



June 14, 2021

Peter Rice, P.E., Director
Portsmouth Public Works
680 Peverly Hill Road
Portsmouth, NH 03801

**Re: Portsmouth Recreation Fields – Turf Infill Information
CMA # 1119**

Dear Peter:

For the turf infill, the City elected to use the Safeshell® product manufactured by USGreentech. Safeshell® is a natural product consisting of a proprietary blend of Black and English Walnut shells grown in the USA. Weston & Sampson reviewed the product data (attached) and oversaw its installation in the Portsmouth Recreation Field in May 2021.

Should you have any questions, please do not hesitate to call.

Very truly yours,
CMA ENGINEERS, INC.

A handwritten signature in black ink that reads 'Philip A. Corbet'.

Philip A. Corbet, P.E.
Project Manager

Attachments:

- Product data for the turf infill - Safeshell®, manufactured by USGreentech



SAFESHELL TECHNICAL DATA SUMMARY

Safeshell is a natural infill crafted from 100% USA-Grown, allergen-free walnut shells.

PHYSICAL PROPERTIES

	Bulk Density	Size Range	Specific Gravity	Allergen Level	Micro-Deval ASTM D6928-10	Absorption ASTM C127	Swell % ASTM D4546	Roundness	Sphericity
Safeshell	44 lbs/ft ³ (705 kg/m ³)	8-20 (2.38mm - 0.841mm)	1.3	<2.4ppm	2.1%	21.3%	0.00%	0.6+	0.6+

Packaging: 2,000lb (907kg) supersacks. Also available in 25lb (11.4kg) bags, 60 bags per pallet.

100% PERCENT GROWN AND PROCESSED IN THE UNITED STATES.

ENVIRONMENTAL PERFORMANCE*

Heavy Metal Analysis			Carcinogenic Review	Flammability	Surface Temperature In same turf, heated for 3 hours		
ASTM F3188 (US Heavy Metal Test)	EN71-3 (EU Toy Standard)	CAM17 (California Title 22 Metals)	California Prop 65	PILL BURN	Wet Safeshell	Dry Safeshell	Dry SBR
PASS	PASS	PASS	PASS	PASS	113°F (30% cooler than SBR)	146°F (10% cooler than SBR)	162°F

PERFORMANCE

Recommended System Performance Data

Turf: Monofilament / slit film 1.75" | 46oz face weight

Infill: 5.0lbs± Round Sand | 1.5lbs± Safeshell

Pad: ProPlay 23, Brock SP14+

Performance Data* (as reported by SportsLabs Report No 91900/1988)

	Force Reduction (%)	Vertical Deformation (mm)	Energy Restitution (%)	355A "Flat" Gmax	Critical Fall Height (m)	Rotational Resistance (Nm)	Ball Rebound (m)	Infiltration (in/hr)	Abrasion Index
Score:	60	6.2	36	115	1.5	36	0.95	87	24
Desired Range:	57-68	4-11	<35	85-125	≥1.3	27-48	0.6-1.0	≥14	

Test results above were conducted with ProPlay 23 over concrete.

* Formal results for these tests are available upon request.

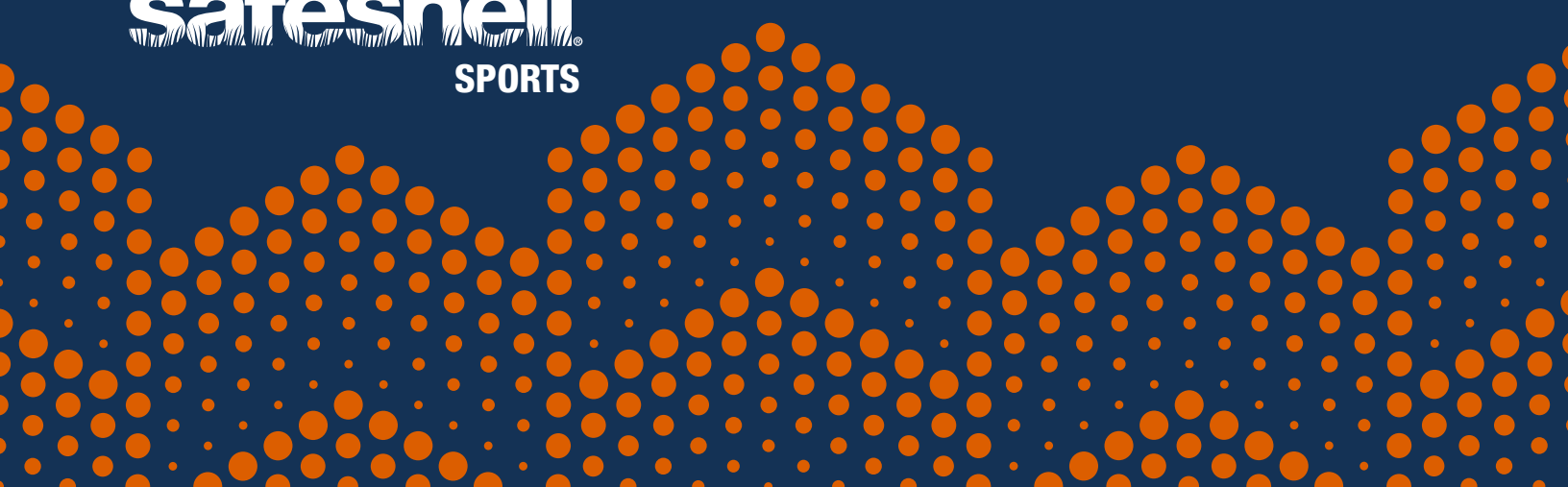


USGreentech

EVERYTHING YOU LOVE ABOUT A NATURAL INFILL.

Without the hassle.

safeshell
SPORTS



A NATURAL PRODUCT That's Also Low Maintenance



“ In the first six months, Safeshell has lived up to our expectations as being low-maintenance, durable, and safe. ”

-Keith Estey, The Wheeler School

Safeshell® is the low maintenance organic infill option made of 100% USA-grown walnut shells. Through a patent-pending process, the residual allergens from the nut are thoroughly removed from Safeshell. Safeshell excels at reducing surface heat, creating a firm and fast surface, and ensures peace of mind for all.

Benefits



Low maintenance. Unlike other organic infills, Safeshell stays in place, doesn't breakdown and doesn't change in hot or wet climates. The round shape of each grain helps resist compaction. It doesn't float and plays the same wet or dry.

Naturally durable. The most durable natural infill, Safeshell is made from one of the most dense nut shells on the planet so you won't have to worry about this product breaking down. It doesn't float which means there will be limited migration of the product and it will stay in place. With the 8-year warranty and limited top-off required, you'll be able to always depend on Safeshell.

Cooler temperatures. Safeshell excels at evaporative cooling - the key to a cooler playing surface. Safeshell absorbs water with minimal expansion and then releases it slowly over time to help keep surfaces from heating up too quickly. No water? That's okay, even dry, Safeshell plays cooler than crumb rubber.

Safe. We use a chemical-free process that eliminates residual allergens which remain on the shell after separation of shell from nut. This patent-pending process reduces allergens by 99.9% which is below the FDA limits for allergen-free foods. We partner with an ISO-certified, third-party lab to constantly verify the results.

Safeshell is a 100% natural and domestically-sourced walnut product.



www.safeshellinfill.com

Contact us today at: 800.548.0402

USGreentech

safeshell®
SPORTS