Original Research Article

# Research on the Innovation of Anticorrosion Process of Wufengshan Yangtze River Bridge

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***Abstract:*** Wufengshan Yangtze River Bridge is the first highway and railway suspension bridge in China and the first high-speed railway suspension bridge in the world. The anticorrosion engineering of the bridge is an important link to ensure the long-term and efficient operation of the bridge. This paper first reviews the research results of steel structure bridge anticorrosion construction, and then elaborates the process flow optimization and management innovation in the steel structure anticorrosion engineering of Wufengshan Bridge, and compares and analyzes the differences, advantages and disadvantages between the new and old anticorrosion process flow. On this basis. It calculates the economic and social benefits of the new process from the aspects of improving engineering quality, reducing environmental pollution, reducing construction period, saving labor and material costs. The related research has important reference significance for the reform and innovation of steel structure bridge anticorrosion technology.

***Keywords:*** Wufengshan Yangtze River Bridge; Steel structure bridge; Anticorrosion; Technological process innovation.

## 1. Introduction

Wufengshan Yangtze River Bridge is China's first dual-purpose suspension bridge and the world's first high-speed railroad suspension bridge, with a total length of 6.409km and a main span of 1,092m. The lower level of the bridge is a 4-lane high-speed railroad with a design speed of 250km/h. The upper level is a two-way 8-lane highway with a design speed of 100km/h. The upper level is a two-way 8-lane highway, with a design speed of 100km/h. The northern connection of the bridge starts from the Beijing Highway. The northern connection of the bridge highway starts from Beijing-Shanghai Expressway and Shanghai-Shaanxi Expressway intersection of Zhengyi Junction, and connects with Taizhen Expressway and Jiangyi Expressway intersection of Dagang Junction on the south bank. The completion of the Wu fengshan Bridge has greatly eased the pressure of upstream and downstream traffic across the river. The completion of Wufengshan Yangtze River Bridge makes Lianhuaiyangzhen High Speed Railway open to traffic, which greatly shortens the traveling time from Lianyungang to Zhenjiang and Nanjing. From the railroad network, Wufengshan Yangtze River Bridge is the nodal project of Lianhuaiyangzhen High-speed Railway crossing the river, which is of great significance for improving the railroad network throughout Jiangsu, promoting the integration of Jiangsu's economically underdeveloped areas into the core region of Yangtze River Delta, and advancing the economic and regional integration development of Jiangsu province.

## 2. The Importance of Corrosion Protection Research on Steel Bridges

With the development of China's economy, the government's investment in infrastructure has increased rapidly, and the construction of roads and bridges is an important part of infrastructure investment. A large number of cross-river and cross-sea bridges have been built one after another, such as Hangzhou Bay Bridge,

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Sutong Bridge, Zhuhai-Hong Kong-Macao Bridge and so on. At present, the number of highway bridges in China has exceeded 800,000, the total number of railroad bridges has exceeded 200,000, and the cumulative length of high-speed rail bridges has exceeded 10,000 kilometers. Bridges are not only the beautiful name cards built in China, but also China has become the world's number one bridge country. Among the world's top ten large-span girder bridges, arch bridges, cable-stayed bridges and suspension bridges, China occupies half of them each. Due to its light weight, high strength and fast construction progress, steel structure has been widely used in modern bridge construction.

However, in the process of steel bridge construction and use, bridge corrosion has been an important factor affecting the long-term safe operation of the bridge. As the bridge is put into operation for a longer period of time, the corrosion of the bridge steel and the deterioration of the coating are more significant, and once the anticorrosion coating of the steel structure is damaged, it will directly affect the service life of the bridge and the safety of the bridge. Although the anti-corrosive coating of steel structure bridge is made of special material, which forms a strong adhesion with the steel structure, and can avoid the corrosion of the steel structure by the external environment, there are still many factors that lead to the corrosion of steel structure bridge in reality. These factors include not only the quality and selection of anti-corrosive materials, collision during construction, etc., but also environmental factors, such as the decomposition of coating materials due to ultraviolet irradiation, as well as the washing away of rainwater or acid rain.

