



LLC "Advanced technologies" TH

Shotcreting technology presentation

Who we are and what we offer

The company "Advanced Technologies» TH is one of the initiators of "green" energy in the country with more than thirty years of experience. Our main achievement is manufacturing

aluminum profile for lighting systems, commercial equipment, landscape design, construction and art objects, traffic management systems, etc.

We suggest considering the technology of parametric structures construction - shotcreting.

This is a method to construct monolithic horizontal, vertical, and ceiling surfaces when concrete

is fed through a system of hoses and applied to the surface under the action of compressed air at high speed in order to achieve maximum compaction.



Advantages of shotcreting technology

Shotcreting makes building walls and other structures using only one-sided or non-removable formwork possible.

The shotcrete can be applied in layers of different thicknesses on a one-sided surface (already existing concrete, stone, soil, etc.). That gives the chance to strengthen, repair or restore concrete structures of any shape without formwork.

Due to the mixture applying method you can give the structure any bionic form.

The dry method of shotcrete application provides the opportunity to prepare the mixture for any requirements, directly on the production site. The curing rate of this mixture takes 2 days up to 70% sturdiness,

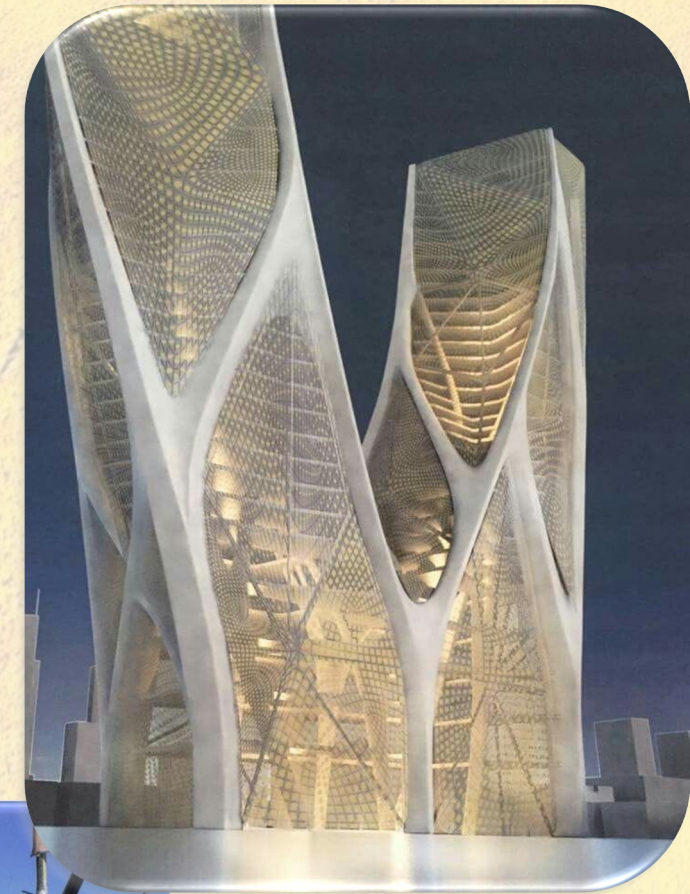
The wet method gains the sturdiness of 70% in 5-6 days depending on the plasticity and admixtures.

Concrete applied in this way, with equal properties, is several times sturdier, with larger indicators of water permeability and frost resistance



Areas of application

- Manufacture of infrastructure facilities
- Construction of "Hobbit House", skate parks, Bicycle tracks
- Fire-fighting works (slagheap extinguishing)
- Production of unique art objects, parks structures, etc.
- Strengthening the walls of mountain rivers, slopes, reservoirs
- Reinforcement and waterproofing of walls, groundworks
- Repairment of concrete structures (bridges, retaining walls, slopes, chimneys)
- Repairment of hydraulic structures, sewage treatment plants, dams, cooling towers pools
- Production of thin-walled concrete structures (architecture, sculpture)



