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PROSPECTS FOR THE DEVELOPMENT OF ARCHITECTURE SOLUTIONS FOR HOTELS

Hotels of various sizes and comfort levels exist all over the world. They can be small and basic, or huge and luxurious, with conventional design or extraordinary architectural solutions. The main goal of any hotel is to provide customers with comfort and coziness, creating an unforgettable experience. The image of the hotel plays an important role in its success and is determined by both the architectural features of the buildings and the quality of service.

The architectural solution of a hotel includes the exterior of the building, the layout of the premises, the organization of the natural environment and the design of

interior spaces. Each of these components is important, and together they create a hotel image. For hotel guests, both the appearance of the hotel and its location are important, as well as the comfort and service they receive during their stay. Creating a positive hotel image plays a crucial role in attracting and retaining customers.

The architecture of a hotel reflects its style, luxury, theme and overall image. The interior layout, décor and furnishings also contribute to the overall guest experience. All of these aspects are important for creating a holistic image of the hotel and creating a unique experience for guests.

Today, the building materials market offers many new innovative materials for construction. These materials are environmentally friendly, reliable and durable, while being airy and lighter than traditional building materials. These advances are driving a new architecture that is completely different from what we are used to seeing and more environmentally friendly.

Modern material science has advanced significantly in recent years. Some modern building materials will find their place, perhaps in small niches, but a number of innovative building materials have the potential to be widely used. Hotel complexes with traditional brick and concrete structures are gradually becoming a thing of the past, as humanity's demands are clear: we need environmentally friendly, energy-efficient, durable and lightweight buildings that look beautiful and are highly functional at the same time.

Nowadays, almost all structures are built on the concrete base. Traditional concrete is a very reliable and well-proven building material, but it loses its properties when it cracks. When cement cracks, it is a much more serious problem than many people think. It's not just a matter of aesthetics, although that is certainly important. No, it's a structural problem: water will get into the crack and begin to undermine the integrity of the concrete, and subsequently the structural integrity of the building. Research into improving the quality of concrete is one of the most popular areas in construction. Innovative concrete materials such as self-healing concrete (adding capsules with specific bacteria or capsules with a certain polymer to concrete to repair cracks in concrete); flexible concrete (mixing the finest polymeric microfibers into the

solution allows for flexibility and strength that is 3 times higher than that of traditional concrete); concrete fabric in a roll (allows for the construction of concrete structures with minimal installation - just unroll the prepared roll and add water) have been developed.

Transparent wood is also a modern innovative material, which is at least five times stronger and lighter than glass, and is also more thermally efficient. These characteristics make it an interesting potential replacement for plastic or glass windows. Also, the raw material is renewable and environmentally friendly - the balsa tree grows quickly, and an adult tree grows in just 5 years. Production costs are also significantly lower than in glass production, where there is a noticeable carbon footprint due to the high temperatures required and the electricity used in the process. Transparent wood is quite flexible because it contains natural cellulose. Transparent wood or wood glass can be used instead of traditional double-glazed windows or other elements in building structures that need to be transparent but also durable, environmentally friendly and energy efficient.

Carbon fiber is truly the building material of the future, combining strength and lightness. Being 75% lighter than iron and 30% lighter than aluminum, carbon fiber not only reduces the thickness of panels and, consequently, their weight, but also provides excellent thermal insulation.

Richlite is a durable paper composite material that is made from waste paper that is pressed into hard, smooth panels. It is much more environmentally friendly than many of the most common materials used in construction, and this is one of the main advantages of Richlite. But the technology turns it into an amazing raw material that is so necessary for green building. Unlike stone or other hard surfaces, Richlite works just like dense hardwood and can be easily milled, sanded, and joined. Richlite is also a waterproof and hygienic material that has low moisture absorption, high heat and fire resistance, and looks good with a natural finish.

Liquid granite is also an innovative material. Artificial «liquid» stone is a special liquid construction mixture (made of 70% marble chips and 30% special additives and decorative filler) that is sprayed onto surfaces, including concrete, masonry, stone and

asphalt. Due to its composition, the liquid solidifies, forming a seal, providing the surface with durability and an attractive appearance. Liquid granite is an environmentally friendly material because it contains safe resins, natural marble chips and mineral fillers. This composite material can be used in finishing works, for the manufacture or coating of individual structures or interior elements.

The building material of the future that is a physical reality is transparent aluminum. It is a transparent ceramic based on aluminum oxynitride with such key characteristics as scratch resistance and durability. Transparent aluminum is much stronger than aluminosilicate glass (quartz) and 85% harder than sapphire. In addition, it can withstand temperatures up to 2100°C. It is resistant to radiation, acids, alkalis, and water. It can be perfectly used in the construction of modern hotel complexes for the production of impact-resistant windows, domes and other elements requiring transparency and strength.

Hydroceramics is a composite façade material made of clay and hydrogel that can cool the interior of buildings by up to 6 °C. Hydroceramics utilizes the ability of hydrogel to absorb 500 times more water than its own weight to create a building system that «becomes a living thing as part of nature, not outside of it.» It is particularly popular for green building because it can save up to 28% of the total energy consumption of traditional cooling devices.

Innovative building materials are not always materials with innovative physical properties, such as strength or safety. They can also be materials that combine technology to create spectacular décor and realize the most extravagant design ideas. One such material can be construction bamboo. In a number of countries, it is one of the most common building materials. Its wood is durable, lightweight, and stable. A planted bamboo forest grows in three years, unlike northern tree species, which often take 80-100 years to reach the desired shape.

Another new type of finishing building material for hotel complexes is Sensitiles decorative acrylic tiles. Sensitiles is a sensitive tile with acrylic fiber that reacts to movements, touches or light sources. The optical fiber transmits light and reacts: the tile can shimmer, glow, capture and scatter neighboring colors on its surface. Finishing

with this material opens up new possibilities in architecture and interior design of hotels.

In addition, many other new building materials have been developed that will allow creating new, architecturally amazing buildings and offer architects endless possibilities for designing modern hotel complexes with the latest environmentally friendly solutions.