

Weston & Sampson®
When it's essential.

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Artificial Turf Basics

- Pros and Cons
- Construction
- Health Issues/Fill Materials
- Safety/Gmax

Artificial Turf - Pros

- Increased Usage
- Low Maintenance
- Uniform, Attractive Surface
- Engineered System is Safer
- Playable Soon After Heavy Rainfall

Artificial Turf - Cons

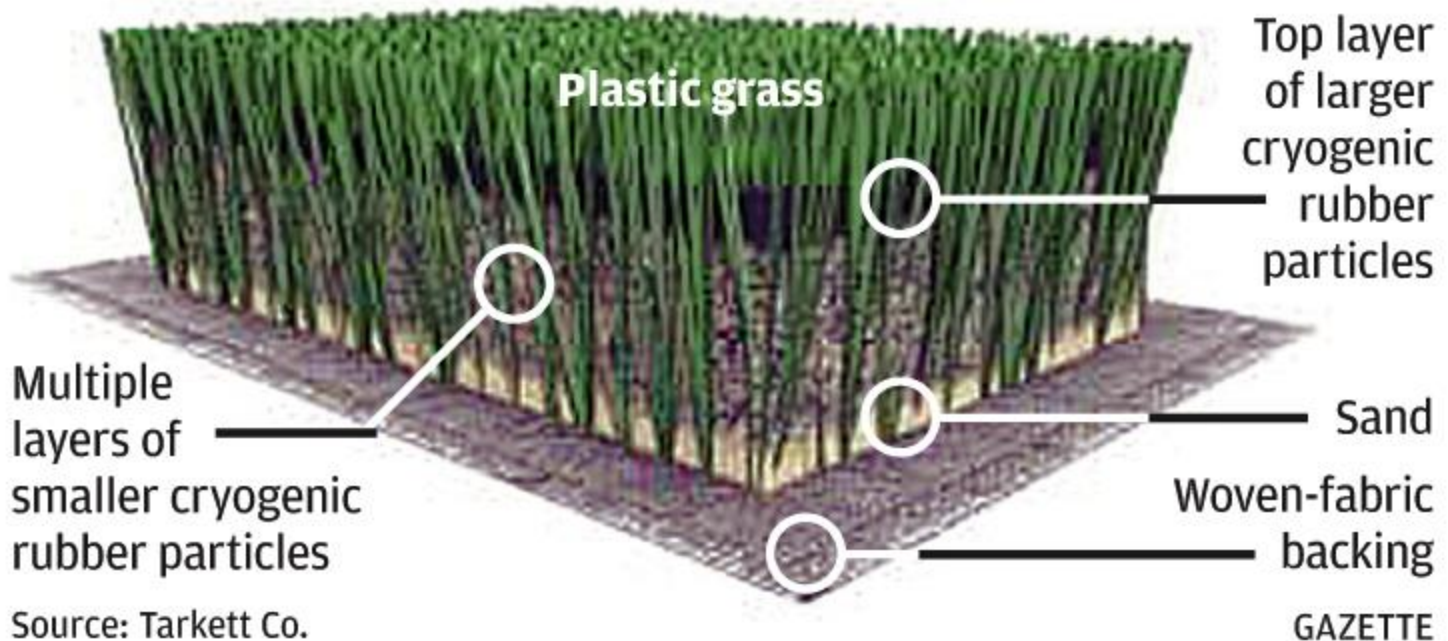
- High Capital Cost
- Perceived Health Issues
- Lifespan – 12 to 15 years (recyclable)



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What's in Field Turf?

An artificial turf field like FieldTurf is made up of plastic grass fibers held in place by up to 21 layers of different-sized cryogenic rubber particles and sand.



Source: Tarkett Co.

