

These amazing parks are designed for everyone who wants to have fun. Yaksam is the tallest of the buildings around the Han River. So, in conclusion I want to say, that Seoul is a symbol of Korea's beautiful and modern city, gaining weight in the world as a tourist and financial center.

НЕОБХОДИМОСТЬ АВТОМАТИЗАЦИИ ПРОЕКТИРОВАНИЯ СОСТАВА ТЯЖЕЛЫХ БЕТОНОВ

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Proportioning of various kinds of concrete and accordance of their properties to norms of Russian Federal Standard is one of the important technological tasks. Realization of these tasks is connected with some problems. Concrete mix influences on its durability on the level of operating reliability bearing strength as well as on the level of use of resources which are required for manufacture of construction and prefabricated elements. Generally, proportioning of various kinds of concrete is connected with decision of some important tasks:

1. Choice of water-cement ratio influencing on durability of concrete structure (part) and corresponding to work conditions of construction. Durability is usually considered as concrete compressive strength that influences on many other properties of concrete.

2. Production of necessary concrete consistence influencing on mobility and placeability of concrete and required concrete quality. The right combination of concrete components is selected to reach this purpose.

3. The lowest costs of means on production of concrete and its laying.

Now there are rather a large number of the methods actual development of which is the following: 1) more complete accounting of factors and design requirements for concrete; 2) increase in efficiency of calculation algorithm. In solving problems concerning heavy concrete it is necessary to define values of the water-cement ratio and water consumption taking into account demanded mobility or rigidity of concrete mix, and consumption of aggregates. Taking into account the development of computer technologies there is a need of automation of the solution of the tasks of this type that is the selection of heavy concrete composition based on their functions and working conditions.

We can conclude that it is necessary to improve the algorithms of calculation of concrete composition and their automation to increase productivity and to facilitate the solution of this problem at the enterprises.

МЕТОДЫ РАСЧЕТА ЖЕЛЕЗОБЕТОННЫХ КОНСТРУКЦИЙ

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It's almost impossible to imagine building construction without concrete.

Steel and concrete have been used together in construction since at least the middle of the 19th century. Concrete and reinforcement can work together because there is a sufficiently strong bond between the two materials.

It is known that concrete has high compressive strength, but it has low resistance to tension but steel copes with it very well. Concrete reinforcement is utilized not only to prevent the concrete from cracking but to take up

the tensile force. When the concentrated load influences on the concrete, it reaches the limit of its strength; in the reinforced concrete beam reinforcing bars take up tension after the concrete has cracked. Only when the concrete reinforcement approaches ultimate strength, the deflection and the crack become large enough to make the beam to break down. The failure of the beam is characterized by the crushing of the concrete in the compression zone.

There are three methods of calculation of reinforced concrete structures: allowable stress method of design (it's not possible to determine the actual stresses and failure load), failure load method of design (it does not allow to evaluate the performance of the structure before the failure, for example at working load), limit stage method of design (it is widely used today). The main idea of the limit stage method is that even in those rare cases when the construction is exposed to maximum load, the strength of concrete and reinforcement is minimal, and under the most unfavorable operating conditions the construction would not be destroyed, and would not accept invalid deflections or cracks. In many cases it is possible to obtain more economical solutions than in the calculation of the previously used methods.

But reaching the limit stage the reinforced concrete structure does not crash immediately, there is some time during which it continues to resist. Nowadays there are no methods that would take this into account.

АЛЬТЕРНАТИВНЫЕ ИСТОЧНИКИ ЭНЕРГИИ В АВИАЦИИ

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There are two reasons for searching alternative sources of energy in aviation. First is the cost of flight – the global aviation industry spends approximately \$200 billion on aviation fuel based on current prices. Second is the environmental pollution. AirportWatch, an umbrella organisation for those concerned about the environmental effects of the aviation industry, reports that the 16,000 aircraft operating on a daily basis emit over 750 million tonnes of CO₂ annually.

Many people believe that electric aviation can replace our oil-based transport with a system that is faster, cleaner and cheaper using existing technology. Electricity may come from fuel cells, solar cells, ultracapacitors, power beaming, or batteries.

Though only small companies and entrepreneurs are currently making fully electric airplanes, larger manufacturers such as Boeing Co. and Airbus are investigating how to electrify portions of aircraft operations as the push for bigger, faster and farther yields to cheaper, quieter and greener. One example is the auxiliary power unit in commercial aircraft. The device, usually located in the tail, is a generator that provides electricity to the plane when it's on the ground and gives power to start the main engines. Boeing and Airbus are experimenting also with electric landing gear that allow aircraft to turn, taxi and reverse on their own power without a truck to push the plane back from the gate. These systems can also integrate regenerative braking so that the energy from slowing a landing aircraft could charge batteries.

Electric aircraft could be useful as trainers for pilots because the aircraft are cheap to operate and trainers seldom venture far enough to test range limits. Defense contractors are also pursuing electric drivetrains to make stealthier unmanned aerial vehicles that have a minimal heat signature. They could also be charged on the fly from photovoltaic panels.

Electric aircraft will not replace any other forms of transportation in the future, but with such advancements of technology, people will be more likely to fly, rather than drive long distances.

