



PolylastGolf.com Information Kit 2017

MADE IN USA



**US Patent 8,389,624 B2
Additional Patents Pending**

*Desert Highlands Golf Club • Riviera Country Club • Goat Hill Park • Grayhawk Golf Club
The Greenbrier • Indian Wells Country Club • Bogey Hills Country Club
Seven Canyons Golf Club • Hacienda Country Club • Pinnacle Peak Country Club
Black Gold Golf Club • El Caballero Country Club • Green Brook Country Club
Shepherd's Hollow Golf Club • Mountain Gate Country Club • Mesa Country Club
River Bend Golf & Recreation Area • La Mirada Golf Course • Willow Pond Golf Course
Cottonwood Hills Golf Club • Legends Golf Club • The Club at Ravenna*



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Greetings, and thank you for considering Polylast Bunker Liner for your bunker construction or renovation.

Polylast Systems, LLC patented surface products were initially applied for the comfort and safety of livestock, providing a non-slip, durable, cushioning surface to protect horses and cattle from dangerous slips, trips and falls, while allowing “liquids” to flow through.

One day, one of our livestock customers, who happens to be an award-winning superintendent, after he personally experienced the attributes of the system, asked us “*will this stuff work in golf course bunkers*”. Well, as the patent holder and inventor of a broad array of rubberized products, we said “*let’s find out!*” ...and a revolutionary new process was developed which is now patent pending.

Although relatively new to the golf course market, the product behind the Polylast Bunker Liner has undergone many years of research and development, so you can be assured that the durability and functionality have been tested and proven in both the laboratory and in the field. That’s why the Polylast Bunker Liner has a 10-year warranty. A Polylast Bunker Liner is simply the most durable bunker liner and the best value proposition available.

Although we don’t take credit for being smart enough to have conceived the use of this system, we do take very seriously this opportunity to solve a problem that has challenged superintendents for decades, and you can rely on our attention and support to your project, too.

The following pages contain much information on the Polylast Bunker Liner, and for additional information on this truly revolutionary system, please visit www.PolylastGolf.com or you can contact me at the number below.

Thank you,

Scott B. Gibson
Director of Business Development
PolylastGolf.com
480.998.3033
scott@polylastsystems.com



Bunker liners should offer the following: use this checklist when selecting yours...

	POLYLAST	Hard Liner	Soft Liner
10-Year Manufacturer's Warranty	☒	☐	☐
DIY Installations, 24 / 7 / 365	☒	☐	☐
Machine rake without damage	☒	☐	☐
Elk / deer / moose won't puncture	☒	☐	☐
Install 1000 sq. ft. in one hour with team of 4	☒	☐	☐
Weed Wacker & trimmer safe	☒	☐	☐
Won't damage golf clubs	☒	☐	☐
Unaffected by freeze/thaw cycles	☒	☐	☐
Won't allow backing washout separation/cracking....	☒	☐	☐
Zero waste, zero overage	☒	☐	☐
Cut, lift, repair, and replace with same piece	☒	☐	☐
Tested to 100 inches of rain per hour	☒	☐	☐

For additional information and videos, please visit www.PolylastGolf.com.



Attributes and advantages of Polylast:

Proven sustainability over 25 years of use... 10 year warranty that's reasonable and prudent!

The first versions of what became Polylast's patented process patent were first used for equine, other livestock and roadway repairs in the early 1990's. Polylast 10 year warranty is simply that... if it breaks or tears Polylast will replace the damaged product... period! No sand depth requirements, machine limitations, hooved animals... no exceptions and no sliding scale reductions over time.

Simple, less expensive, non-disruptive – non-damaging, no equipment (loaders, mixers) required, install as much or as little at a time, installation

Polylast Bunker Liner can be installed by anyone... no certification required.

Polylast can be installed in any weather... hot, freezing, wet, dry...

