

APPLICATION EXAMPLES OF A VERY ECONOMIC WAY OF CELLULAR SPRAYED CONCRETE ON RETAINING WALL AND ARTIFICIAL ROCK

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An economic slope structure construction method for landscape was developed, which utilized the cellular sprayed concrete for high performance shotcrete. This can improve the performance of shotcrete material, maximize the construction advantages of shotcrete and further harmonize with the surrounding environment. This may solve various problems such as efficient slope stabilization of large-scale slopes from natural disasters that occur annually due to climate change, the necessity of disaster prevention and restoration technologies, existing slope maintenance and reinforcement construction methods for weathering.

This construction method maximizes the economic feasibility by manufacturing a high-performance cellular shotcrete using an ordinary ready mixed concrete and concrete pump car. Cellular shotcrete is produced by incorporating cellular and mineral admixtures in the process of remixing and dispersing the mineral admixture in an ordinary ready mixed concrete at a job site. High strength and high durability are secured by using high-performance cellular shotcrete without using accelerators. Speed and safety are improved by adopting a concrete pump car reaching a far way on the slope without formwork in the top-down and bottom-up method.

In addition, this technique can highlight nature-friendly scenery since it is a construction method that comprehends natural rock shapes and colors, by carving various natural rock patterns on the placed high-performance shotcrete before the thickness is adjusted and before it hardens. After curing for a certain period of time, a coloring agent like stain is sprayed on the surface to develop color by neutralization reaction.