As the world's first high-speed railroad suspension bridge and China's first dual-purpose suspension bridge, Wufengshan Yangtze River Bridge mainly adopts steel structure material, in order to ensure the quality of the project, Wufengshan Yangtze River Bridge adopts a series of new structures, new materials, new technology, new techniques and new equipment during the construction process, and has obtained dozens of patents. As the main builder of Wufengshan Yangtze River Bridge anti-corrosive coating project, Zhenjiang Blue Hublot Technology Co., Ltd. in order to protect the bridge from corrosive environment damage, protect the safe operation of the bridge, extend the service life of the bridge, the bridge anti-corrosive coating project carried out a bold process improvement and management innovation, in order to ensure that the quality of the construction and anti-corrosive effect at the same time greatly reduces the environmental pollution, saves the cost of construction, speed up the construction progress, and achieved a very good result. Construction progress, and achieved good economic and social benefits. Summarizing the experience of anticorrosion process improvement and management innovation of Wufengshan Yangtze River Bridge is of great theoretical and practical significance for improving the overall anticorrosion technology and construction quality of steel structure bridges in China.

## 3. Current Status of Anticorrosion Research on Steel Bridges

With the common application of steel structure in bridge construction, anti-corrosive coating of steel structure is not only the focus of practical attention, but also the hot spot of research in the theoretical field of anti-corrosive coating. Many scholars have discussed how to improve the quality of anticorrosion construction and anticorrosion effect in terms of protection system design, construction methods, quality control, technical points, etc., summarizing the existing research results mainly focus on the following aspects:

(1) Anticorrosion construction and quality control of bridge steel structure. The quality of anticorrosion coating construction directly affects the durability performance, appearance quality and use safety of steel structure bridges. Some scholars analyze how to control the quality of anticorrosion project by combining the cases of anticorrosion project. Including according to the corrosion environment and corrosion characteristics of the bridge, put forward some reasonable methods of anti-corrosive coating of steel structure bridge, and discuss the construction process and quality inspection control of the coating system (Chen Yi, 2019); Combined with engineering examples to introduce the design of anti-corrosive coating coating system of steel structure, coating construction methods and quality control (Luo Mingdi, Li shipping, 2018; For the anti-corrosive engineering of

steel structure bridge, different stakeholders to put forward corresponding quality control measures (Wang Weidong, Yang Qiaofu, Zhang Yingli, 2018). ②Research on the anticorrosion process of steel bridge structure. Advanced anticorrosion process is the key to ensure the construction quality of steel bridge anticorrosion project, the process of steel bridge project construction, due to its own material reasons, poor corrosion resistance, some scholars have conducted research on the steel bridge factory in-factory coating, sandblasting and rust removal technology and construction site steel structure installation after the completion of the coating and anticorrosion process (Cui Xin, 2019; Li Shaozhen, 2019). ③Protection system design. Different parts of the steel bridge have different corrosion characteristics, so it is necessary to design the corresponding protection system according to the corrosion characteristics of different parts. Guo Fang (2011) outlined the corrosion characteristics of different parts of steel bridges and summarized and sorted out the protection system of steel bridges of electric boxes to explore the future development direction of heavy duty anti-corrosive coatings for steel bridges, Li Yunde et al. (2011), Zhang Hui (2013) explored the design of the corresponding coating support system based on the corrosive environment in which the steel structure is located, the painted parts and the expected service life, Dai Runda (2018) combined with cases Dai Runda (2018) analyzes the main factors affecting the long-lasting anticorrosion of bridges, such as standard specification, coating supporting system design, coating quality, construction management and construction, and puts forward the improvement opinions on the relevant links. ④Technical points of steel structure anticorrosion coating construction. The relevant research results mainly focus on: analyzing the basic types of modern bridges and their corrosive environments and corrosive characteristics, summarizing the common supporting methods and future development trend of anticorrosive coating for steel structure bridges by analyzing the anti-corrosive coating technology of typical bridge projects and the current anticorrosive coating standards for bridges both at home and abroad (Yang Zhenbo, Shi Hua, Huang Jiumei, 2012). Analyze the relevant reasons of coating defects, put forward the basis of coating product selection, construction precautions (Ma Hongwei, 2013); analyze the process of sandblasting rust removal and painting of steel structure in the factory and construction site (Wang Weiwei, 2012); introduce the new coating construction equipment and the application of new environmentally friendly coatings (Chang Yanhu, Wang Yueli, Guo Fang, 2015); research on the thermal spraying technology in the steel structure of bridge operation points in anticorrosion (Xu Jun, Luo Liehao, Zhang Huang, 2018). ⑤Factors affecting the anticorrosion coating effect of steel structure bridges. The existing results include analyzing the common corrosion types and influencing factors of steel structure bridges (Zong Na, 2017), identifying the causes of anticorrosion coating diseases of steel structure bridges (Yang Chen, 2020), exploring the influence of coating system, coating process, environmental conditions and human factors on the anticorrosion weathering resistance of steel structure bridge bearings (Tong Jiaming, Zang Xiaoqiu, Shi Qiujun, 2017), summarizing the long-lasting anticorrosion of bridge steel structure basic measures and prevailing management problems and put forward improvement measures (Du Baiji, Liu Jianjian, 2008), analyze the problems and improvement measures in routine chemical acceptance, completion acceptance and personnel qualification of anti-corrosive painting of steel structure bridges (Gao Xueying, 2017).

