Study on indoor pollutants in the decoration of houses

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Abstract. In the decoration of houses, the use of decoration materials will often produce formaldehyde, benzene, ammonia, radon and other harmful substances, so there will be air pollution, water pollution and other pollution problems, seriously affecting the indoor environment, serious harm to human health. To study how the decoration of houses causes serious pollution to the indoor environment. And the main pollutants in the decoration material formaldehyde, benzene, ammonia and radon for specific analysis, to understand the decoration materials in the main pollutants on the indoor environment pollution and damage to human health and life. Through the study, it is found that decoration materials can cause serious pollution. We must pay attention to this, and take certain measures to deal with, to create a low-carbon, green and comfortable living environment.

1. Environmental impact of contamination of decoration materials

Fig. 1 six manifestations of environmental pollution
Renovation materials contain a large number of radioactive pollutants, at room temperature released a large number of toxic and dangerous substances, pollution to the environment. The most common pollutants are formaldehyde, ammonia, radon and other volatile organic compounds. When detecting these substances, all fully renovated homes should be operated with the use of a central air-conditioning system, and natural ventilation works should be carried out 24h after the outdoor doors have been closed. In addition, in the decoration process will produce a large amount of waste water, can’t be treated in a timely manner, some users directly discharged into the sewers, which makes people's living water safety greatly reduced, this is a serious environmental damage, we should note that if there are several forms of expression (refer to the following image) for the internal environment of the detection and analysis of housing decoration is suitable for people to live.

2. Specific analysis of the main pollutants in decoration materials

2.1. Formaldehyde
Formaldehyde is well known, it is the most common harmful substance in interior decoration, it also has a pungent taste, it is usually found in adhesives, wallpapers and many other decoration materials. Formaldehyde is well hidden and has an incubation period of a long time. Formaldehyde decoration materials release formaldehyde gas for many years. It is thought to be a cancer-causing substance because formaldehyde affects many tissues and functions of the body.

2.2. Benzene
Benzene is mainly found in organic solvents such as paints, adhesives, coatings and so on. Because of its unique aroma, it is difficult to confirm its toxicity. Benzene poses a great danger to the human body, it can paralyze the central nervous system, serious people may be in a coma, and even inhibit the growth of platelets and white blood cells, increasing the likelihood of regenerative anemia. If pregnant in a certain concentration of stupid environment, but also cause the fetus to have congenital defects and other diseases, but also lead to women menstrual disorders, which can lead to a variety of diseases.

2.3. Ammonia
Most of the ammonia in the room evaporates from concrete antifreeze. Most people use concrete as the first choice for wall decoration when renovating. In particular, in winter construction, in order to improve the strength of concrete, in general, are added to the concrete containing urea antifreeze, which will increase the presence of ammonia. When the decoration is complete, the ammonia released by the concrete will cause indoor pollution. The eyes, throat, respiratory tract and other vulnerable areas are very susceptible to strong ammonia stimulation and corrosion, resulting in sore throat, throat spasms, adult dyspnea syndrome and other adverse symptoms.

2.4. Radioactive contaminants
Radon is radioactive, and its pollution mainly comes from stone used in decoration, such as granite, marble, tiles, gypsum and sanitary ware. Generally red, green and other bright and colorful stone hydrogen radioactivity is strong, while dark stone radiation is low. The colorless tastelessness of radon is easy to intercept the respiratory system, long-term accumulation in the lungs can easily lead to lung cancer, is in addition to smoking induced lung cancer of the second largest cancer factors. Radon is harmful to human radiation accounts for more than half of all radiation damage in a person's life, can cause changes in blood cells, if combined with the nervous system is more harmful. Radon can cause genetic mutations and chromosomal distortion, and long-term exposure by men can lead to infertility. Through the above analysis, it can be found that benzene, formaldehyde, ammonia, argon, etc. will cause pollution to the environment, but these gases cause different degrees of pollution to the environment, after a large number of investigations, different gases in the fine decoration of the house air pollution ratio as shown in the figure below.
3. Evaluation system for indoor pollutants

In order to minimize the pollution caused by decoration to the indoor environment, reduce the harm to the human body we have to fully analyze the indoor decoration before check-in environmental pollution evaluation system is shown below.

Prior to check-in, we undergo rigorous testing and check-in after meeting the criteria. In the decoration selection of materials, should be as far as possible to choose green low-carbon materials, preferably environmentally friendly decoration materials, and then compare different manufacturers and products, choose economic, environmental protection, technical support, cost-effective materials. It is also necessary to take into account the peripheral distribution of renewable resources, and to develop scientific programmers for the use of resources, in order to make the internal and external environment to form an interconnected system, we should also often ventilate, the room can add green plants, toxic substances into the air, to create a comfortable living conditions for people.

4. Conclusion

Indoor environment is closely related to people's healthy life. With people more and more concerned about and attach importance to their own health and living environment, low-carbon, green concept in everyone's life has been comprehensively popularized. In the decoration to add low-carbon, green...
concept, so that housing more comfortable, but also more environmental protection, saving resources, and to respond to the country's sustainable development strategy slogan. However, the concept of low-carbon environmental protection needs to be continuously studied and explored in interior design. We need to have a complete system design plan. From the construction and design of houses to the selection of building materials and interior decoration, we should be low-carbon, green concept of carefully into the masses. Low carbon is not just a slogan, it should be reflected in the future interior decoration design. Not only interior design, it should be in every aspect of our lives to quote the concept of low-carbon environmental protection. As long as we learn more about indoor pollution, we can master everything from the production of decorative materials to the completion of decoration to the occupancy of residents. Production prior to the establishment of a sound regulatory framework, the establishment of special monitoring and evaluation teams to monitor the building materials market, to prevent counterfeit and non-compliant building materials from entering the market. Increased development, adoption and production of new environmentally friendly buildings and decoration materials, can greatly reduce indoor pollution, in order to reduce the physical harm to residents, and ensure their warm and comfortable housing, usually must also strengthen indoor ventilation awareness, more arrangement of beneficial green plants, do their best to improve indoor air quality.

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