

Analysis of energy saving, heat preservation and environmental protection of new building materials

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Abstract: With the continuous development of social economy, the construction industry has also been rapid development, at the same time, people are paying more and more attention to how to apply energy saving and insulation, environmental protection of these new building materials. Therefore, in the modern building design, the application of new building materials is an indispensable core content, not only to promote the continuous development of the construction industry, but also to ecological environment and social economy can achieve common development. In this regard, this paper will analyze the energy saving and thermal insulation and environmental protection of new building materials, in order to provide reference and reference for other researchers.

Key words: new type; Building materials; Energy conservation; Heat preservation; Environmental protection

In architectural design, new building materials not only have the advantages of environmental protection, energy saving and heat preservation, but also have the advantages of low environmental pollution and low harm in the process of use. Therefore, in the construction industry, the use of new building materials can not only ensure the quality of construction, but also reduce the cost of use, making the construction more feasible. In addition, with the increasing awareness of environmental protection, the construction industry in order to achieve long-term development, must use energy-saving insulation and environmental protection of building materials, so as to ensure that the construction industry to adapt to market development, economic benefits can also be significantly improved.

1. The application advantages of energy-saving insulation and environmental protection new building materials

1.1 The environmental protection effect is better

In the past, the construction materials used in the construction industry lack environmental protection performance, and in the actual use process, it is easy to have a negative impact on the surrounding ecological environment. For example, in the use of Portland cement clinker, it is easy to produce a lot of dust. It is because these traditional building materials are easy to conflict with environmental protection, and over time, it is easy to pollute the surrounding ecological environment. With the wide application of energy-saving and heat-preservation environment-friendly new building materials, not only can reduce the degree of environmental pollution, but also the degree of depletion of various resources will be reduced, which can better avoid the problem of resource waste, and then effectively protect the social environment.

1.2 the performance is relatively strong

In the selection of materials, the application of energy-saving and environmentally friendly materials is the primary choice to improve the living environment of residents. In addition to the new building materials have relatively environmental protection ability, the physical and mental health of residents will not be affected, and in various functional levels can also be greatly improved. In addition, the current new material thermal insulation performance is not only strong, but also has antibacterial, mildew, fire and other properties. In the subsequent development process, the performance of new building materials is not only more and more comprehensive, good thermal insulation performance, environmental protection quality, etc., will be widely favored by the construction industry.

1.3 Coordinate the relationship between building and environment

In the process of applying new building materials, the staff will follow the principle of environmental protection in every link, which can make the organic connection between the building and environmental protection, so that the environmental protection effect is maximized. In addition, in the application of traditional building materials, if a variety of waste is not properly disposed of, it will have a serious impact on the surrounding ecological environment, and the disposal of these wastes will cause a waste of funds. And through the use of new building materials, the construction waste will be recycled in the form of treatment, in order to achieve the purpose of environmental protection, the construction of the waste after the corresponding transformation and processing, can be used as a new building materials into the project construction again, and then coordinate the relationship between the construction industry and environmental protection.

2. The application of energy saving and heat preservation environmental protection new building materials is insufficient

2.1 The design contradicts the concept

At present, architectural design is more focused on the overall construction, which is not only closely related to the overall construction of the city, but also has a close relationship with the public use space. Such as parks, schools and so on. Therefore, the space utilization rate and value should be fully considered when constructing the architectural design, so that it can form a scientific and systematic construction group with the surrounding buildings. However, people's acceptance of such a new building design is not high, the evaluation is not high, resulting in its economic benefits can not reach the expected goal, and then lead to the architectural design, there are some contradictions between the concept, and then restrict the effect of energy saving, heat preservation and environmental protection of new building materials

application.

2.2 There are deficiencies in materials

When new building materials are incorporated into buildings, there are obvious deficiencies in the selection of building materials. For example, some energy-saving materials have certain defects, not only can not achieve the purpose of the intended design, but also cause adverse effects on the building, can not effectively prevent freezing, moisture, corrosion resistance and carry the quality of its structural components, resulting in the deformation of the building structure, and finally make the building tilt or crack. In this regard, construction enterprises should reasonably choose building materials.

2.3 The cost may be too high

The integration of new materials in architectural design, and its requirements for the materials used are very strict, some building materials can not meet the requirements of green design, and the price of high-specification building design materials is very expensive, so the construction cost has been significantly increased, coupled with its maintenance and maintenance also need a certain amount of expenses, which may exceed the rated budget of the project cost, There is a certain risk.

3. The application of new building energy-saving insulation environmental protection materials in the construction industry

3.1 External wall insulation

In the external wall insulation, the staff can play a good heat insulation effect by applying new building materials, and this construction method is relatively simple, so it is widely used in the construction industry. In the specific construction process, the thermal insulation filling material can be added to the external wall to act as a thermal insulation layer, of which gypsum thermal insulation mortar is a more commonly used filling material. However, in the process of specific application, it is necessary to pay attention to the following deficiencies: First, avoid the phenomenon of condensation, otherwise it will lead to the wall insulation performance is not as good as before. Second, the occupied building area will increase. This is mainly because the use of such filling materials will occupy a lot of space, which will reduce the living area of residents. In addition, in the process of reconstructing the old building, the construction area will gradually increase, which is unfavorable to the secondary restoration of the wall. Finally, pay attention to the temperature difference between the inside and outside of the wall. If the temperature difference is too large, it is easy to destroy the wall structure, and the thermal expansion and cold contraction will increase the instability of the external wall structure, and the wall is more prone to cracking.