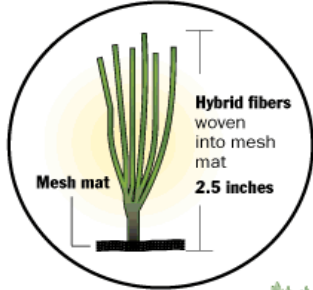
Classic HD



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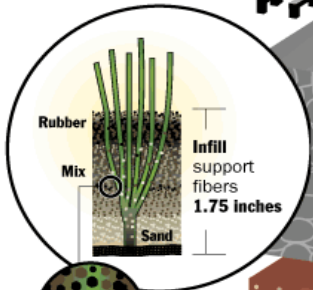
THE SYNTHETIC GRASS

The hybrid fibers are a polyethylene and polypropylene blend that are woven into a porous mesh mat. Each blade is UV-coated and placed to look like real grass. The blades can withstand extreme temperatures and are more durable than natural grass.



THE INFILL

The graded silica sand and finely ground rubber mimics natural earth, holding up the synthetic blades. The loose infill is spread between the blades in layers, and can be kicked up as an athlete runs over it.

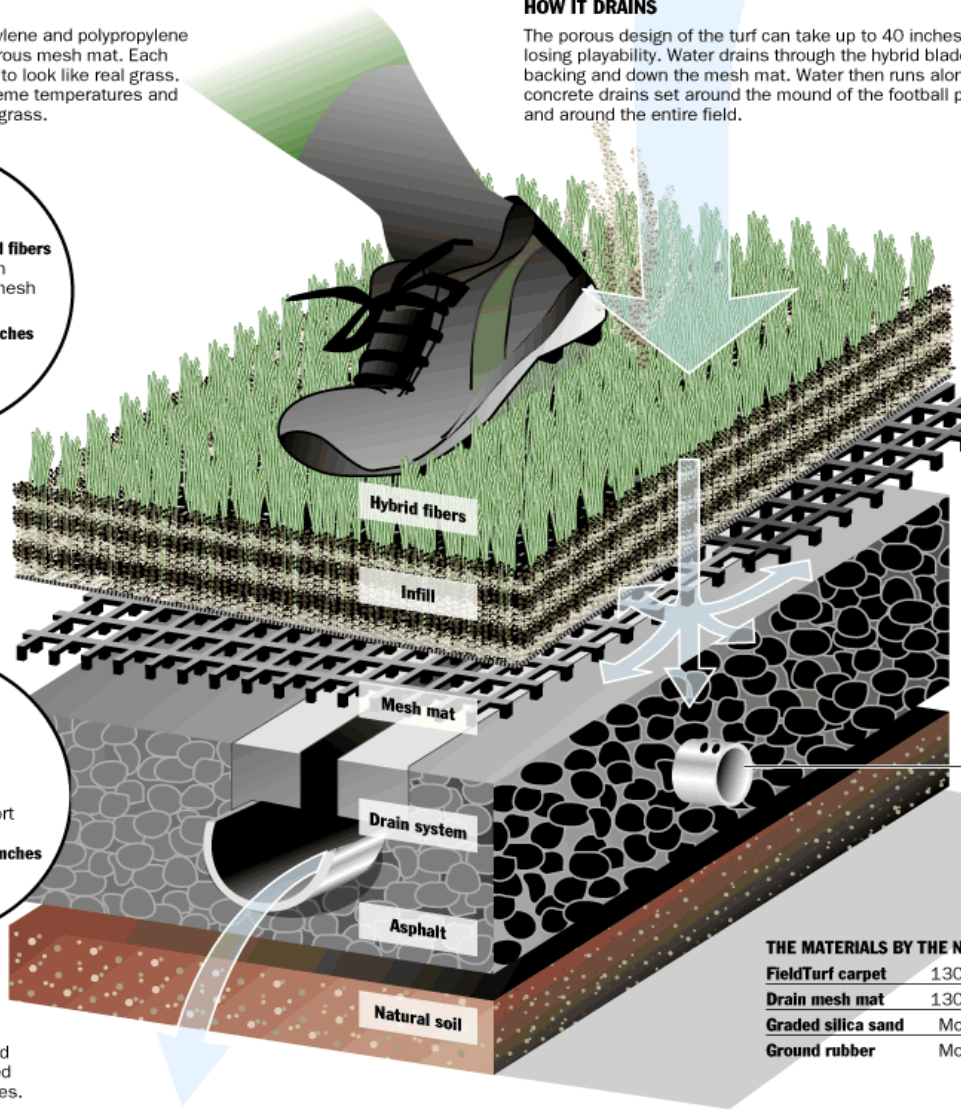


Sand
Graded silica sand from China

Rubber
Finely ground from recycled athletic shoes.