To summarize, the research results about steel structure bridge corrosion prevention mainly focus on the construction quality control, corrosion prevention process enhancement, corrosion prevention system design, construction technology and factors affecting the effect of corrosion prevention, etc. The existing results have greatly enriched the theoretical system of China's bridge corrosion prevention, and improved the level of practice. However, there are very few literature from the perspective of process optimization and management innovation to explore the bridge corrosion engineering, Zhenjiang Blue Hublot Science and Technology Co., Ltd. in the construction of Wufengshan Yangtze River Bridge actively explore, innovation, optimization of the anticorrosion process, the specific practices are described as follows.

# 4. Wufengshan Yangtze River Bridge Anticorrosion Process Innovation

Wufengshan Yangtze River Bridge anticorrosion project in an important innovation is the traditional construction process optimization and improvement, that is, should be constructed at the site of the outer surface of the components, the top of the bridge deck plate, the underside (in addition to the range of slagging boards between the range of highway decks and paved range) the last topcoat process to be replaced by the construction of the painting plant, although on the surface only construction site changes, but it brings significant economic and social benefits! Although it seems to be only a change of construction site, it brings significant economic and social benefits. Of course, the improvement of the process also brings challenges to the company's management.

## 4.1 Comparison of New and Old Anticorrosion Process Operation Procedures

The anticorrosion process of Wufengshan Yangtze River Bridge can be divided into in-plant coating and on-site coating according to the construction site. The advantages of in-plant coating are more stable working environment, easy operation, high safety, and guaranteed project quality. However, not all anticorrosion coating processes can be completed in the factory, such as some welding parts, coating damage during installation, paved highway bridge decks, high strength bolts connecting parts of the exposed surface, etc. need to be constructed in the bridge site construction site. In the previous bridge anticorrosion project, usually the outer surface of the components, the top of the bridge deck plate, the bottom surface (in addition to the range between the slag plate and the highway bridge deck has a paved range) of the last topcoat of the construction of the construction of the site is also arranged in the bridge site. Zhenjiang Blue Hublot Technology Co., Ltd. in Wufengshan Yangtze River Bridge anti-corrosive coating construction of the process optimization and adjustment of the external surface of the components, the top of the bridge deck, the bottom surface (except for the range between the slag boards and the paved highway deck), the last top coat of the construction site is changed to the factory painting, and then transported to the site for splicing after the completion of all the painting. Comparison of the old and new anticorrosion construction process is as follows:

(1) Old process: The original construction process is to clean the surface of steel components in the factory, sandblasting treatment in the sandblasting room, and then transferred to the coating month for primer, paint, top coat (except the last top coat) coating, painting countryside after the end of the bridge will be coated steel components transported to the site of the bridge site for splicing, after the completion of the splicing of the Park beam for the final coating, the wear and tear in the process of transportation and splicing, broken parts to repair the end of the patch coating and then the whole brush the most month an anti-corrosive top coat to ensure that the coating surface color uniformity does not flow hanging and other subsidence, to ensure that the appearance of color consistency. Parts of the repair, the end of the repair coating and then the whole brush the most month an anti-corrosive topcoat, to ensure that the coating surface color uniformity, does not produce hanging and other unloading, to ensure that the appearance of the color is consistent. The traditional anticorrosion process is shown in Figure 1.