3.2 External insulation technology of the external wall

In the external insulation of the external wall, the staff is not simply filling the insulation layer in the wall, but to add the external building, of which the insulation grid cloth and foamed cement are commonly used materials. The specific construction process is as follows: First, the wall surface is treated; Then, according to a certain proportion, mix water and powder to form mortar; Then, evenly apply mortar on the wall, and then install the extruded board, and after the mortar is dried, it is necessary to treat the gaps on the surface. In this way, by setting the external insulation layer in the external wall, you can ensure the temperature inside the building, not because of the light, external temperature changes and other factors have a relatively large change, which is beneficial to stabilize the internal temperature of the building, while residents will reduce the frequency of using air conditioning such equipment, electricity consumption will decrease, and then ensure that the goal of energy saving and emission reduction can be achieved.

3.3 energy-saving insulation technology for doors and Windows

Energy-saving insulation technology of doors and Windows is particularly important in construction projects, and door and window components play an important role in heat preservation, heat insulation, light transmission and so on. The application of new energy-saving and environmental protection building materials to doors and Windows materials can not only extend the service life of the building, but also greatly improve the performance of the building. At the same time, in the specific construction, the energy consumption of the building can be reduced, the cost can be reduced, and the construction efficiency can be significantly improved. At this stage, composite exterior doors and Windows, insulating glass exterior doors and Windows, broken bridge aluminum alloy doors and Windows are the most commonly used new materials for energy saving and environmental protection in construction projects, and they have good environmental protection and thermal insulation performance. The details are as follows: broken bridge aluminum alloy doors and Windows have a significant effect on heat partition; Hollow glass structure doors and Windows can be very good to reduce heat. In addition, through the use of new energy-saving and environmentally friendly building doors and Windows materials, in addition to protecting the insulation system, the possibility of condensation will also be reduced, so that the heat treatment energy consumption in the entire building system can be reduced. The frequency of use of air conditioning and other equipment will be greatly reduced, so as to further reduce air radiation on the basis of improving environmental quality. In addition, broken bridge aluminum alloy doors and Windows used in building doors and Windows can play a good noise treatment effect, the cavity structure thickness is different, the hollow is more special, can suspend the transmission of noise, to achieve the purpose of noise reduction and noise prevention. If the insulating glass technology and broken bridge technology are combined together and applied to construction projects, in addition to the basic energy saving and environmental protection insulation function, it also has a strong color decoration effect, which can effectively improve the beauty of the building.

3.4 Insulation and energy saving design of the envelope structure

In the envelope structure, the application of new energy-saving insulation environmental protection new materials, the staff need to organically combine with the actual situation of the envelope structure, so that it can enhance the building envelope bearing effect, insulation

effect at the same time, but also make the building energy-saving performance has been significantly improved, making the building more safe and stable. Under normal circumstances, the enclosure structure will be set up in the form of brick masonry, and some buildings with special requirements will be added after the construction of the building wall, and the air can be isolated through the increase of wall thickness to avoid the loss of indoor heat. In addition, in the specific construction process, it is necessary to use new building materials with light weight such as perlite cotton, which will not increase the wall burden.

4. The application of new building energy saving and thermal insulation environmental protection materials in the construction industry

4.1 Strengthen the standardization of materials market

At this stage, the operation plan implemented by the building materials market is relatively mature, making the entire market perform relatively stable, and the implementation of normative measures are relatively comprehensive. At present, the new building materials have a relatively high heat, and their scope is relatively wide, which will cover traditional materials. However, in actual operation, the market of new building materials is not very mature, and the specifications are not standard and comprehensive enough, resulting in the market of building materials is prone to mixed problems. Even individual enterprises, driven by interests, will hang sheep's head and sell dog meat, which is unfavorable to the sustainable development of the new building materials industry. In this case, the state should be based on the characteristics of new building materials, formulate a standard, strict market, production standards, to avoid poor quality materials into the market, and guide the new building materials market to continue to develop in a healthy direction.

4.2 Innovate new building material synthesis technology

At present, although the performance of new building materials can meet the basic needs of construction projects, in the specific implementation process, due to the influence of geographical characteristics, temperature and gas and other factors, the construction requirements of construction projects are getting higher and higher, so, in the follow-up new building materials industry, relevant personnel should change their own working concept, Increase the efforts of innovative new building material synthesis technology. First of all, from the perspective of research and development, it is necessary to improve the professionalism of research and development personnel, guide them to take the initiative to learn advanced technologies and concepts, and develop production technologies that meet the needs of China's construction projects. Secondly, in the construction perspective, it is necessary to actually evaluate the application status of new building materials, and according to the real demand, make the performance of new building materials further clear, and promote the material research and development to be more innovative.

4.3 Increase the promotion of environmental protection concepts

Nowadays, environmental awareness has penetrated into the hearts of people all over the world, so in order to make the orderly development of energy-saving insulation and environmental protection new building materials, we should change the public's production consciousness at the ideological level, so that environmental awareness goes deep into the public's heart. In addition, by instilling the concept of environmental protection to the relevant personnel, not only the utilization rate of environmental protection materials has been improved, especially in the application of new building materials, energy saving can be realized from different angles, but also the quality of construction projects has been improved. Therefore, the idea of environmental protection should run through the entire application process of building materials.

In summary:

All in all, with the continuous improvement of people's living standards, the demand for energy-saving insulation and environmental protection building construction is getting higher and higher. Therefore, the construction industry should quickly change the current building concept, and apply energy-saving thermal insulation and environmental protection new building materials to the current construction projects. In this regard, it can be clear in the specific application of new building energy-saving insulation environmental protection materials in the construction industry, and from increasing the intensity of material market regulations, innovative new building material synthesis technology, increase the promotion of environmental protection concepts, so as to promote the healthy development of the construction industry.

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