No freeze thaw concerns

Polylast retains its strength, flexibility and elongation capabilities from below minus forty to over 160 (ground temperature) degrees Fahrenheit! This eliminates the risk of the liner heaving away from the subsurface which can create a void behind hard scape liners, causing them to fail allowing native soil and debris to migrate up into your sand

Variable edge finishes

Polylast offers greater edge detail than any hardscape liners since it is fitted, in its final form, rather than as a liquid over unstable gravel. Protecting the top surround of bunkers can eliminate wash outs often created by severe weather moving native soil away from the back of an inflexible liner which is then susceptible to breaking under the weight of golfers or maintenance equipment.

Superior strength

Polylast is not damaged by mechanical rakes or edge trimmers saving you maintenance time and expense over systems that have to be hand raked.

Easily repairable

In the event of a drain system problem, Polylast Bunker Liner can be cut, with a razor knife, at the problem area. The drain can be repaired and the same Polylast liner replaced and seam glued in place at little cost with no disruption of the surrounding area.

PRICE vs COST considerations

Product price

"Zero Waste!"

Installation (ancillary) costs

Repair to course damage from installation equipment - machines

Sand cost for extra sand to compact to required depth for warranty (hard scapes) and playability for softcapes)

Maintenance costs for draining, moving/rebuilding sand shapes after major rain events



Testimonials

"Our sand bunkers have very high sand faces so washouts were always a problem; Polylast has reduced washouts, preserved the quality of the sand from contamination, and is very labor friendly for install."

Phil Shoemaker
Director of Golf Course Maintenance
Desert Highlands Golf Course
Scottsdale, AZ

"We installed the Polylast bunker liner at Goat Hill Park over a year ago, and in that time, we've seen no foreign particle migration into our sand, no growth and even when we've had serious rain fall, no puddling and no sloughing of sand off of bunker faces. It really is proving to be a "Course Changer" and we're considering other applications for the product now."

John Ashworth
President, Goat Hill Park
Oceanside, CA

"I've been in the golf course maintenance business for over 32 years and I have worked with just about every bunker liner of the market. From fabric liners to the porous concretes, and I can say I've yet to see one that rivals the Polylast liner. It was easy to install and is extremely durable."

David Escobedo
Golf Course Superintendent
Westbrook Village Golf Course
Peoria, AZ

"The use of Polylast has shown great drainage and prevented my bunker faces from washing out after many days of rain."

Bill Houlihan
Golf Course Superintendent
Black Gold Golf Club / Kempersports
28 Year Golf Course Superintendent

"Since installation, we have had next to no washouts on the steep slopes, sand has not been contaminated with sub-grade, and we have found that our fine textured sand dries quicker in the bunkers than the ones without it."

Cameron Kusiek
Course & Grounds Superintendent
River Bend Golf & Recreation Area
Red Deer, Alberta, Canada



Congratulations, Matt...

On Sunday, February 19th, 2017, Jim Nantz on CBS Television, during the coverage of the **Genesis Open PGA Tournament**, complimented **Matt Morton** and his **Riviera Country Club** crew on "**Saving The Day!**" Here's what Matt writes about what helped him and his crew get the course ready for "prime time!"

*"We host the Genesis Open PGA Golf Tournament at Riviera Country Club every year. This year we saw 3 inches of rain fall on Friday alone, filling bunkers knee deep with water and washing sand off the bunker faces. Starting at 3:30 a.m. on Saturday, I had my 40-man crew, plus 40 other volunteers, pumping water out of bunkers, then shoveling and raking them to get the course ready for the tournament. What helped immensely was having **Polylast Bunker Liner** installed in several bunkers. The bunkers that have **Polylast Bunker Liner** needed little to no maintenance during the storm. They drained easily, so there wasn't any standing water that needed to be pumped out. They also experienced very little, if any washout on the bunker faces, making preparation for the tournament that much easier. The bunkers with **Polylast Bunker Liner** are easily the best bunkers on the course."*

Matt Morton
Superintendent
Riviera Country Club
Genesis Open PGA golf tournament

Could you use some compliments, too?