(2) Optimized bridge anticorrosion process. Change on the basis of the original old process, the same steel components in the factory for surface cleaning, sandblasting in the sandblasting room for sandblasting treatment, and then transferred to the coating room for primer, paint, top coat, including the last top coat of paint is also carried out in the factory, after the end of the coating will be coated bridge steel components transported to the bridge site for splicing, after the bridge is completed to patch splicing after the last patch coating, the wear and tear caused during the transportation and splicing process to repair, as far as possible to ensure that the coating surface color uniformity and consistent appearance. After the bridge is spliced, the final repair coating is carried out to repair the abrasion, damage and other parts produced during transportation and splicing, and at the end of the repair coating, it is ensured that the color of the coating surface is uniform and the appearance is consistent as far as possible. The optimized anticorrosion process flow is shown in Figure 2.

## 4.2 Comparison of the Advantages and Disadvantages of the Old and New Anticorrosion Processes

(1) Advantages and disadvantages of the old process.

Advantages of the old process: the last topcoat is applied as a whole, which ensures that the overall color of the bridge is consistent and uniform, reduces breakage during transportation, and reduces the amount of work that requires additional repairs.

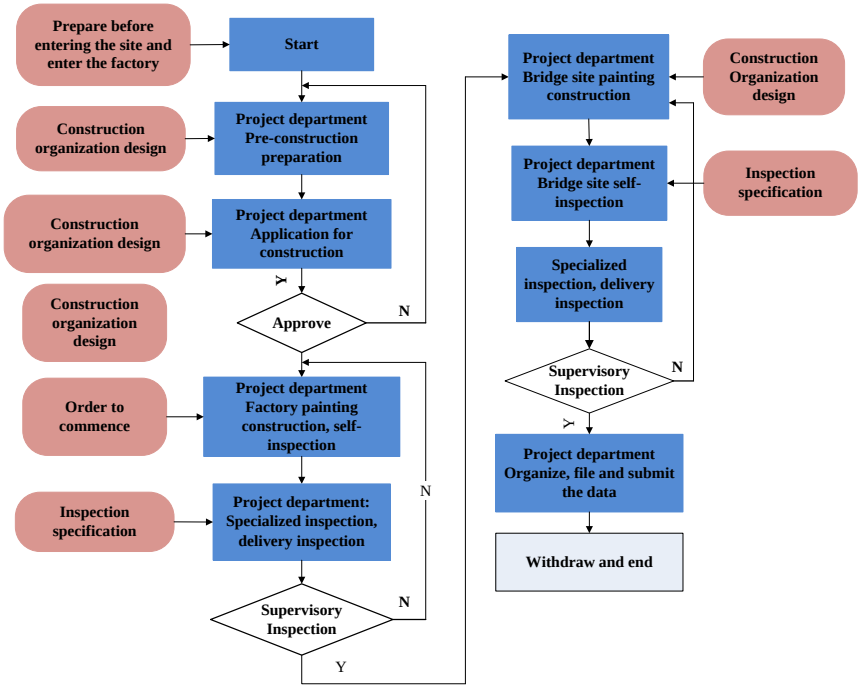


**Figure 1** Flow chart of traditional bridge anticorrosion process.

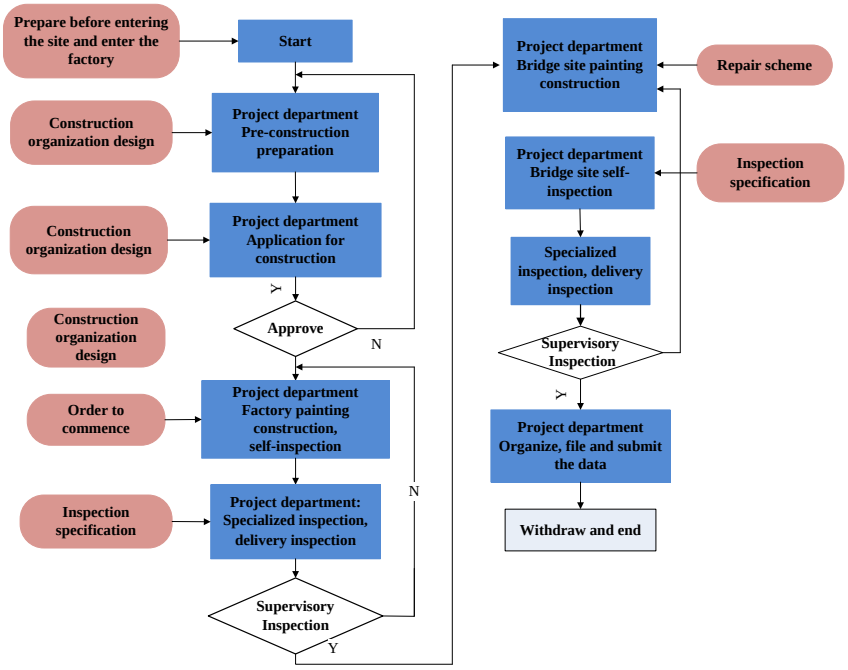


**Figure 2** Flow chart of the optimized bridge corrosion protection process.

Disadvantages of the old process:

Firstly, the old process is to arrange the last topcoat in the bridge site for construction work, due to the

construction of a wide range of work, the amount of work, and therefore invested in more personnel, materials, equipment, increasing the difficulty of site management.

Secondly, the bridge site site for the last topcoat construction belongs to the open-air operation, painting operation on the construction environment has certain requirements, therefore, need to arrange the construction according to the seasonal weather and other conditions, painting construction on the humidity of the construction environment has certain requirements, when the rainy season, it will affect the quality of the bridge deck painting, increasing the difficulty of construction.

Thirdly, outdoor painting construction will produce part of the paint mist, these paint mist with the wind dispersed not only increase the use of paint caused by the increase in the use of materials, on the other hand, also on the surrounding environment and so on to cause a certain amount of environmental pollution, in order to reduce the pollution of the construction side needs to increase the investment in environmental protection equipment, undoubtedly increase the cost of construction.