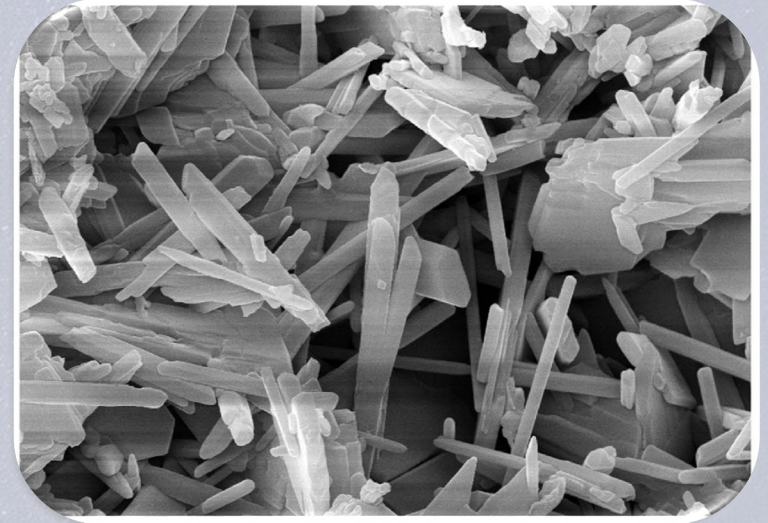
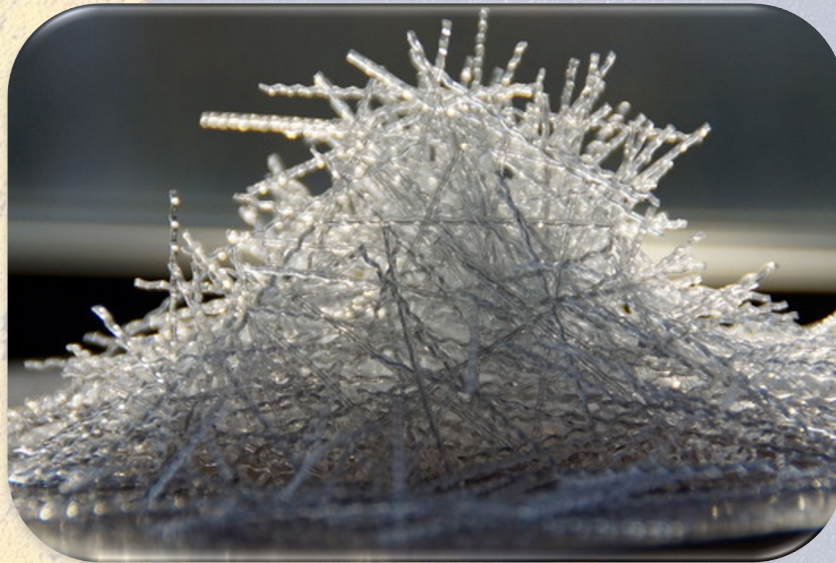
Materials for shotcreting

Quartz sand



Admixtures

Fiber filler
Resin
Plasticizers
Microorganisms



Cement



CONCRETE CARE

Shotcrete during setting and curing must be protected from freezing, drying, mechanical damage, and chemical exposure for 6 hours

Concrete coating after reaching 70% of the design strength (8-10 hours after application) should be moisturized with a sprayed water jet

In conditions of direct exposure to sunlight and wind on the surface that is shot, in addition to regular watering in the process of curing the shotcrete, its surface should be covered with polyethylene film or wet burlap

In the event of a sudden air temperature drop below 0 °C, fresh shotcrete should be covered with straw mats, sawdust bags, etc. Shotcrete works must be suspended, and covered areas must be carefully checked for shot quality in the future



Preparing the facility for work

- The treated surface must be cleaned of dirt, dust, paint, soot, fuel oil stains, and other oil stains before applying the shotcrete layer (oil stains should be cut up to clean concrete).
- Influxes of mortar and cement milk, as well as areas of weak concrete, should be cut down.
- The surface of the concrete with the formed cement film, as well as smoothly rubbed surfaces, are carefully treated to give them roughness in order to increase the adhesion strength of the shotcrete to the base surface.
- To prevent the accumulation of "bounce" the edges of the cracks should be cleared with an inclination of 45° . Corners and edges should be rounded. Cracks with more than 5 cm depth and a side size of more than 10-12 cm on the surface should be pre-cleaned.
- Concrete surfaces with bare reinforcement when reinforced with shotcrete must be cleaned of dirt and rust.
- The treated surface must be cleaned with a washing machine under pressure before applying the shotcrete mixture. Flushing is performed immediately before shotcreting. The prepared surface has to be protected from re-contamination.



Frame construction and fixed formwork

- For the construction of curvilinear timbering we use metal frame (preferably stainless steel) and composite reinforcement, the properties of which allow to significantly strengthen the structure and avoid corrosion.
- For ponds and sports grounds earth is used as a basis for applying the mixture that provides the constructions with any shape.



CONTACT INFORMATION

LLC "Advanced technologies" TH
Kyiv, ave. Sobornosti,
EFCON Plant, 19, office 300
02160 Ukraine
EDPNOU code 33938142
Checking account 26002001047560
www.efcon.in.ua
JSC Universal Bank
MFI 322001

+380 67 468 5542
+380 67 468 5541
+380 96 128 1393
parametric.aukso@gmail.com
4685542@gmail.com

