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On-Course Solutions
Hole 3 Bunkertac™ Trial Section
Centurion Country Club

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Centurion
Bunkertac™ Trials
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Introduction

Bunkertac™ is an environmentally friendly and special purpose binder specifically formulated for bunker stabilization, protection from erosion, and sand flashing and contamination prevention on golf courses. The key to the exceptional performance of Bunkertac™ is its linear molecular structure consisting of millions of molecules that are linked and cross-linked together creating a stable bonding matrix.

When used for bunkers, Bunkertac™ will meet the requirements of a flexible bound surface with a high load bearing and shear strength capacity while allowing for drainage; prevent distortion and disfiguration of the bunker's shape; prevent contamination of the sand contained in the bunker and most importantly reduce initial application, repair and maintenance costs.

When used for sand flashing, Bunkertac™ will actually hold the sand in place all throughout the bunker most specifically on the face and along the edges thus improving the aesthetics and ensuring that the original intended design of the bunker has been met.

Bunkertac™ is completely environmentally friendly, safe for animals, wildlife and vegetation and dries clear and transparent; leaving the environment in its natural state. As a result it will significantly decrease the environmental footprint of golf course developments, while at the same time allowing for superior treatment of several areas and significant cost reductions.

Benefits of using Bunkertac™ for the stabilization of bunkers include:

- Providing a flexible bound surface with high load bearing and shear strength capacity while still allowing for proper drainage and germination
- Prevention of erosion, contamination, distortion or disfigurement
- Reduced maintenance costs and ease of maintenance
- Ease of repair to any damaged areas
- Use of an environmentally friendly product
- Reduction or elimination of the washing of the sand
- Enhanced playability
- Improved shot value
- Reduction in the chances of "ball-lie"
- Improved aesthetics



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Background

Looking for new ways to improve the golf course the Management Committee at Centurion started looking for an alternative method to improve their bunkers which were facing problems such as contamination, water run-off and grass root structure in the faces and edges of the bunkers. On-Course Solutions was contacted and asked to conduct a site evaluation and then a bunker on hole 3 was selected as a trial area to test the performance of Bunkertac™.

Preparation of the trial area included:

- Removal of the existing sand
- Spreading and drying of the new sand
- Inspection of the drainage system in place
- Bowling and re-shaping of the entrance to the bunker
- Removal of large rocks from the face of the bunker
- Removal of all loose stones and gravel
- Sweeping of the surface to remove any loose aggregate
- Removal of grass roots from the edge of the bunker
- Pre-wetting of the surface to moisten and loosen the tension of the soil



Removal of existing sand



Entry point to be bowled and re-shaped



Removal of large rocks from face



Trimming of edge and root removal



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Sweeping of edge to remove loose sand



Re-shaping of entry point



Topsoil filling after rock removal



Sweeping and removal of loose gravel

For successful application of Bunkertac™ the proper preparation of the bunker to be treated is essential. Proper bowling and shaping of the bunker will lessen the amount of water run-off coming into the bunker. One of the benefits of using Bunkertac™ is that even with considerable amounts of water run-off contamination of the sand is eliminated or minimal even over the steepest of slopes.



Final re-shaping of entry point



Pre-wetting to loosen tension of soil



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Sand placement 1st coat of Bunkertac™



after 1st coat of Bunkertac™ and sand

Bunkertac™ was applied evenly over the bunker using several coats with a simple pump and spray system with a specially designed spray lance to control the flow rate and ensure the specified application rate was adhered to.

A 15-meter long spray hose was attached to the tank holding the Bunkertac™ solution, which was placed in the back of a truck for ease of movement and access to the bunker.



Sand flashing during 2nd coat



after 2nd coat of Bunkertac™ and sand

During the application process each coat of Bunkertac™ was given sufficient time to penetrate or soak in before applying another coat. In winter this may take up to 24 hours. This will ensure the desired penetration and avoid the formation of a skin or biscuit layer.



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Face and edge after 2nd coat



Face and edge after 2nd coat

If an area were to become damaged, repair and maintenance of the damaged area is simple, efficient and quick (not labour intensive or time consuming), and can be done simply by pushing the bunker sand toward the base and applying an additional spray coat of Bunkertac™ and re-dusting the sand over the repaired area.



Golfers were able to continue playing while the bunker was under repair with no disruptions.

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As each coat of Bunkertac™ was applied sand was dusted over the treated area using a knapsack type duster blower in order to force sand into and covering the entire edge of the bunker up to the grass line and to ensure a nice looking smooth finish over the entire treated area. This method of sand flashing is the most effective and technologically advanced and the resulting improved aesthetics are sure to impress every golfer that plays the course.



Bunker before Bunkertac™ application



after application and ready for sanding

Using Bunkertac™ and the application methods developed by On-Course Solutions for stabilization of the edge and face of the bunker, sand flashing and contamination prevention will provide you with not only a more aesthetically pleasing look to your bunkers but improved playability as well as a reduced impact upon the environment.

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Observations and Conclusions from Bunkertac™ application

- Bunker base must be moist (OMC) prior to application of product.
- All equipment must be tested (off-site if necessary) prior to product application to ensure proper functioning.
- Spray nozzles should be set to provide an even spray coat over the bunker with minimal running or draining of the diluted product mix.
- Full and proper preparation of a bunker is essential to ensuring successful results.
- All of any previous product used in the bunker must be removed.
- If drains are in place, the product must not be applied to the marked drainage areas.
- When preparing the mix dilution, the Bunkertac™ is added last, directly into the water and circulated through the return valve of the pump.
- For best application, a firm round hose may be more effective than a flat hose in order to prevent kinking and allow for a smooth continuous flow rate.
- During the application each coat must be allowed to penetrate or "soak in" before applying another coat. In winter this can take up to 24 hours.
- Compaction of the bunker should be done 2 to 3 days prior to application if possible.
- All equipment used must be rinsed off thoroughly as soon as possible after application before the product has a chance to dry or cure.
- After application bunkers must remain free of watering, rain and any human traffic for a minimum of 24 hours. (48 hours during winter months)
- Spraying the product around the perimeter and high sides of the bunkers will assist in the prevention of contamination from fugitive material transported from fairways and landscaped areas nearby.
- Bunkertac™ is easier to install than other products and requires much less maintenance.
- Using the knapsack type duster blower for sand flashing will provide the best results and most aesthetically pleasing bunkers.



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For more detailed information regarding how On-Course Solutions may assist you on your golf course please contact us today.

We offer training on the process so that your on site crews can perform applications and maintenance.

Contact us directly for further information:

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