addition, the construction enterprises should strictly grasp the pipeline installation process. Once there are unreasonable phenomena, the enterprises should immediately carry out rectification to ensure that they meet the aesthetic requirements of building engineering and provide convenient conditions for subsequent maintenance and repair work.

3.3 Laying method of branch pipe of feed pipe

And the laying work of the branch pipe is also important, so it is necessary to master the method of laying the branch pipe. Under normal circumstances, construction enterprises will choose small plastic pipes, and use hidden construction mode to carry out the construction of branch pipe, and ensure that its bending degree can meet the relevant requirements. And the interior of the wall and the leveling layer are the main areas of the installation and laying of the branch pipes. And in the installation of the branch, the builders should also install the drainage branch of the housing project in the room. As a result, even if the drainage pipe after laying is leaking, it will not affect adjacent pipelines. It can control the effect of pipeline leakage to a minimum, and greatly reduce the possibility of neighbourhood disputes caused by pipeline leakage. In addition, construction enterprises should also carry out strict management and control of pipeline construction, to ensure that all construction behavior conform to the standard requirements of construction standards.

4. Main points of construction for water supply and drainage works

4.1 The main points of trench mining

When excavating trenches, construction units should have a comprehensive understanding of the distribution of underground pipelines in advance, so as to effectively protect them. If necessary, the method of pipeline migration can also be adopted in order to protect the underground pipeline. At the same time, attention should be paid to the control of excavation equipment, such as bulldozers and excavators, so as to ensure effective coordination between excavation equipments. Finally, we should also organize the excavation of the earthwork in time. Avoid affecting subsequent operations because of the untimely transportation.

4.2 Requirements for installation of water supply pipes

The construction unit should also focus on the installation requirements of the water supply pipeline so as to ensure the quality of the installation of the water supply pipeline. First of all, the actual position information of the pre buried component should be understood in advance, and the position of the hole should be checked again. Secondly, the construction of the hole and pipe interface should be strictly controlled to ensure that it can meet the relevant standards. Once again, the necessary documents should be filled in with the installation of the pipeline so as to record the relevant information. Finally, the metal pipe should be chosen as the first choice for the pipe installation, and the best binder should be selected.

4.3 Requirements for installation of drainage pipes

The construction unit should also clear the installation requirements of the drainage pipeline, ensure the quality control of the drainage joints at the key points and ensure that it meets the relevant design requirements. At the same

time, the construction unit should also carry out the necessary test for the pipeline after installation to ensure that the pipeline is installed without error. Finally, the construction unit should also carefully check the distance between the drainage slope and the inspection port, make sure that it can meet the requirements of the national construction standards.

4.4 Requirements for pipeline closed water test

The construction unit should also master the test requirements of the pipeline closed water so as to ensure the quality of the drainage pipe after installation. This requires that the construction unit should carry out the necessary test and test on its sealing property after the installation of the pipeline. First, the construction unit should check the area of the wellhead and pipeline in advance so as to avoid the water trace in the ditch. When there is no water in the ditch, the builders should seal the hole to ensure that the tightness of the pipe can withstand the pressure of the hydraulic joint. In the process of pipeline closed water test, the construction unit should also assign professional technicians and supervision engineers to monitor the whole testing process, ensure the rigor of the test process, and ensure the accuracy of the test results. The construction personnel should also carry out the necessary pressure test. They should make strict checks for all valves inside the pipeline and ensure that the pressure test is carried out without error, and the contingency plan is made ahead of schedule, so as to effectively deal with some problems in the test link.

5. Attentions in the process of construction

5.1 Attentions in water supply system construction

The construction enterprises should pay attention to the matters needing attention in the construction of the water supply system. First, the construction drawings should be reviewed in advance. If there is any discrepancy between the construction drawings and the field construction, it should be dealt with in time. The construction personnel should also predict the possible problems related to pipeline installation and construction, especially the influence of special construction environment on pipeline installation and construction. For example, before the vertical pipe in the installation well, the builders should make a field survey and then draw the drawings. Second, the construction sequence should be strictly followed from the drainage pipe to the water supply pipe, tube to tube from internal to external, from the large tube to the tubule, from a pressure pipe to a non pressure pipe. Third, in the construction of high building engineering pipeline, the construction of drainage and rainwater pipeline should be carried out after the main structure is completed and the initial sinking is completed. If the construction time is short, the construction unit can first install the internal pipe of the construction project, after ensure the capping and initial sinking of the structure, the wall pipe will be installed to ensure the quality of pipeline construction to the maximum.

5.2 Matters needing attention in the construction of drainage system

Construction units should also pay attention to the matters needing attention in drainage system construction. First, we should rationally design the installation location of floor drain to avoid the adverse effects on the performance of the drainage system. In general, the location of the ground leak should be within the range of 5 cm to 10 centimeters from the ground. After installation, the floor drain has a certain slope. The floor drain is installed at a low position, and the depth of the water seal is more than 5 centimeters, so that the odor in the drainage pipeline can be avoided. Secondly, we should reasonably choose the relevant equipment in the bathroom, especially the choice of toilets. We should be careful to ensure the rationality of the distance between the outlet and the wall of the selected toilets, and reserve certain shower space. Third, the builders should also design special rainwater drainage pipes and separate the rainwater drainage pipes from the sewage drainage pipes, in order to ensure that the actual drainage demand of construction works can be met in the season of more abundant precipitation, avoid sewage leakage caused by insufficient drainage capacity, and then affect people's normal life.

Conclusion

To sum up, with the continuous development of the construction industry, the quality of construction engineering has gradually become the focus of attention from all walks of life. As an important part of the construction project, the quality of the water supply and drainage works directly affects the overall performance of the construction project. In this case, the construction enterprises should actively study the construction methods of water supply and drainage works, and fully understand the relevant matters of attention, in order to ensure that the construction effect of the water supply and drainage pipeline can reach the expected goal, it can help the effective realization of the economic and social benefits of the construction enterprises.

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