Fourthly, the painting material contains paint, thinner and other flammable and explosive products, storage in the construction site requires a specialized warehouse and personnel for safekeeping, while the construction site personnel are subordinate to the personnel of different construction teams, the personnel are many and varied, the management is difficult, paint and thinner and other flammable and explosive products stored in the field of the existence of a high risk of potential safety hazards.

Fifthly, outdoor open-air construction, painting operations need to be arranged according to the seasonal weather conditions, which will have an impact on the progress of the construction, and is unfavorable to the scheduling and management of personnel and equipment.

(2) Advantages and disadvantages of the new process:

Advantages of the new process: Firstly, it reduces the amount of work at the site of the bridge site, reduces the input of personnel, materials and equipment at the site, and facilitates the management of personnel at the site of the bridge site. Secondly, since all the painting processes are completed in the factory and the site only repairs the damaged surfaces generated during transportation, less materials are required for on-site operations, thus reducing the on-site storage of flammable and explosive products such as paints and thinners, and lowering the safety hazards existing at the construction site. Thirdly, transferring large-scale outdoor construction operations to indoor can reduce the environmental pollution around the bridge site during the painting process, and also reduce the loss of paint during the operation, thus lowering the cost. Fourth, large-scale outdoor work is bound to be affected by weather changes, while indoor work does not need to adjust the project progress in real time according to the weather changes, which not only reduces the construction period and accelerates the construction progress, but also avoids the influence of the weather on the construction quality of the site, and improves the quality of the painting.

Disadvantages of the new process: First, the last topcoat will be arranged in the factory for construction operations, the end of construction will be finished products packaged and shipped to the bridge site, in order to protect the finished product should be protected in the transportation process, to reduce the phenomenon of damage, cuts and so on during transportation, it is necessary to solve the problem of finished products packaged and transported. At the same time in the steel components splicing process needs to be brother collaborative unit to reduce splicing in the breakage and cuts, the operation of the brother unit also put forward higher requirements. Secondly, the new process in the factory to complete all the painting and then transported to the site splicing, but in the transportation of the inevitable breakage, the need for additional specialists to repair construction; Thirdly, due to the transport process of the broken parts of the repair process will lead to repair paint and do not need to repair the part of the color difference, although the color difference with the passage of time will gradually disappear, but in the short term it will affect the overall beautiful Thirdly, the color difference between the repaired paint and the part that does not need to be repaired will be caused by the repair of the damaged part during transportation.

