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Construction of Skyscrapers - from Past to Present Innovative Technologies

In the 80th of the 18th century engineers were confronted with the difficulties associated with the construction industry. First of all, they wanted to find the most efficient way to use the land for development and make housing affordable for people. At the present stage the construction of skyscrapers has many innovative technologies that are not only economical in usage of resources, but also make rational usage of solar energy, to hold the constructional work in extremely short period of time, to grow the quality of engineering and architectural solutions. Modern skyscrapers are built with steel frame technology. Initially the frame of steel is constructed, it gets the pressure of the whole construction. Walls often play only insulated and decorative role, which allows them to make from glass. One of the innovative solutions for building the environment-friendly skyscraper is “Hypergreen”.

Structural elements of this skyscraper (slabs, walls and columns) made of concrete, which reduces the amount of work and level of noise during construction. And it looks more aesthetically than traditional concrete. Outside construction of the skyscraper in the form of "mesh" that ensures the stability of the building is made of concrete, which reduces the use of raw materials and the total weight of the building.

Another trick that has this skyscraper is providing itself with energy. “Hypergreen” uses renewable energy to meet the needs of tenants:

- wind turbines on the roof generate electricity;
- 3000 m² solar cells convert sunlight into energy;
- “grid” reduces the need for heating and air conditioning with the help of air control;
- collect rainwater for use in restrooms and for watering green areas.

Another innovative solution that amazed the world was the construction of 30-storey hotel in 15 days in China. All elements of the building were made in factories. The hotel is fully collapsible type. As the carrying base 30-storey skyscraper used a steel core to which are attached and all the rest of the building. Panels that were mounted on a metal frame, already had all the required for the operation of the hotel communication – pipes, wiring, ventilation. So the builders did not have to spend time alone at their pad.

By using the most advanced energy saving technologies, the building will consume about 5 times less resources than similar facilities it. And the air in the hotel is 20 times cleaner than the other skyscrapers. For this indicator will meet high-tech cleaning system, controlled by a computer. Despite the apparent unreliability quickly erected structures of a skyscraper, it relies on the amplitude of the earthquake to withstand up to 9 on the Richter scale.