Contact us to learn how you can enjoy
Compliments, Big Savings and Lots of "Satisfaction," too...
PolylastGolf.com
480 998 3033



A Few Notable Installations:

Desert Highlands Golf Club, Scottsdale, AZ

Goat Hill Park, Oceanside, CA

Riviera Country Club, Pacific Palisades, CA

The Greenbrier, White Sulphur Springs, WV

Indian Wells Country Club, Indian Wells, CA

Bogey Hills Country Club, St. Charles, MO

Encanterra Country Club, San Tan Valley, AZ

Legends Golf Club, Prior Lake, MN

Hacienda Country Club, La Habra Heights, CA

Green Brook Country Club, North Caldwell, NJ

Pinnacle Peak County Club, Scottsdale, AZ

Seven Canyons Golf Club, Sedona, AZ

River Bend Golf & Recreation Area, Red Deer, Alberta Canada

La Mirada Golf Course, La Mirada, CA

Mountain Gate Country Club, Los Angeles, CA

Black Gold Golf Course, Yorba Linda, CA

El Caballero Country Club, Tarzana, CA

Grayhawk Golf Club, Scottsdale, AZ

Mesa Country Club, Mesa, AZ

White Clay Creek Country Club, Wilmington, DE

Willow Pond Golf Course, Rantoul, IL

Cottonwood Hills Golf Club, Bozeman, MT

Shepherd's Hollow Golf Club, Clarkston, MI

The Club at Ravenna, Littleton, CO

**Polylast Systems, LLC
PolylastGolf.com, Bunker Liner
Manufacturer's 10-Year Warranty
Effective 1/1/2016**

Polylast Systems, LLC ("Polylast") provides the following unconditional warranty to the original purchaser ("Purchaser") of its product. Polylast warrants that its bunker liner, in its original manufactured condition, will be free from manufacturing defects prior to installation. All Polylast products are warranted against wear-through of the surface for the following period specified for the particular Polylast product and its intended use.

- Polylast bunker liner installed in bunkers is warranted for a period of ten (10) years when warranty is registered.
- If, under normal and proper use, a defect appears in a warranted product during warranty period and the buyer promptly notifies Polylast as set forth below, then Polylast will, at no charge to buyer, either replace such product free of charge or if Polylast determines that it is unable or impracticable to repair, replace or correct such product, provide a refund or credit not to exceed the original purchase price paid.

Notice of Claims

To obtain performance of the limited warranty set forth herein, buyer must immediately notify Polylast of the discovery of the event giving rise to the warranty claim to: **Claims Manager, Polylast Systems, LLC, 7432 E. Tierra Buena Lane # 105, Scottsdale, AZ 85260.**

Polylast, or its representative, must be given an opportunity to inspect and examine, at Polylast's option, the alleged defect or wear to determine, in its sole and absolute discretion, whether such defect or wear resulted from other than normal and proper use.

Notwithstanding anything to the contrary herein, no Polylast product shall be accepted under a warranty claim prior to Polylast's inspection and written approval or waiving of such inspection rights.

The warranty coverage provided under this Manufacturer's Warranty shall not apply to any Polylast product with respect to damage or wear resulting from misuse, abuse, neglect or improper handling or storage; Defects, dissatisfaction or problems caused by use, installation or maintenance not in accord with Polylast installation and maintenance instructions and guides

Product Suitability and Installation

Polylast shall have no responsibility for determination of the suitability of the goods for the uses and applications contemplated by buyer and/or others, and such determination shall be the sole responsibility of the buyer and/or others. Suggestions or recommendations made by Polylast or its dealers in product literature concerning uses or applications of the goods are believed to be reliable, but Polylast makes no warranty or guarantee of results to be obtained, since conditions of the use, application and installation by the buyer and others are beyond Polylast's control and will vary at each site location. Polylast's warranty is specifically for and on its products and is not in any way intended to warranty the condition, wear or deterioration on any surface or subsurface on which Polylast is applied.

