

# SPORTCRETE

## How Does Sportcrete Work In Your Bunker

The following represents the how's and why's of Sportcrete used in conjunction with stone to create an Engineered base for a bunker:

1. The proper stone is selected to provide gradations that are open enough to accept the Sportcrete liquid, yet closed enough for a sufficient amount of rocks to be touching each other after a light compaction has been accomplished.
2. The Sportcrete is then sprayed on in two coats and penetrates the stone and literally glues or adheres the touching stones together. Gaps or voids are then left in the 2 inches of stone that allow water to drain through the stabilized stone. The Sportcrete materials are actually designed to penetrate to a specified depth and setup properly within a short amount of time for ideal finished performance. When the Sportcrete cures within the initial 24 hours of spraying, the stabilized stone approaches the 2500 PSI performance qualities of concrete...in other words it handles the weight of concrete yet is POROUS. Another specification that compares to concrete and Sportcrete is the mega Pascal measurement. Concrete is rated at 17 to 20 mega Paschal while Sportcrete is laboratory-rated at 17 mega Pascal. The point here again is that Sportcrete has characteristics of concrete, yet is porous.
3. Resiliency is also a positive attribute of Sportcrete. Concrete has zero resiliencies; Asphalt is typically rated at 1 to 4% while Sportcrete is rated at > 20%. This resiliency will allow the Sportcrete-stabilized stone to flex with the subtle movements of soils in the bunker.
4. The cured Sportcrete stone base is lab-tested to drain at a rate of 100 inches of rainfall per hour while sand is typically rated at about 10 inches per hour!
5. The combination of the 2500 PSI quality and the 100 inches per hour porosity is the magic of Sportcrete in that it allows the engineered base to create a hydraulic draw or "suction" once rainfall is introduced to the sand. As the water begins to drain through the sand with a porosity of 10 inches per hour, and reaches the stone, a draw begins to develop because of the greater porosity of the stone when compared to the sand. This draw or suction pulling the rainfall vertically through the sand and stone encourages the sand to stay in place rather than move horizontally in the bunker as with other products that do not create this draw. Erosion of the sand from mostly surface movement of the water without the draw is the ending result of rainfall in a typical sand bunker. This creates a situation where the maintenance personnel have to reposition the sand by raking it in the bunker, literally pulling the sand by hand up the steeper flashings of modern bunker design.

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6. Another important aspect of the Engineered Stone Base is the ENTIRE stone base becomes a drainage medium. Over a period of time grass, clay soils, or other mediums may begin to contaminate the sand. While a small portion of these contaminants could manage to reach the Sportcrete base through the sand, it is virtually inconceivable that enough of the base could be covered to prevent efficient drainage. This sort of thing would be related much more to a superintendent doing no maintenance as opposed to the possibility of a Sportcrete bunker becoming naturally plugged and not able to drain.
7. Contamination of the bunker from below the soils surface is virtually eliminated because of the concrete-like performance of the ENGINEERED Sportcrete BASE. This type of contamination is a common problem facing greens superintendents and is one of the problems that other bunker products may address for at least a short period of time.
8. Sportcrete is a patented, environmentally-friendly material for creating an engineered stone base.

In summary, the SPORTCRETE ENGINEERED STONE BASE for sand bunkers is superior to every other competitive product because it prevents contamination from below the sub soils of the bunker. It's concrete-like performance and drainage characteristics creates a hydraulic draw designed to minimize sand movement and erosion during rainfall events and encourages great drainage performance during rainfall. It will also reduce the amount of time and money spent in daily operating costs in maintaining bunkers, which produces a superior bunker for golfers playing the course!

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