РАЗВИТИЕ СФЕРЫ ТУРИЗМА В ПЕКИНЕ

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Tourism sphere in China has received a major expansion. It is not surprising that the tourism industry would thrive so well in this country. The country is filled with endless wonders. From the Great Wall to the Terracotta Army, and from sprawling mountain valleys to neon metropolises, there is something here for everyone. Forty years ago, no one could have ever predicted how much wealth this country was capable of generating. Below you can find some useful impressions about traveling to Beijing.

The first thing that strikes you in Beijing is a stunning clarity. Something is always swept, watered, wiped, and cleaned. All heat-loving plants, shrubs and trees are carefully hidden behind a film to be protected from night frosts. Skyscrapers amaze your imagination; everything sparkles and shines, and is lit by millions of lights at night.

In Beijing there are a lot of interesting places. So if you are going to visit China, do not spoil your impressions by Grand-tours with constant moving and excursions to the places where a day will not be enough for a visit! If you decide to go to China, stay in one city and enjoy its beauty. For example, I had a week but I could manage to see just one of a third of what I wanted to see. I saw amazing funny fat bears – pandas in a zoo in Beijing. I did not think that they were so lazy. Children around squeaked out a cry of delight, adults also were full of impressions and did not try to conceal their feelings.

The seaside part gives you lasting impressions on the abundance of all living creatures. Chinese have paid great attention to the smallest detail: lighting, sound, and areas for recreation. I liked a large glass cylinder in which transparent jellyfish were floating. Those jellyfish always changed their colour from purple to green or pink; it was because of the lighting constantly changed its colour as well. It was the most beautiful thing I had ever seen.

And what was more I climbed to the highest point of the Great Wall in Beijing. On the highest tower you can stay in splendid isolation and photograph the lovely views. I saw a beautiful modern city, the sparkling clean streets and smiles of ordinary people.

БЕСПИЛОТНЫЕ САМОЛЕТЫ – БУДУЩЕЕ АВИАЦИИ

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Today high technologies play a significant part in aviation, one of the most rapidly growing sectors of industry in the world. Much attention is paid to the development of UAVs (uninhabited aerial vehicles) as an up-to-date trend.

Unmanned aircraft aren't a particularly new idea. The first was built in 1916, and remote-controlled planes were becoming widely used by World War I. Today, unmanned aircrafts are commonly used for war operations in many countries. But as drone planes grow more capable of performing complex tasks and carrying passengers, unmanned commercial flight seems to be on the horizon. In June, the Federal Aviation Administration announced its

two-year plan to bring unmanned flight to the American skies, possibly in a commercial form. Commercial drone crafts could mean cheaper – and possibly safer – flights. However there are serious safety concerns. Even today aircraft can auto-land and fly using the autopilot. However, technology is not fool proof and human intervention is needed from time to time to reset the systems.

One particularly promising non-combat application of unmanned aircraft is search and rescue. A team of researchers at Brigham Young University recently revamped a cheap propeller-driven plane with computerized maps and cameras that determine the locations of lost hikers. These drones can find people more quickly and safely than human rescue teams or helicopters.

One could imagine a future in which planes would be flown in a totally automatic mode. Advanced self-separation and automated station keeping, auto-takeoff and auto-land will be feasible. One could think of a safety pilot who would monitor the onboard systems as an interim phase before accepting fully pilot-less aeroplanes. Manual override capability would be available to the ground-based operator.

If the technology proves to be safe and reliable even large passenger aircraft could become pilot-less. Here the key word will be safety perception rather than technology.

УСТАНОВКА ОСВЕТИТЕЛЬНЫХ ЭЛЕМЕНТОВ НА ГИПСОКАРТОННЫХ ПОТОЛКАХ

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Do you know how to make light features on gypsum ceiling? Ceiling lights can be placed in various positions in a room. The normal areas are at the central point in a room. As you know, in living rooms the illumination required changes over time. When meals are over, a quite environment can be created. This can be achieved by using different positions of the light fixtures. The ceiling lights can be exposed recessed or hung normally. The illumination can also be enhanced by using colored bulbs. It is important to conserve power when using the different light fixtures.

The gypsum ceiling can be formed to accommodate different points of the light fixtures. Straight florescent tubes are usually placed on the edge of the ceiling and the wall. Down lighters can be placed on four corners of the room soffits. To get the different light effects in a room, the ceiling is designed to allow a hollow place to fit the fixtures. The wiring is done normally but with different switches. To enhance the light effects in the room the dimmer switchers can also be used.

The light feature points on a gypsum ceiling are first identified. The recessed point is formed by cutting out the gypsum boards. A hole of one by three feet is done the room corners. This is at intervals of five feet apart. The ceiling branding is shaped to allow for the recess. The depth of the hole is half a foot. Then a gypsum hollow box is formed. It is one by three feet long. The electrical conduit is placed up into the recess point. Wiring is also done from the room control point.

Once the gypsum recesses are completed, the down lighter points are drilled on to the flat ceiling. The gypsum is then finished and painted two coats. The tube lights are then mounted and fixed into the recesses. The down lighters are also fixed onto the ceiling and angled to the desired degrees. Once all the light fixtures are in place and tested, the final painting is then completed. If you want to add more beauty to lighting, the recesses can also be painted with a different color from the ceiling.