LIABILITY UNDER WARRANTY, NEGLIGENCE OR ANY OTHER CLAIM

THE FOREGOING WARRANTIES ARE EXCLUSIVE AND ARE GRANTED IN LIEU OF ALL OTHER EXPRESS AND IMPLIED WARRANTIES (WHETHER WRITTEN, ORAL, STATUTORY OR OTHERWISE), INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT. BUYER'S SOLE AND EXCLUSIVE REMEDY AND POLYLAST'S SOLE OBLIGATION HEREUNDER, SHALL BE TO REPLACE, CREDIT OR REFUND AS SET FORTH ABOVE.

IN NO EVENT SHALL POLYLAST, ITS MEMBERS, EMPLOYEES, AGENTS OR AFFILIATES, BE LIABLE FOR ANY COSTS OR DAMAGES ARISING DIRECTLY OR INDIRECTLY FROM THE USE OF ANY POLYLAST PRODUCT INCLUDING ANY INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, MULTIPLE, PUNITIVE OR CONSEQUENTIAL DAMAGES, INCLUDING LOST PROFITS, WHETHER BASED ON CONTRACT, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY OR OTHER LEGAL THEORY, EVEN IF POLYLAST OR ANY OF ITS MEMBERS, EMPLOYEES, AGENTS OR AFFILIATES HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN ANY EVENT, POLYLAST'S CUMULATIVE LIABILITY TO BUYER FOR ANY AND ALL CLAIMS RELATING TO THE USE OF ANY POLYLAST PRODUCT SHALL NOT EXCEED THE TOTAL AMOUNT OF THE PURCHASE PRICE PAID TO POLYLAST FOR SUCH PRODUCT.

IN NO EVENT SHALL POLYLAST, ITS MEMBERS, EMPLOYEES, AGENTS OR AFFILIATES BE LIABLE FOR ANY COSTS OR DAMAGES CAUSED BY REASON OF ANY OCCURRENCE OR CONTINGENCY BEYOND ITS REASONABLE CONTROL, INCLUDING BUT NOT LIMITED TO, ACTS OF GOD, EARTHQUAKE, LABOR DISPUTES AND STRIKES, RIOTS AND WAR. BUYER AND POLYLAST HEREBY WAIVE THEIR RIGHT TO TRIAL BY JURY TO THE FULLEST EXTENT PERMITTED BY LAW IN CONNECTION WITH ALL CLAIMS ARISING OUT OF OR RELATED TO THIS WARRANTY, THE PRODUCTS COVERED HEREBY OR THE PERFORMANCE OF ANY PARTY HEREUNDER. THIS WARRANTY SHALL BE CONSTRUED UNDER AND GOVERNED BY THE LAWS OF THE STATE OF ARIZONA.

WARRANTY ACCEPTED AND ACTIVATED THIS _____ DAY OF _____ 20__

PURCHASER

POLYLAST REPRESENTATIVE



Polylast Bunker Liner

Product Specification Sheet

1. MANUFACTURER

Polylast Systems, LLC
7342 E. Tierra Buena Lane
Scottsdale, AZ 85260
T: (480) 998-3033
F: (480) 998-3055
Email: info@PolylastGolf.com
Internet: www.PolylastGolf.com

MADE IN USA



*Polylast Systems, LLC
US Patent Number 8,389,624 B2
Additional Patents Pending*

2. PRODUCT DESCRIPTION

Polylast Bunker Liner is made from 100% recycled crumb rubber mixed with a proprietary and patented process (US 8,389,624 B2) of combining US binders and adhesives to produce a revolutionary new bunker liner solution. Polylast Bunker Liner is a durable, prefabricated pad, that is delivered and ready to be installed by onsite employees, or preferred contractor, and comes standard with a manufacturer's (10) ten-year, unconditional, warranty. The thickness of the product is 3/8", the weight of the product is 1.7 lbs. per square foot, and comes in rolls of 4' wide by various customizable lengths, typically at 30 feet lengths. Each prefabricated pad/roll weighs approx. 200 lbs. and can be easily lifted by a team of two.