HOW IT DRAINS

The porous design of the turf can take up to 40 inches of rain without losing playability. Water drains through the hybrid blades and its backing and down the mesh mat. Water then runs along asphalt to concrete drains set around the mound of the football playing area and around the entire field.



WHAT HAPPENS TO THE ASTROTURF?

Some of the 2-3 acres of AstroTurf will be donated to public schools on a first-come, first-served basis.

INTERLOCKING TILES

Interlocking tiles are 5/8 of an inch high. This height creates an opening between the mat and the concrete allowing water to drain in all directions.

Drain pipes are placed four feet apart

THE MATERIALS BY THE NUMBERS

FieldTurf carpet	130,000 square feet
Drain mesh mat	130,000 square feet
Graded silica sand	More than 200 tons
Ground rubber	More than 200 tons

Health Issues

- Crumb Rubber
- Heat During Play
- Impacts of Various Infills

- Alternate Infill
- Colored Rubber
- Specialty Mixes
- Estimated Add \$35,000



**SBR CRUMB RUBBER
"CoolFill" FOR
SYNTHETIC TURF**



CRM CoolFill is produced from 100% recycled tires for the beneficial use in synthetic turf athletic fields, playgrounds, municipal parks, golf courses and landscaping. CRM CoolFill is painted green with a water based colorant and it is designed to conserve water and reduce maintenance as well as offer an environmentally friendly alternative to natural turf and provide many benefits to the communities that utilize these fields.

Benefits

- Environmentally friendly
- Produced from 100% Recycled Tires
- Eliminate Water Usage
- Longer Lasting
- Extends the fields playing ability
- Can reduce player injuries

Uses

- Athletic Fields
- Playgrounds
- Municipal Parks
- Golf Courses
- Residential Landscaping



Color

- Green

Sizes

- Standard Infill sizes, including 10-20 mesh

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CRM SBR SYNTHETIC TURF INFILL

- Alternate Infill
- Organic Mix
- Estimated Add \$225,000



Product Summary Greenplay is the organic infill option for synthetic turf fields that enables them to look, feel and perform like natural grass that is perfect for all sports. Greenplay is the next generation of the proven cork & coconut infill technology introduced into the market in 2008 that has since been utilized successfully in over 400 fields for professional sports, schools, & municipalities with verified results for over eight years now. This environmentally sustainable, highly permeable, 100% recyclable infill has proven to reduce turf temperatures up to 65 degrees, reduce G-Max levels, increase foot stability and reduce energy restitution with proven durability for the life of the field. Greenplay allows compliance with all ecological and environmental parameters because it is produced from natural and certified materials with a natural resistance to mold & fungus. Greenplay is endorsed by the National Green Energy Council as a sustainable product, adhering to a strict code of conduct for environmental responsibility.

SPECIFICATIONS	
Origin	Sustainable and natural select virgin plant materials
	No chemicals added
Composition	A select, high tensile strength coconut fiber matrix blended with ground virgin cork
Resistance	Heat, mold, abrasion, UV, compaction & degradation
Color	Brown- natural earth tones
Granulometry (mm)	0.35 – 7.0
Bulk density (lbs/cu.ft.)	<12



Optimal performance range of moisture- 50%
The use of Greenplay in synthetic turf will typically reduce field temps to within 20° of natural grass!



This Product is Endorsed by the National Green Energy Council as an ECO Friendly Product. Please visit our website at www.greenenergycouncil.com

www.GreenplayUSA.com
 ph: 212-904-1223 dc@greenplayusa.com



- Alternate Infill
- Virgin Plastic
- Estimated Add
\$235,000

TTII PRO-MAX 37 TPE INFILL

"Former Futfill"

Today's best choice for tomorrow's future!

