



Evolve to the next level in golf course construction and Make Golf Greener!

On-Course Solutions

Advanced Technology + Innovative Application Methods = Best Results Ever Achieved

On-Course has revolutionized the golf course construction industry with combining new technology with innovative application methods in order to achieve results never before attainable.

Our approach utilizes advanced technology to create a more sustainable golf course in terms of hydro seeding, bunker lining and maintenance which is in accordance with USPGA requirements.... while simultaneously reducing costs, future maintenance, water usage AND the environmental footprint of a golf course.

We strive to provide innovative and cost effective solutions which will redefine the environmental standard for golf estates.

Use our products to bring your course **on course** in terms of:

- Reduced environmental impact
- Enhanced playability
- Better aesthetics
- Reduced maintenance
- Significant cost savings
- Reduced water consumption
- Increased weather resistance

The **On-Course Advantage** includes a full site assessment, training on application methods, and design of specialized equipment, installation, problem solving and guaranteed results.

On-Course Solutions

Advanced Technology. Innovative Ideas. Guaranteed Superior Results.

Whether constructing new bunkers or rehabilitating existing ones...

The same question always remains for the course superintendent...

What type of product should be used to achieve the best results for the bunkers on my course?

Continue reading to find the newest most innovative answer to this very essential question facing all golf course bunker construction projects.



Evolve to the next level in golf course construction and Make Golf Greener!



Preparation of bunker at Centurion Country Club in South Africa

Here we see a bunker being re-constructed and prepared for new bunker lining; the dilemma facing the course superintendent is which type of liner is best for the bunkers at his course.

Before making this decision several factors should be taken into consideration including bunker design, cost, longevity, future maintenance, playability, drainage, keeping sand on the face, contamination and concern for the environment.

"No.1 is what type of architecture you're dealing with," says Brian Anderson, CGCS, at Nemaocolin Woodlands Resort in Farmington, Pennsylvania. "No. 2 is the sand and the base, like if you're trying to keep white sand from being contaminated by the base soil."

Sean Dyer, golf course maintenance director at Sherwood Country Club in Thousand Oaks, California looks at lifespan, playing conditions and maintenance. "How is it going to hold up over the years?" Dyer says. "How will it affect playability? How will it keep contamination down, drain the water and keep my sand on the face?"

Does this type of bunker liner exist?

The answer is yes and it's called "Bunkertac" and is available from On-Course Solutions.

Bunkertac is an environmentally friendly sand stabilizer; it is a purpose-formulated binding agent for soil and sand that when used in golf course bunkers forms a flexible, bound surface which has a high-load-bearing and shear strength capacity while still allowing for proper filtration and drainage of water. Used for sand flashing, the product holds the sand in place on the face and edge, forming a neat, attractive lip that will not degrade. The key to its performance is its linear molecular structure that is linked and cross-linked, which creates a stable bonding matrix.



Evolve to the next level in golf course construction and Make Golf Greener!



Before Bunkertac



After Bunkertac

How does the use of Bunkertac affect the design of the bunker?

The application process for Bunkertac involves the re-definition of the edge of the bunker as well as a specialized sand flashing method that will hold the sand in place on the face and edge thus improving the aesthetics of the bunker while ensuring the original intended design has been met.

What makes Bunkertac cost effective?

Bunkertac is less expensive, easily applied, requires less maintenance, easily repaired if damaged and outperforms other products on the market.

How long will the Bunkertac applications last?

The Bunkertac application will last a minimum of 3-4 years if applied according to On-Course Solution's Bunker Stabilization & Sand Flashing Instructions and the After Treatment & Maintenance Instructions are followed.

How will the application of Bunkertac affect future maintenance requirements?

Future maintenance will be significantly reduced as the Bunkertac application will prevent or reduce contamination, washing and erosion of the sand, improve the filtration rate and ensure proper drainage and also hold the sand in place on the face; thus eliminating the need for constant raking and pushing of the sand back into place. In addition since Bunkertac is in liquid form it eliminates the use of staples or nails to hold it in place.

How will the application of Bunkertac affect the playability of the bunker?

The Bunkertac application process followed by the placement of the USGA recommended amount of sand (4 to 6 inches on the base and 2 to 4 inches on the face) would prevent the chance of a "ball-lie" or "fried-egg" and improve the shot value.



Evolve to the next level in golf course construction and Make Golf Greener!

How will the Bunkertac application affect the drainage within the bunker?

The Bunkertac application creates a solid yet flexible base with high porosity, which will draw rain and irrigation water to penetrate through the sand away from the playing surface and direct it into the drains.

How will the Bunkertac application help with keeping sand on the face?

The Bunkertac application process including the specialized method of sand flashing along with the binding properties of the product is purposely designed to ensure the sand is held in place on the steepest of faces and edges.

How will the Bunkertac application limit the contamination of the sand?