3. TECHNICAL DATA

●ASTM D882: Tensile Strength

Maximum amount of stress on rubber product before failure.

<u>Sample No.</u>	<u>Force (lbs.)</u>	<u>Area (Sq. in.)</u>	<u>Tensile Strength (psi*)</u>
1	33.5	.575	58.3
2	28.5	.575	49.6
3	27.5	.575	47.6
4	30.5	.575	53.0
5	<u>26.5</u>	<u>.575</u>	<u>46.1</u>
Average	29.3	.575	50.9

*pounds/square inch

●ASTM D624: Tear Strength,

How well rubber, under tension, resists the growth of any cuts or tears.

<u>Sample No.</u>	<u>Force (lbs.)</u>	<u>Thickness</u>	<u>Tear Strength (pit*)</u>
1	12.4	.575	21.6
2	12.4	.575	21.6
3	7.6	.575	13.2
4	11.4	.575	19.8
5	<u>18.0</u>	<u>.575</u>	<u>31.3</u>
Average	12.4	.575	21.5

*pounds/inch of thickness

TECHNICAL DATA CONT.

- ASTM D3389: Abrasion Resistance, passed with <1.00 gram weight loss

The ability of rubber to resist surface wear caused by rubbing contact with another material, i.e., sand, mechanical rake, animals, humans, water, golf club strikes; also called accelerated wear test.

<u>Sample No.</u>	<u>Initial Sample Wt. (grams)</u>	<u>Wt. Loss (grams)/1000 cycles</u>	<u>% Wt. Loss*</u>
1	76.9443	.5585	0.73
2	81.9304	.5579	0.68
3	78.4557	.5491	0.70
4	67.9739	.5223	0.77
5	<u>80.6789</u>	<u>.5728</u>	<u>0.71</u>
Average	77.1966	.5521	0.72

*H-18 Wheels, 1000 gram load/wheel

- ASTM F925: Chemical Resistance, passed with no surface dulling, attack, or color change

The ability of rubber to resist stains and deterioration from 10 common harsh chemicals.

Stains	Surface Dulling	Surface Attack	Color Change
Rating	0-3	0-3	0-3
White Vinegar	0	0	0
Rubbing Alcohol (70%)	0	0	0
White Mineral Oil	0	0	0
Sodium Hydroxide (5%)	0	0	0
Hydrochloric Acid (5%)	0	0	0
Sulfuric Acid (5%)	0	0	0
Household Ammonia (5%)	0	0	0
Household Bleach (5%)	0	0	0
Disinfectant-phenol type (5%)	0	0	0
Unleaded Gasoline	0	0	0

4. INSTALLATION

Installation is fast and easy, only requiring the placement of the prefabricated pads, of which the seams are glued together; sod staples can be used on steep bunker faces, in addition to the glue. Polylast Bunker Liner does not require any special heavy equipment or certified installation crews. Typically, an in-house, four-man crew can install 1,000 square feet in approximately (1) one hour.

5. DELIVERY

Polylast Bunker Liners are delivered FOB Scottsdale, AZ.

6. AVAILABILITY AND COST

Bunker liner product, and C&S (Comfort and Safety) product for steps, bridges, and cart paths are priced accordingly based on location, size, and square footage, please contact PolylastGolf.com at 480-998-3033 or by email at info@PolylastGolf.com for more information.

7. TECHNICAL ASSISTANCE

Technical assistance may be obtained by contacting PolylastGolf.com at 480-998-3033, or by email at info@PolylastGolf.com.

