

Analysis on Construction Technology of Expansion Joints in Municipal Road Construction

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Abstract

As an important part of modern city construction, municipal roads have a great impact on city operation and people's daily travel life. When municipal roads are constructed and operated, due to factors such as construction materials, process methods, vehicle loads, thermal expansion and contraction, etc. To a large extent, it affects the strength, quality and flatness of the road surface, and poses a greater threat to the safety of passing vehicles; therefore, in actual construction, the leaders of relevant units need to fully understand the municipal road construction. And scientifically select construction technology, materials and equipment to ensure the quality and flatness of municipal road construction, create a good travel environment for people, and promote the healthy development of modern municipal and transportation industries. The following mainly conducts wave analysis and exploration on the construction technology of expansion joints in municipal road construction.

Keywords

Municipal Road, Expansion Joint Construction



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1. The common types of expansion joint construction technology in municipal road construction

1.1. Steel plate type expansion joint

Usually, steel plate expansion joint technology is one of the most common technologies in modern municipal road construction process, and the two types of expansion joints are mainly U-type zinc-iron material and lap plate, among which, the cost of U-type zinc-iron material expansion joint construction is low and the construction process is easy, and it is mostly used in sidewalk construction, while the lap plate type expansion joint construction technology has high strength and strong bearing performance when it is applied. However, when the steel plate type expansion joint con-

struction technology is applied, its seismic resistance is insufficient and its service life is short, so the construction unit needs to take it into full consideration to avoid the impact on the overall quality and service life of the project [1].

1.2. Caulking type expansion joint

The so-called stuffed expansion joint technology mainly refers to the filling of the joints in municipal road projects with materials such as asphalt or linoleum, which saves the overall cost of expansion joint construction due to the low cost consumption of such materials; however, during the actual construction, the filling materials will be squeezed out with the heat expansion and cold shrinkage phenomenon and cannot be backfilled in the cold shrinkage process, which leads to Construction joints will enter part of the debris, causing harm to municipal road projects, reducing the quality and safety of the project.

1.3. Plate type rubber expansion joint

In addition, the plate rubber expansion joint in the modern municipal road construction process is also a common technology, in the actual application, with the application of plate rubber and other materials, can give full play to its own excellent expansion capacity, enhance the overall seismic capacity of the project; at the same time, the plate rubber expansion joint construction technology is relatively simple, will not produce a large noise pollution, can effectively protect the overall project quality, thus a large number of construction units are cited, for the healthy development of modern municipal road construction field to lay an excellent foundation.

2. The significance of the application of expansion joint construction technology in municipal road construction

In the process of modern municipal road construction, expansion joints have a great impact on the construction level, quality and safety, in the past, due to technology and ideology is too traditional and old, the lack of effective processing of expansion joints, the size of the road expansion joints, width are large differences, and the actual construction process is very easy to jump phenomenon, will have an impact on the quality and stability of municipal road projects, while affecting the With the application and development of modern expansion joint construction technology, the relevant departments and construction units need to improve the construction of municipal roads expansion joint city Chengdu, and master the modern construction technology to ensure that the maximum extent to improve the level of modern municipal road construction and quality improvement.

3. The municipal road construction application expansion joint technology status quo problem

When the municipal road construction to carry out expansion joint construction, is very vulnerable to the concrete, the outside environment temperature and engineering he in and other factors, and when the expansion joint construction technology is applied and engineering construction, although the pavement structure of the flatness can be guaranteed, on the other hand, will also appear in the pre-project damage problems visually, the quality of the project itself and ask inertia caused great impact, but also increase Vehicle driving process of bumpy feeling, at the same time, due to construction materials, technology and other factors, will also lead to the appearance of the expansion joint construction problems, and then the overall construction of municipal road engineering operation and development caused by the impact.

4. The municipal road construction application expansion joint construction technology specific measures.

4.1. Preparation

In the current period, in order to strengthen the application of expansion joint construction technology in municipal road construction, unit leaders and managers first need to improve the importance of the expansion joint construction technology, and a full understanding of it, before the actual construction, but also need to conduct a detailed survey of the construction area, familiar with and understand the construction drawings to master the corresponding operating specifications, the organization of a large number of construction and supervision team, a person in charge of the unified management The construction specifications and management system should be strictly implemented to avoid large problems in the quality of engineering construction, so as to guarantee the smooth progress and development of munic-

ipal road construction [2].

4.2. Expansion joint cutting

When the expansion joint construction technology is applied in the process of municipal road construction, the construction personnel first need to cut the expansion joints on the road surface, and also need to set up steel plates or colored strips around the cutting area, so as to avoid the dust and so on from entering the road surface gap to the overall quality of the construction; at the same time, when cutting joints on the asphalt pavement, the construction personnel need to conduct detailed investigation and monitoring of the road surface flatness in advance. At the same time, when cutting the asphalt pavement, the construction personnel need to conduct a detailed investigation and monitoring of the pavement flatness beforehand.

4.3. Expansion joint slotting

Slotting occupies an extremely important position in the construction process of expansion joint, during the actual construction, the construction personnel need to strictly control the slot to keep it at a depth of more than 13 meters, and clean up the debris and garbage in the slot with the help of wind picks to ensure the neatness of the construction site; and when installing the steel later, the construction personnel also need to check the slot in advance to clarify whether the pre-buried tendons or hairy hoop tendons. In addition, in order to avoid vehicles and pedestrians being affected, a large number of warning signs need to be set up in the surrounding area after the slotting construction is completed.

4.4. Check the straightness of the steel section

At the same time, in the modern municipal road expansion joint construction process, the steel has a great impact on the construction quality; and when the steel is transported to the construction site, due to the impact of factors such as transportation and loading and unloading process is not standardized, the straightness of the steel itself has a great impact, while affecting the level and quality of the later construction; for this reason, before the installation of the steel, the construction unit needs to organize professional staff, and with the help of Before the installation of the steel sections, the construction unit needs to organize professional staff and test the straightness of the steel sections with the help of modern instruments and equipment, and deal with the problems in time to avoid the construction quality and service life being affected.

4.5. Expansion joint welding installation

In daily construction, the construction quality of the expansion joint is easily affected by the temperature of the external environment and the overall load of the project, which causes distortion and deformation, warping and tilting of the expansion joint. Promote the improvement of the expansion joint and the overall construction level of the project.

5. Concrete pouring

In addition to the above, in the modern municipal road engineering expansion joint construction process, the construction unit and personnel also need to standardize the concrete pouring process management; in the actual construction process, the construction personnel need to deal with the reserved groove first, clear its internal debris, and choose plastic foam and other filling materials, to fill the expansion joint, at the same time, when the concrete construction is completed, the construction personnel need to With the help of the scraping bar for scraping, to avoid the phenomenon of jumping when the construction and operation of the project; in addition, the construction unit also needs to regularly carry out maintenance treatment of the concrete structure to protect the overall quality of the project and lay a solid foundation for the overall healthy development of China's modern municipal road industry [3-8].

6. Conclusion

In summary, the expansion joint construction in modern municipal road construction is an important link in the daily construction, construction units and personnel need to strengthen the application of modern expansion joint construction technology according to the construction environment and the characteristics of the project itself, and develop a perfect construction plan, scientific selection of construction materials, equipment and personnel, etc., to protect the quality of expansion joint construction, so as to promote the modern municipal road construction and urbanization process Further development.

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