The Bunkertac application will prevent or eliminate the contamination of the sand within the bunker by the creation of a solid yet flexible base which in a sense creates a covering between the soil and the sand itself therefore preventing contamination from below. In addition the spraying of the perimeter area surrounding the bunker will help stabilize the edges, increase germination and grass growth and prevent the creation of water channels causing contamination.

How will the Bunkertac application effect the environment?

Bunkertac is completely environmentally friendly, safe for animals, wildlife and vegetation and dries clear and transparent leaving the environment in its natural state. Bunkertac meets all ISO 14001 requirements thus helping to keep all companies involved compliant.

You too could have bunkers that look like this



Hole 4 Nondela Drakensberg Mountain Estate in South Africa



Evolve to the next level in golf course construction and Make Golf Greener!

Why Bunkertac and not fabric or geo-synthetic liners?

- No chance of exposed fabric or nails
- Easier to maintain
- Less maintenance required
- Easier to install
- Improved aesthetics
- Environmentally friendly
- Less Expensive and more cost effective
- Provides a flexible bound surface with high load bearing and shear strength capacity
- Does not impede the germination process
- Enhanced playability
- Improved shot value
- Reduction in the chances of "ball-lie"
- Reduction or elimination of the washing of the sand

What are the superintendents saying about these liners?

Robert Stone from The Honors Course in Ooltewah, Tennessee commenting on the product Sand Dam which is made of non-biodegradable polyester and synthetic binders.

"Overall, it's done well...adding that there have been some problems with the fabric sticking up out of the sand." "You have so many things to do and sometimes you get a little low on sand and somehow may hit the fabric, so you'll see a piece that sticks up."

Sean Dyer, golf course maintenance director at Sherwood Country Club in Thousand Oaks, California commenting on fabric liners.

"I've used them at two different construction projects and they both peeled up very easily within a year or two," he says. "The mechanical bunker rake always finds it, and it's kind of a nightmare." The amounts of staples needed were a concern for Dyer, too, because of their nature to pop up due to freeze/thaw cycles."



Evolve to the next level in golf course construction and Make Golf Greener!

Patrick Husby, grounds superintendent for Hamilton Farm Golf Club in Gladstone, New Jersey commenting on the liner he used for his bunker renovation called SandMat.

“Hammering staples back in is a maintenance headache,” he says “It’s physically hard to do. Many are three-quarters of the way in and then bent over the rest of the way.” Keeping track of the tens of thousands of staples is a difficult task for the maintenance staff. Husby worries a golf club could catch on one, so his five-man bunker crew spends about an hour or an hour and a half a day pounding staples back in when they hand rake bunkers. “The liner edges are becoming an issue. When the edges are exposed they start to fray, which requires dedicating labor for trimming them.” “That’s adding up to considerable time – eight to sixteen man hours per week,” he says. “It’s becoming something we have to do that we didn’t have to do before.”

What are they saying about Bunkertac?

Course superintendent Gordon Johnston at Serengeti Golf & Wildlife Estate in South Africa cannot praise Bunkertac enough nearly two years after it was applied.

“This is unbelievable, really, it’s awesome,” he says. “Besides making our work a lot easier, it is obvious that this stuff is just way better than the likes of sand mats that constantly have to be repaired after golfers or bunker machines have damaged them. Our bunkers have stood up perfectly after heavy rains, and I am completely sold on Bunkertac,” he says.

Charl Blaauw, course superintendent at Oubaai Golf Resort in South Africa commenting on his bunker renovation project using Bunkertac.

“Our bunker project is on track and the new product ‘Bunkertac’ that we are applying on the bunker slopes seems to be working well in stabilising sand on these slopes and thereby giving us some good playing surfaces out of the bunkers.”

“The bunker project is finished and the playability of the greenside bunkers has improved a lot and will be consistent throughout.”

“We added Bunkertac on the badly washed fairway bunkers. This will give us a good finished look on these bunker slopes with added strength in heavy rainstorms. It will also stop the contamination of stones and soil into the sand.”

Blair Atholl Golf Estate, Lanseria, South Africa June 2009 Newsletter regarding bunker renovation project using Bunkertac.

“In order to institute a successful and sustainable upgrade of our bunkers, we chose a method that uses Bunkertac, supplied and installed by On-Course Solutions. This method is environmentally compliant and does not require use of plastic liners or geo textiles. The finished look is not only completely natural, but also in keeping with our environmentally friendly and compliant requirements. Bunkertac provides the newest and best available technology for the lining and sand flashing of bunkers. And most importantly, significantly reduce future maintenance as run off and erosion is also controlled by using Bunkertac, which will result in far less repairs being required after next year’s rains. This in addition to enhanced playability and reduced environmental impact through bunker renovation at Blair Atholl.”



Evolve to the next level in golf course construction and Make Golf Greener!

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:

On-Course Solutions

Tel: +27 87 551 1005

Email: info@on-coursesolutions.com

Website: www.on-coursesolutions.com



Evolve to the next level in golf course construction and Make Golf Greener!