# 5. Economic and Social Innovation of Anticorrosion Process of Wufengshan Yangtze River Bridge Benefits

Through the comparison of the advantages and disadvantages of the old and new processes, the company believes that the new process, although there are difficulties in management coordination and short-term impact on the bridge aesthetics, but in improving the quality of bridge anti-corrosive construction, protection of the environment has an irreplaceable advantage, and therefore ultimately decided to carry out the optimization of the process, the use of new processes to complete the anti-corrosive coating construction. Through the preliminary calculation, the economic and social benefits brought by the new process are as follows:

## 5.1 Effectively Improves Construction Quality

Arranging the last top coat on the outer surface of the component, the top and bottom of the bridge deck (except the range between the cinder block boards and the paved range of the highway bridge deck) to be carried out in the factory, the last top coat can be completed within the effective time after the end of the previous one, to ensure that the bonding force between the coatings. Construction work in the painting room, you can use mechanical equipment and other better control of the temperature and humidity of the construction environment, improve the working environment of the painting construction, improve the quality of the construction, but also can be used in the painting plant intelligent equipment painting equipment for construction work, reducing the construction process of the dependence on manual operation, and further improve the quality of the painting construction through the intelligent painting and testing equipment.

Of course, the adjustment and optimization of the process is only to improve the quality of anticorrosion engineering to provide favorable conditions, but the supervision and management of each construction process is also an important link to ensure the quality of anticorrosion engineering, and clear anticorrosion coating construction standards for each process is the premise of quality control. Zhenjiang Blue Hublot Technology Co., Ltd. according to the Wufengshan Yangtze River Bridge anti-corrosive coating quality requirements and environmental characteristics of the following construction standards, specific as Table 1.

**Table 1** Wufengshan Yangtze River Bridge anticorrosion project construction standards.

| Technological Process | Construction standard | Construction content |
|---|---|---|
| Cleanliness construction standard | GB/T 8923.1-2011 | Surface preparation of steel before coating; visual assessment of surface cleanliness; corrosion rating and treatment rating of non-coated steel surfaces and steel surfaces after complete removal of existing coatings |
| | GB/T 3505-2000 | Product geometry specifications, surface structure, contour method, terms, definitions and parameters of surface structure |
| | GB/T 13288-1991 | Evaluation of surface roughness grade of steel before painting (comparative sample method) |
| Sand blasting construction standards | GB/T 18839.2-2002 | Steel surface treatment mill spray cleaning before coating |
| | GB/T 17850.1-2017 | Technical requirements for non-metallic abrasives for steel surface preparation and jet cleaning before coating |
| Thermal spraying construction standards | GB/T 9793-2012 | Thermal spraying, metallic and other inorganic coverings, zinc, aluminum and their alloys |
| | GB/T 16744-2002 | Thermal spraying self-melting alloy spraying and remelting |
| | GB/T 11374-2012 | Non-destructive measurement of thermal spray coating thickness |
| | GB/T8642-2002 | Determination of tensile bond strength for thermal spraying |
| Coating test standard | JT/T 695-2007 | Technical conditions for surface coating anti-corrosion of concrete bridge structures |
| | JT/T 722-2008 | Technical Conditions for Anti-corrosion Coating of Steel Structures of Highway Bridges |

| | |
|---|---|
| GB/T 31586.2-2015 | Guidelines for Evaluation and Acceptance of Protective Coating Systems for Corrosion Protection of Steel Structures, Coating Adhesion/Cohesion (Breaking Strength) (Part 2: Scratch and Fork Tests) |
| GB/T 13452.2-2008 | Determination of the film thickness of color paints and varnishes |
| GB/T 5210-2006 | Adhesion test by pull-off method for color paints and varnishes |
| GB/T 9264-2012 | Color paints and varnishes, anti-sagging evaluation |

Through prevention beforehand, strict control during the incident, and inspection and management afterward, the implementation of anticorrosion standards is effectively ensured to ensure the quality of anticorrosion projects.

