



SHOTCRETE / GUNITING

SHOTCRETE BY WATER SEAL:

Water Seal following the shotcrete method as per standards which is ACI & EFNARC Since 2007, Water Seal has seen many improvements, be it in the equipment or in the specialized techniques required for the pneumatic application of mortar or concrete.

Today shotcrete has become a vital material because of it being versatile in shape, high strength, good bonding ability, and durable in areas of difficult access it can be easily sprayed onto a surface at high velocity, making it handy for operation.

Its applications range from slope and surface protection, to renovating existing structures. Shotcrete is applied to a lacerated surface, usually for reasons such as to safeguard a surface which, when left untreated, would erode or which is unstable due to fracturing and defects.

Project References



- I. Project: 209 Emirati Villas at Yas Island East Abu Dhabi
- II. Our Client: Mammut Contracting
- III. Consultant: Syr Consultant
- IV. Contract Value: AED 1.4 Million
- V. Systems Applied: EIFS, MCRS, Shorcrete / Guniting



- I. Project: Detainees Building for M/s Judiciary Dept. on Plot # 01, Sector W58, Abu Dhabi
- II. Our Client: Ghantoot Transport & Gen. Cont. Est.
- III. Consultant: Dar Al Oman Coconsultant
- IV. Contract Value: AED 2.2 Million
- V. Systems Applied: Shotcrete/Guniting & Waterproofing



- I. Project: Facilities at Al Ain Truck Road Abu Dhabi
- II. Our Client: Al Firas General Cont.
- III. Consultant: CMW
- IV. Contract Value: AED 200,000
- V. Systems Applied: Shotcrete/Guniting



- I. Project: 5B+G+2P+35 Floor+1 Mech.+HC (My Tower) Dubai Marina
- II. Our Client: Dubco Contracting
- III. Consultant: Dimesion Engineering
- IV. Contract Value: AED 250, 000
- V. Systems Applied: Shotcrete/Guniting & PVC



- I. Project: Bloom Central Zone W-13/01 Plot C-18 to C-21 Abu Dhabi
- II. Our Client: Shapoorji Pallongi Mideast
- III. Consultant: Heberger Engineering
- IV. Contract Value: AED 100,000
- V. Systems Applied: Shotcrete/Guniting

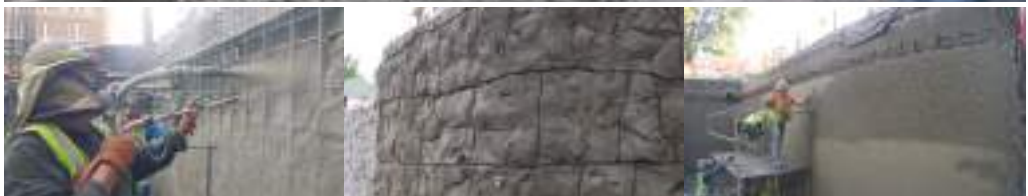
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Retaining Wall with Mesh





Shotcrete retaining walls comprise a special mix of high strength concrete being sprayed at high velocity using compressed air, to form a retaining structure, drain or a wall.



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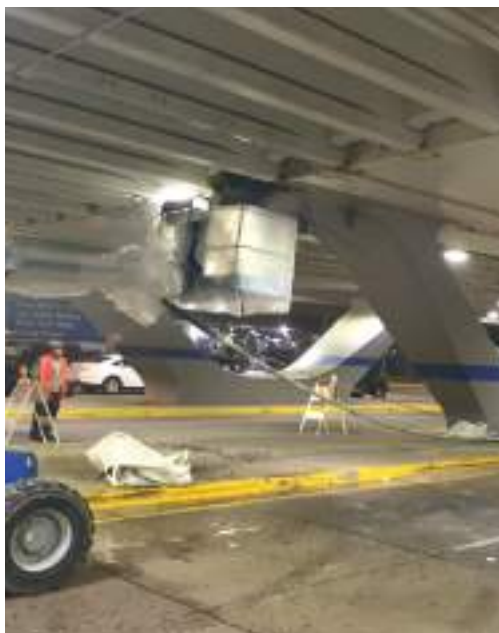
Structural

Shotcrete can be used to repair the damaged surface of concrete, timber, or steel structures provided there is access to the surface needing repair. The following examples indicate a few ways in which shotcrete can be used in repairs: Vertical and overhead construction for walls, slabs, columns, and other structural members has been frequently shotcreted.



Shotcrete repair can be used for bridge deck rehabilitation, but it has generally been uneconomical for major full-thickness repairs. It is very useful, however, for beam repairs of variable depths, caps, columns, abutments, wing walls, and under decks from the standpoint of technique and cost.





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Architectural

Construction techniques using inflatable air-forming systems have made the construction of shotcrete shells or domes practical. These large structures have been used for residential housing, warehousing, bridge, and culvert applications.





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Swimming Pools

Shotcrete has been used extensively to construct concrete swimming pools. More recently, large aquariums have been constructed using shotcrete. Shotcrete floors in tanks and pools on well compacted sub-base or on undisturbed earth have generally given excellent service.





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Slope Stabilization

Shotcrete is often used for temporary protection of exposed rock surfaces that will deteriorate when exposed to air.

Shotcrete is also used to permanently cover slopes or cuts that may erode in time or otherwise deteriorate. Slope protection should be properly drained to prevent damage from excessive uplift pressure.



Application of shotcrete to the surface of landfills and other waste areas is beneficial to prevent surface water infiltration.



SHOTCRETE / GUNITING Concrete

In building repairs, shotcrete is commonly used for repair of fire and earthquake damage and deterioration, strengthening walls, and encasing structural steel for fireproofing. The repair of structural members such as beams, columns, and connections is common for structures damaged by an earthquake.





Surfaces subject to high velocity flows may be damaged by cavitation erosion or abrasion erosion. Shotcrete repairs are advantageous because of the relatively short outage necessary to complete the repairs



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Tunnel & Mining

For the most part, shotcrete is used in underground excavations in rock; but on occasion, it has been successfully used in the advancement of tunnels through altered, cohesion-less, and loose soils.





Typical underground shotcrete applications range from supplementing or replacing conventional support materials such as lagging and steel sets, sealing rock surfaces, channeling water flows, and installing temporary support and permanent linings.



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Marine Structures

Damage to marine structures can result from deterioration of the concrete and of the reinforcement. Damaging conditions are corrosion of the steel, freezing and thawing action, impact loading, structural distress, physical abrasion from the action of waves, sand, gravel, and floating ice, and chemical attack due to sulfates.





These problems can occur in most marine structures such as bridge decks, piles, pile caps, beams, piers, navigation locks, guide walls, dams, powerhouses, and discharge tunnels. In many cases, shotcrete can be used to repair the deteriorated surfaces of these structures.



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Soil Nail

Soil nailing is a ground stabilisation technique that can be used on either natural or excavated slopes. It involves drilling holes for steel bars to be inserted into a slope face which are then grouted in place.





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Green Home

With the use of properly installed Guniting linings, industries can benefit from the reduced cost for energy and maintenance to plant and utilities that produce green house emissions, with saving on fuel costs and burning less means a better outcome for the environment. With all industries taking measures in this way, the war against Global Warming can be overcome.





WATER SEAL RANGE OF SERVICES :



Roofing & Waterproofing



Modern Combo Roofing System



Floor Coatings



Crack Injection



Structural Strengthening



Fabric Shades Structure



Geo Lining



Clay Tile Roofing



Shotcrete / Guniting



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