

# Discussion on Construction and Maintenance Technology of Asphalt Pavement

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**Abstract:** *Now, under the background of urban process advancing in our country, the construction career of our country has also got some developed. Asphalt pavement as the foundation of highway engineering construction quality, we should improve its quality constantly. It is necessary to understand the importance of asphalt pavement construction and maintenance technology in the concrete construction process, its application in the actual construction process, while ensuring the stability of the highway, and further ensure the construction quality of the project. Therefore, this paper analyzes the construction and maintenance technology of asphalt pavement, hoping to provide help to the related highway engineering.*

**Keywords:** asphalt pavement; Construction; Maintenance technology; discuss.

## 1. INTRODUCTION

With the increasing of highway engineering projects, bitumen has been used to a certain extent. In order to avoid the disease of asphalt pavement in the process of asphalt pavement construction under such a background, it is necessary to analyze the maintenance technology of asphalt pavement combined with the actual construction content and timely discover the problems, which can not only effectively improve the quality of construction, but also ensure the stability of asphalt pavement. Thus constantly promote the stable development of our building cause in society.

## 2. PROBLEMS IN ASPHALT PAVEMENT CONSTRUCTION

### 2.1 Quality problem

In the actual asphalt pavement construction process, because of the complex terrain in different areas of our country, so if we want to prevent the impact of terrain on asphalt pavement construction, the staff should analyze it before construction, especially in the face of increasing traffic today, to ensure the smooth flow of highway and ensure the safety of traffic, we should constantly improve the asphalt pavement construction quality [1].

In the process of construction of asphalt pavement, it must be combined with the actual construction requirements, so that not only can ensure the safety of construction, but also can improve the quality of construction. However, due to the influence of some factors, in the actual construction of asphalt pavement, the construction quality has not been effectively improved, and technicians have not detected the quality of materials, which will lead to a variety of quality problems in high temperature and other conditions of asphalt pavement, seriously affecting the process of asphalt pavement construction.

### 2.2 Loose Pavement

Such pavement is mainly manifested as pits, pockmarked surface and loose, leading to these problems, the main reason is the surface layer of mesh crack and small area of loose. In order to improve the construction quality under such a background, technicians should effectively solve these problems, but in the actual process of asphalt pavement construction, due to the limitations of technical personnel and other factors, these problems have not been reasonably solved, the construction personnel have not repaired and maintained it, which will lead to the load and rain and other natural factors in the background, Pits are formed gradually, which seriously affects the construction quality of asphalt pavement. In addition, in the specific construction process, if the technical personnel do not control the traffic vehicles, the road will produce a permanent deformation accumulation of banded grooves under the action of vehicles, and then cause a serious impact on the asphalt pavement construction process.

### 2.3 Called loose disease

In the process of asphalt pavement construction and maintenance, this kind of problem often occurs. Mainly refers to the highway operation, asphalt material will be affected by a number of factors appear various changes. According to the investigation, in general, the factors that lead to such problems are as follows: First, in the actual operation of vehicles, the bearing capacity of pavement structure is exceeded, which has a certain impact on asphalt pavement and leads to the destruction of subgrade [2].

The second is the road material problem, if in the actual construction process, technicians do not strictly check the asphalt material, it will lead to the emergence of loose road and other problems, at this time, must be in strict accordance with the

relevant requirements and continue to standardize the behavior of the construction personnel, so as to constantly improve its stability. Finally, natural factors can also lead to this problem. Because this factor is man-made can not be controlled, the main is the asphalt pavement after long-term exposure to the sun, resulting in the appearance of loose phenomenon, which has a great impact on the bearing capacity of the road.

### **3. ASPHALT PAVEMENT MAINTENANCE TECHNOLOGY**

#### **3.1 Crack repair technology**

In order to improve the quality of asphalt pavement construction and provide guarantee for the stable operation of construction, it is necessary to maintain asphalt pavement and strengthen the innovation and analysis of maintenance technology. Especially in the application of sealant to repair the crack area in the road surface, the staff must master the key points of this technology. Under the background of the continuous development of our economy, the asphalt pavement construction has become one of the main contents of the highway project, so if we want to improve its application efficiency, we should strengthen its maintenance.

Because of its extremely strong viscosity, it has been used in the process of crack repair. In addition, in the process of crack repair, the application of slurry sealing material filling, the operation process is not only relatively simple and convenient, but also can greatly improve the quality of crack repair to a certain extent. However, in the process of construction, it is necessary to clean the deep crack first, so as to ensure the effect of crack repair. The process usually takes about 30 minutes to get traffic through. At the same time, in this process, the application of fog sealing method, can also be mild cracking treatment, so as to effectively prevent the appearance of cracks, and continue to improve the asphalt pavement skid resistance.