A completely recyclable/reusable/non-flammable artificial turf infill product, ranking it the most sustainable & environmentally conscious infill material on the market

REUSABLE ■ RECYCLABLE ■ SUSTAINABLE

- PRO-MAX 37 TPE infill is designed to help ensure child, athlete and environmental safety
- North American made with 100% virgin polymers. No toxic fillers, no heavy metals and no chemical leaching keeping water wells and storm water safe
- The TPE base compound used in PRO-MAX 37 TPE is the same polymer that is used in many food contact and medical applications
- Through independent testing, PRO-MAX 37 TPE fully meets criteria set out by California's Prop 65
- Based on flame-retardant ASTM E648 testing, PRO-MAX 37 TPE passed a class 1 rating. Safe for both indoor and outdoor applications
- It would take a temperature of 239° F before stability loss or the beginnings of melting point would occur
- PRO-MAX 37 TPE is colorfast, UV resistant, odorless and the specific color chosen reduces temperature at field surface level versus darker infill options
- PRO-MAX 37 TPE is durable and dust free. The pellet shape safeguards against degradation ensuring longevity as well as less infill fly out. PRO-MAX 37 TPE excels in GMAX systems.
- PRO-MAX 37 TPE is manufactured under the strictest guidelines of ISO 9001
- 8 year manufacturer's warranty

<< For use in the synthetic sportsfield industry, residential or municipal landscaping, parks and recreation, airport tarmacs or any other synthetic grass applications >>

TEST REPORTS AVAILABLE at www.ttionline.com :

- Prop 65 Test
- Metals Leachate Test Report
- Radiant Heat Panel Test
- Thermal Stability Test
- Technical Data Sheet
- Manufacturer's Warranty
- UV Test Report



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Weston & Sampson

- Alternate Infill
- Cork
- Estimated Add \$150,000+

WHY CORK ?

RESILIENCE

PureFill cork is a very resistant substance of strong durability. It is considered an unalterable and imperishable material. Due to its membrane flexibility, the cells in PureFill cork function as microscopic air cushions which regain their shape once compressed.

HEAT REDUCTION

Studies show that even a small top layer of PureFill cork infill applied to a synthetic turf field can reduce the surface temperature significantly. Cork's low thermal conductivity due to its natural structure will keep the turf cooler.

SHOCK ABSORPTION AND ATTENUATION

FieldTurf's PureFill infill systems all exceed excellent shock absorbing properties, having met or exceeded industry standards for immediate and long-term player safety. The PureFill cork material combined with silica sand provides the good impact attenuation that helps keep fields safe.

UV RESISTANCE

The Suberin component of PureFill provides impermeable properties which allow cells to fill up with air and take on a strong insulating and protective ability.

CLEANLINESS & HEALTH

The Suberin component of cork is anti-microbial and anti-allergenic and will repel pests, mold and prevent cork from rotting. It therefore has a strong hygienic value and is completely recyclable.

WHY CHOOSE CORK OVER THE OTHER ORGANICS?

- 1 NO WATER REQUIRED**
Traditional coconut based organics require expensive irrigation systems to maintain moisture levels. Not cork.
- 2 NO FILLER**
Traditional organics use "husk" filler to reduce cost. A cork only system ensures that you get only top quality material and no filler.

Safety

THE IMPORTANCE OF *G*-MAX

G-max represents the shock absorbency on a turf field.

Over time, turf can become hard due to compaction and infill loss, which increases g-max.

Higher g-max = unsafe playing surface

Gmax Values

Examples of Some Typical Gmax Values (Based on ASTM F-355, hh A)	
Gymnastics Mat	30 to 60
Infill synthetic system with 100% rubber and shock pad	80 to 100
Infill synthetic system with 100% rubber and no shock pad	90 to 125
Uncompacted, pristine natural turf athletic field	100 to 130
Traditional carpeted synthetic field with pad on asphalt	100 to 150
Infill synthetic system with 75% 25% rubber; sand	105 to 145
Infill synthetic system with 50% 50% rubber; sand	120 to 180
Infill synthetic system with 25% 75% rubber; sand	160 to 185
Infill synthetic system with 100% sand	160 to 185
Carpeting and padding over wood	200 to 300
Football helmet may fail impact energy management	> 300
High density rubber floor mat on concrete floor	300 to 400
Compacted or frozen natural turf	400 to 500
Concrete floor	> 1000

Gmax Test

- ASTM
F1936 &
F355



Thank You

Weston & Sampson®

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