8. SAMPLES

Samples may be obtained by contacting PolylastGolf.com at 480-998-3033 or by email at info@PolylastGolf.com.

9. MANUFACTURERS UNCONDITIONAL TEN (10) YEAR WARRANTY

The Manufacturer's Unconditional Ten (10) Year Warranty may be obtained by contacting Polylast at 480-998-3033 or by visiting www.PolylastGolf.com.



Polylast Systems, LLC
7342 E. Tierra Buena Lane
Scottsdale, AZ 85260
T: (480) 998-3033
F: (480) 998-3055
Email: info@PolylastGolf.com
Internet: www.PolylastGolf.com



POLYLAST™

BUNKER LINER INSTALLATION GUIDE

Polylast Bunker Liners are prefabricated and delivered ready to lay, it only requires placement of the preformed pads, the seams of which may be stapled and glued together. From start to finish, bunkers of 1,000 sq. ft. or more can be installed, and ready for sand and play in about an hour.

- 1** Remove sand from the bunker.



- 2** Lift the edge of the turf around the bunker if turf goes to bunker edge/liner intercept. If turf is not yet in place, staple bunker liner in place and lay turf over the bunker liner later.



- 3** Starting from the middle of the bunker, unroll the pads and lay them so the edges touch but do not overlap. If necessary, cut pads to fit in shorter runs or to lay end to end for longer runs. Staple and / or glue ends together.



- 4** Place the edges of the pads under the turf that was lifted up in step 2. Cut to size and shape as needed. Replace turf over pad edges.



- 5** Replace the sand. The bunker is now ready for play.



7432 E Tierra Buena Ln. Suite 105
Scottsdale, AZ 85260

Phone | (480) 998-3033
Email | Info@PolylastSystems.com

www.PolylastSystems.com/Golf-Course

Polylast Systems Patent No.: US 8,389,624 B2 issued March 5, 2013



Testing Laboratory
Certificate #1552-01

NML

ISTRC NEW MIX LAB, L.L.C.
• 11372 Strang Line Road • Lenexa, KS 66215 • Phone: 913-829-8873 • 800-362-8873 • Fax: 913-829-4013 • e-mail: roppold@istrc.com •

Page: 1 of 2

Report of Test Results

Report To: Mr. Scott Gibson
POLYLAST SYSTEMS, LLC
Address: 7432 E. Tierra Buena Lane, Suite 105
Scottsdale, AZ 85260

Report Date: October 13, 2017
Date Received: October 10, 2017
Test Dates: Oct. 12
Condition of Sample(s): intact

Re: Product Development
Lab ID & Job Sequence: 17100002 A

BUNKER LINER ANALYSIS

Sample # & Type	Sample Description	Porosity [%]			Angle of Repose
		Lateral Flow ¹ [in./hr. Ksat – 0° Pitch]	Total ¹		
1 L	Polydast Bunker Liner	7,017 [26 gal/hr]	N/A		N/A

¹ASTM F1815

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Comments:

The lateral flow of water was based on zero pitch. The 26 gal./hr. [~7,000 in./hr.] rate would be the slowest rate of flow at zero pitch. The flow will increase as the pitch is increased. The testing was based on a liner that was 0.5 inches thick.

[Note: The opinions expressed in this report are outside the scope of the A2LA certification in accordance with ISO/IEC 17025, as amended from time to time.]

Sincerely,

New Mix Lab

by: Robert S. Oppold, COO
Quality Manager

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1509 East Pulte • Phoenix, Arizona 85024
ph: 602-369-8487 • email: turfsci@cox.net

Gravel Quality Control Analysis

[illegible]

Additional requirements when an intermediate layer is not used:

Selected gravel and rootzone are compatible only if:

1. $D-15_{(gravel)} < 8 \times D-85_{(rootzone)}$ **and**
2. $D-15_{(gravel)} > 5 \times D-15_{(rootzone)}$