#### **3.2 Asphalt regeneration technology**

This technology is one of the main technologies in asphalt pavement maintenance technology, Personnel in the use of this technology, must be strict and scientific control, the technology will be effectively applied to the process of asphalt pavement maintenance. Among them, the regeneration is to recycle the original asphalt pavement material, and then carry on the related treatment, which can not only improve the value of its utilization, but also save a certain economic cost for the asphalt pavement construction project. Therefore, in this context, technical personnel must strengthen the analysis of this technology, and properly change the regeneration depth, which is usually 30 to 50mm[3]. Therefore, in order to improve the maintenance quality of asphalt pavement, technical personnel should analyze the shallow and middle layer of pavement. Thus, it provides the basis for promoting the stable development of our construction enterprise in society.

#### **3.3 Reasonable selection of asphalt materials**

In the specific curing process, the staff should strengthen the reasonable control of construction materials, mainly the control of asphalt concrete semi-finished products. Because the temperature will affect the transportation and production of asphalt materials, so in the specific construction process, we must pay special attention to the temperature control, mainly from the point of view of raw materials, to control the temperature in a reasonable range.

Because the temperature is too high, it will affect the construction of asphalt pavement, and also cause certain influence on its maintenance, so that the pavement strength is insufficient, leading to the appearance of loose and pothole problems. Therefore, technicians should reasonably control asphalt regeneration technology at this time, make appropriate adjustments to it, strengthen the control of pavement smoothness, and control the paving speed of the lower layer at 2.5 to 3.5m/min and the upper layer at 3.5 to 4.5m/min, so as to provide guarantee for the smooth construction of asphalt pavement [4]. Reasonable control of asphalt pavement construction materials can not only strengthen the maintenance technology.

The application of technology in it can also prevent the occurrence of other problems, constantly improve the stability of asphalt pavement, strengthen the protection of asphalt pavement. Therefore, in this context, technicians must be combined with the actual construction requirements of asphalt pavement. The raw materials in construction should be controlled reasonably, and then the reasonable application of maintenance technology should be strengthened.

#### **3.4 Microsurface maintenance technology**

In the process of asphalt pavement maintenance, micro-surface maintenance technology is the main maintenance technology in asphalt pavement construction, which directly affects the quality and use of asphalt pavement. This technology is mainly used in large asphalt pavement. At the same time, the application of this technology in asphalt pavement construction, coupled with the paving work of special machines, not only greatly improves the quality of construction, but also makes the pavement more smooth. In addition, the micro-surface maintenance technology is mainly used to treat asphalt pavement, which can improve the appearance of pavement, ensure the smoothness of asphalt pavement, and prevent the occurrence of potholes and other problems.

The application of this technology also optimizes the waterproof effect of asphalt pavement. Because the micro-surface

maintenance technology also has the function of improving the operation efficiency of the project, its application in the maintenance process of asphalt pavement not only ensures the stability of the pavement, but also greatly maintains the operation of the whole project to a certain extent, strengthens the maintenance of asphalt pavement, and then improves the construction system of asphalt pavement.

#### 4. CONCLUSION

In summary, in order to improve the construction quality of asphalt pavement and avoid the occurrence of traffic accidents, the asphalt pavement construction and maintenance technology is analyzed, the maintenance system is improved, and the application of maintenance technology in the actual construction is strengthened. While ensuring the construction quality of asphalt pavement, Furthermore, it promotes the stable development of our building enterprise in society.

#### REFERENCES

- [1] SUN LAN. Discussion on Construction Technology of Asphalt Pavement of Municipal Road [J]. Shanxi Architecture, 2018,44 (18):119-121.
- [2] XIN Yanhong. Application of Oscillating Compaction Technology in Asphalt Pavement Construction [J]. Communications World (Construction and Maintenance Machinery), 2018(3):44-45.
- [3] LI Boxing. Analysis on Construction Technology and quality Control Measures of Asphalt Pavement in Highway Engineering [J]. Value Engineering, 2018,498 (22):195-196.
- [4] LI Yong, LI Fangyuan. Analysis on Construction Technology and Quality Control Points of Asphalt Pavement in Highway Engineering [J]. Overseas Abstracts • Academic, 2019(5):1-2.