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REalVIEW

a monthly realty news digest

ASSET

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Dear Readers,

REalVIEW is a monthly news digest bringing to our clients and well-wishers news updates on major developments in the realty industry . The periodical will keep the readers updated on the significant changes and trends affecting real estate development within the country as well as globally, thus helping them in taking informed and calculated investment decisions.

Responsibly yours,

V. Sunil Kumar
Managing Director
Asset Homes

New inexpensive earthquake resistant houses

Researchers at the Universidad Politécnica de Madrid have successfully tested a new system to build earthquake resistant houses of high interest to third world countries with earthquakes.

As a result of a research carried out by researchers at the E.T.S. of Architecture of the UPM, they have developed and tested a new construction system, Integral Masonry System (IMS). The results of these tests proved that once a house is built with this stable permanent system without significant cracks and once its cracks are repaired, the building is able to continue resisting severe earthquakes.

Many of the existing houses in seismic areas of low economic resources are built with adobe, hollow brick or concrete block. All of them are materials that proved not to be suitable by themselves to build earthquake resistant houses. From this idea, they developed a project for third world countries in order to give an alternative constructive solution which was able to give guaranties of reliability against natural disaster and at a low cost.

This system (IMS) uses prefabricated trusses made with steel rods, very light and easy to install by hand, intersecting in the three directions of space to build the walls and floors that are then filled with debris, mud, brick or block for walls. The system can incorporate only a plank on the slab to give rigidity.

To verify the safety of this new building for construction in seismic zones of third world countries, they tested prototypes carried out by using the system (IMS): two of them at half scale, one prototype filled with adobe, other prototype filled with hollow brick and the third prototype made at scale. The results obtained have demonstrated the high potential of the proposed construction system.

The IMS provide an easy system of house building with typologies adapted to the form of the local life in which they want to apply it and at a minimum cost. It is an easy option of construction because it does not require concrete and it uses local materials what it is profitable for countries in development.

Courtesy: https://www.sciencedaily.com/releases/2012/07/120717084806.htm

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Self-healing Concrete

Concrete is the single most widely used construction material in the world. In fact, it is the second-most consumed substance on Earth, after water. Concrete is cheap and widely adaptable, but it's also susceptible to cracking and deterioration under stresses like extreme heat and cold.

In the past, the only way to fix cracked concrete was to patch it, reinforce it, or knock it down and start from scratch. But not anymore. In 2010, a graduate student and chemical engineering professor at the University of Rhode Island created a new type of "smart" concrete that "heals" its own cracks. The concrete mix is embedded with tiny capsules of sodium silicate. When a crack forms, the capsules rupture and release a gel-like healing agent that hardens to fill the void.

This is not the only method of self-healing concrete. Other researchers have used bacteria or embedded glass capillaries or polymer microcapsules to achieve similar results. However, the Rhode Island researchers believe their method is the most cost-effective.

Prolonging the life of concrete could have huge environmental benefits. Worldwide concrete production currently accounts for 5 percent of global carbon dioxide emissions. Smart concrete would not only make our structures safer, but also cut back on greenhouse gasses.

Courtesy: https://science.howstuffworks.com/engineering/structural/10-futuristic-construction-technologies1.htm

Transparent aluminum could be used to construct towering glass-walled skyscrapers that required less internal support.

For decades, chemical engineers have dreamed of a material that combines the strength and durability of metal with the crystal-clear purity of glass. Such a "clear metal" could be used to construct towering glass-walled skyscrapers that require less internal support. Secure military buildings could install thin transparent metal windows impervious to the highest-caliber artillery fire. And think of the monstrous aquarium you could build with this stuff!

Back in the 1980s, scientists began experimenting with a novel type of ceramic made from a powdery mix of aluminum, oxygen and nitrogen. A ceramic is any hard, usually crystalline material that's made by a process of heating and cooling. In this case, the aluminum powder is placed under immense pressure, heated for days at 2,000 degrees C (3,632 degrees F) and finally polished to produce a perfectly clear, glass-like material with the strength of aluminum.

Known as transparent aluminum, or ALON, the space-age material is already being used by the military for making armored windows and optical lenses

Courtesy: https://science.howstuffworks.com/engineering/structural/10-futuristic-construction-technologies3.htm

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