### 5.2 Reduced Environmental Pollution and Material Costs

This paper adopts the entropy value method to measure the weights of the selected indicators of the two systems of digital economy and high-quality economic development in Zhejiang Province, and the steps are as follows:

The old process in outdoor construction paint spraying construction will be affected by the wind and sunlight, resulting in a large amount of paint volatilization. And the new process choose to paint construction in the factory, the construction environment is very stable, greatly reducing the bridge site site construction of paint mist on the surrounding environment, according to the Wufengshan Yangtze River Bridge construction area, and the new process to reduce the emission of pollutants is the bridge site site required for the amount of paint and the factory construction of the amount of paint required by the difference between the amount of pollutants we can roughly calculate the new process to reduce the amount of pollutants emitted, specific The calculation process is as follows:

The outer surface area of the steel components of the first section of Wufengshan Bridge is 317539.1m2, the calculation coefficient is 1.7 for painting in the factory, the calculation coefficient for on-site painting experience at the bridge site is 2.0, and the painted area of 1L of paint is 15.714m7/L. Therefore, the amount of paint used for on-site painting in the factory and on-site painting at the bridge site can be calculated as follows:

Theoretical amount of paint applied in the factory: $3.17539.1/15.714=20207.401L$

Actual paint volume: $20207.401\times1.7=34352.582L$

Theoretical paint volume of bridge site painting: $317539.1/15.714=20207.401L$

Actual paint volume: $20207.401\times2=40414.802L$

Pollutant emission: $40414.802L-34352.582L=6062.22$

Imagine how more than 6000 liters of paint pollutants discharged into the air or the Yangtze River would affect the surrounding air environment as well as the ecology of the Yangtze River. The improvement of the process not only greatly reduces the emission of pollutants, but also saves the cost of materials, which directly brings real economic benefits to the constructor.

### 5.3 Accelerated Construction Process and Reduced Labor Costs

Improvements in the process have also greatly reduced labor costs and accelerated the construction schedule. On-site construction at the bridge site was not only risky and difficult to construct, but also consumed an increased number of man-hours and labor costs.

We take the Wufengshan Yangtze River Bridge section 40-41 as an example of 12822 $m^2$ anticorrosion coating:

Under the new process: after the total assembly in the factory, dealing with the welding area of about 536 $m\times30\,cm$ wide weld = 160.8 $m^2$ grinding paint repair, need labor cost 6432 yuan, average to the whole section square accounting about 0.5 yuan/$m^2$, during the period of mechanical shifts of about 4,800 yuan, the last topcoat brushing uniform spraying 4 yuan/$m^2$. construction of the direct labor cost of about 6 yuan /$m^2$.

Look at the duration, in the new process, the factory construction using scaffolding and aerial vehicles need 2 days of time, unified spraying the last topcoat need 4 days of time, 2 days after the removal of the foot hand-loaded, aerial vehicles and then repair 1 day that is the completion of the second topcoat construction, so that the bridge is projected to be the final close section of the bridge together, the structure of the welding and installation of the end of the bridge can be completed in 7 days to complete the bridge coating topcoat.

Under the old process: if the second top coat of 12822m$^2$ in section 40-41 is constructed at the bridge site, due to the increased difficulty of construction, the direct labor cost, excluding the cost of tooling measures, will be about 12 RMB/m$^2$, which is about twice as much as the construction in the factory.

Such as 40-41 section 12822m$^2$ two surface paint in the bridge construction, need to be closed after the first treatment of the weld filler, until the end of the basic installation of the whole bridge ancillary facilities, pavement paving, no cross work in the case of the whole bridge is basically closed uniform spraying the last top coat, the overall duration is estimated to take more than three months. The same type of Hutong Bridge using the old construction process, it takes more than 3 months of work to complete the construction.

Overall, the new process not only greatly reduced the cost, but also shortened the construction period, contributing to the completion of the bridge on time with quality and quantity.

## 6. Conclusions

This paper takes Wufengshan Yangtze River Bridge anticorrosion project as an example, and deeply analyzes the process innovation and process optimization of Zhenjiang Blue Hublot Science and Technology Co. First of all, the Wufengshan Yangtze River Bridge and the importance of bridge anticorrosion is briefly introduced, and then summarized and sorted out from the current research status of steel structure bridge anticorrosion, on this basis, focusing on the comparison of the old process and the new process in the process of the differences as well as the advantages and disadvantages, and from the aspects of environmental pollution, duration and construction cost of the new process to the economic and social benefits generated by the economic and social benefits, the above research for the improvement of the quality of construction and the optimization of process in China's bridge anticorrosion project. The above research has important theoretical significance and practical significance for the improvement of the construction quality and economic benefits of bridge anticorrosion project in China.

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