

Research on Green Reconstruction Design of Existing Industrial Buildings Incorporating Intermediary Space

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Abstract: The internal space of industrial buildings is large and has a strong seal, which leads to relatively poor indoor environmental conditions and a lack of climate adjustment functions. If only cooling and heating are used, a large amount of energy will be consumed, which seriously affects the economic benefits of industrial enterprises. In order to solve the problems existing in the internal space of current industrial buildings, it is necessary to pay attention to the design of the intermediary space, so that we can effectively achieve passive energy-saving transformation and give full play to the advantages of green and high-performance transformation design. Based on this, this article mainly analyzes the advantages of using intermediary space design countermeasures in industrial green transformation, for reference only.

1. Introduction

During the actual construction process of the industry, due to the high cost, the standard of material selection is relatively low. Which results in poor thermal performance of industrial buildings and is always in a sealed state. The environment inside industrial buildings cannot be ventilated in real time and is not suitable for long-term residence. Therefore, in response to this phenomenon, relevant industrial enterprises need to analyze the existing deficiencies in industrial buildings, pay attention to the concept of green transformation, and make reasonable use of intermediary space design countermeasures to ensure the air circulation inside industrial buildings to avoid being affected by the environment and unable to work smoothly, which applies to the stable development of industrial enterprises.

2. The Era Demand of Green Building

The steady development of science technology and economy in our country has brought great help to people's life and improved people's quality of life. At the same time, it has also brought a lot of environmental problems. Therefore, in the development process of the current society, we must pay attention to the transformation of green buildings and recognize the importance of protecting the environment in all aspects. In the process of industrial building transformation, it is necessary to follow the green design concept, and at the same time reasonably integrate the intermediary space design countermeasures to ensure that the industrial building transformation can be successfully completed and meet the requirements of the times for green buildings.

3. The Significance of Green Transformation of Intermediary Spaces in Industrial Buildings

Gaps are there between industrial buildings and current house buildings. Industrial buildings mainly create boundaries through enclosure and form a space that separates internal and external areas, so as to meet the needs of industry for production sites. However, due to the creation of enclosed boundaries, the internal and external environments of industrial buildings are isolated, and circulation of the air is not guaranteed often. Moreover, indoor comfort adjustment requires a large amount of energy, which affects the overall economic benefits of industrial enterprises. Therefore, in order to improve the existing deficiencies of the current industrial buildings, it is necessary to attach great importance to the application of the concept of green transformation, and integrate the

transformation countermeasures of intermediary space. Use intermediary space reasonably can ensure the intercommunication between interior and nature, effectively regulate the internal climate of industrial buildings, while not consuming too much energy. Therefore, in the actual process of building transformation, relevant industrial enterprises not only need to pay attention to the concept of green transformation, but also need to give full play to the role and advantages of intermediary spaces to create a high-quality indoor environment for industrial buildings. This not only meets the needs of staff for long-term stay, but also improves the overall economic efficiency of industrial enterprises.

4. The Requirements for the Construction of Green Energy-Saving Intermediary Spaces

Due to the gap between the internal climate of the industrial building and the external environment, which leads to certain restrictions on ventilation and lighting conditions, it will not only consume a large amount of energy, but it will not be suitable for long-term residence of workers, which will affect industrial production efficiency. Therefore, in view of this phenomenon, in the actual process of constructing green energy-saving intermediary spaces, it is necessary to comprehensively analyze the demand for industrial building transformation to ensure that the deficiencies of traditional industrial buildings can be improved and the efficiency of green transformation improved. First of all, it is necessary to ensure that the internal ventilation compensation design of industrial buildings meets the construction requirements and guarantees good internal ventilation conditions. Secondly, it is necessary to analyze the design requirements of lighting compensation, solve the problem of insufficient natural lighting inside industrial buildings, and reasonably use auxiliary equipment to increase the area of lighting and effectively reduce energy consumption. Finally, we need to analyze the microclimate buffer. The optimized design creates a good indoor environment for industrial buildings, guarantees the smooth production of industrial construction enterprises, and achieves economic benefits.

5. The Construction Mode of Intermediate Space for Green Reconstruction of Industrial Buildings

5.1 Reasonable Use of Existing Space

In the actual implementation of green reconstruction of industrial buildings, the existing space can be used reasonably to realize the countermeasures of intermediary space design. Which ensures that the original internal space can be effectively planned and the transition space between the inside and outside can be constructed. In the actual implementation of the internal space reconstruction, it is also necessary to attach great importance to the integration of green concepts, and ensure that the ventilation and lighting conditions inside the industrial building are good, and the internal air circulation of the industrial building is effectively realized. Not only that, in the actual implementation of the original space reconstruction, it is also necessary to analyze the design and modification of the ventilation ducts to ensure that they meet the goals of building reconstruction, and to effectively construct passive ventilation cycle equipment to solve the problem of excessive traditional energy consumption. In addition, the use of existing industrial buildings can not only reduce the cost of renovation, but also ensure that the original structure and original appearance of industrial buildings can be effectively retained.

5.2 The Expansion of Industrial Building Boundaries

The construction of industrial buildings is mainly based on production and manufacturing, and the open space of the interior of the building is relatively large. At the same time, all aspects of the building are relatively closed, leading to the isolation of the internal environment from the external space, which usually requires excessive energy consumption for cooling and heating. Therefore, in order to improve this phenomenon, not only can rational use of intermediary space design countermeasures, but also need to follow the concept of green architecture. In the actual reconstruction of the building, the original enclosed boundary needs to be expanded to break the

closedness of the border, to ensure that the relevant pipes and ventilation facilities can be reasonably installed, and to prevent poor ventilation due to poor internal ventilation and lighting conditions. In addition, the main purpose of expanding the boundaries of industrial buildings is to be able to introduce the outside climate into the interior, so as to meet the needs of industrial production, to ensure that people can stay inside industrial buildings for a long time, to avoid consuming a large amount of energy against green building transformation idea.

5.3 Group Space Organization

As is known to all, in the process of actually constructing industrial buildings, industrial enterprises are usually distributed in groups, and there is no connection between each building unit, and they are usually individually sealed. Therefore, the local microclimate formed between the individual buildings is relatively stable, effectively shielding the environmental communication with the outside world. However, in view of this phenomenon, in the process of actually carrying out the green industrial building renovation, since the current location of the original single building has been fixed and cannot be changed at will, using the original components reasonably to expand the greenery boundary and constitute the intermediary of group buildings space. For example, constructing spaces or passages at the boundaries of industrial buildings, and using reasonable ventilation equipment to achieve a state of intercommunication between the interior and exterior of the building, avoiding hot and cold climates affecting the overall indoor environment, and giving full play to the green transformation effect of industrial buildings.

Concluding: All in all, due to the current emphasis on space and form in the process of actually rebuilding industrial buildings, the climate quality of the interior space is relatively poor, and it cannot be suitable for long-term residence. In order to ensure a good internal climate in industrial buildings, cooling and heating methods are needed, which consume a large amount of energy and are not conducive to the stable development of industrial enterprises. Therefore, in response to this phenomenon, industrial buildings need to pay attention to the use of green transformation concepts and reasonably integrate the design strategies of intermediary spaces. It is necessary to comprehensively analyze the ventilation and lighting inside the space, and to meet the design of green energy-saving intermediary spaces to ensure the high-quality air in industrial buildings, which is conducive to the stable development of industrial buildings.

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