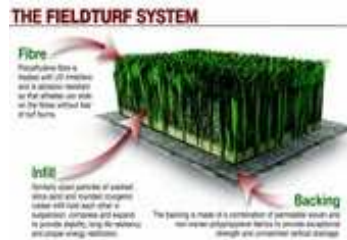


Turf Field Maintenance, Health & Injuries Q & A

What is it made of?

- The “grass” portion of an artificial synthetic turf field is made from polyethylene monofilament fibers molded to resemble the look and feel of natural grass.
- The fibers are grouped into batches and attached on a woven porous synthetic backing that allows even drainage.
- Typically it is set in a bed of silica sand and tiny rubber particles (referred to as infill) made by freezing recycled tires and smashing them into uniform spherical particles.



How does it drain?

- Water flows through the silica and rubber particles, through the base and into the ground in a uniform pattern.
- Because of the synthetic substance and the uniform drainage no mud or soft spots are created during drainage.
- Similarly, the uniformity of the surface and the absence of ruts greatly reduces the instances of standing water.

How is it maintained?

- Synthetic fields require regular maintenance with specially designed vacuums and brooms.

Do synthetic fields require chemicals for maintenance?

- No. Unlike natural turf fields, synthetic fields require no chemical, fertilizers, or pesticides.

Is there any health risk from the use of silica in the base of the field?

- The silica particles used in the base are typically larger than the size that can be absorbed by human lungs.
- Playing on a synthetic field with a base containing silica is no more dangerous than lounging at a beach.

Is there a health risk from the use of recycled tires to make the rubber particles used in the base?

- Multiple studies, mostly in Europe, have concluded that there is no health risk from the use of the recycled tires.
- The Sports and Play Construction Association in England, after reviewing existing academic and industry studies concluded that “because tire rubber is designed to be strong, durable and substantially impermeable, it is unlikely that any losses could occur to air or water in concentrations that would pose serious human or environmental risk.”

Do synthetic fields get hotter than a natural field?

- Unlike natural grass fields, synthetic surfaces absorb heat, rather than reflect it. With peak sun, they can be much hotter than air temperature, and much hotter than natural fields.
- However, heat is unlikely to be a major factor in spring and fall use, when air temperatures are cooler than summer.
- Additionally, because of their absorption rate and fast drainage features, synthetic fields can be cooled down significantly by being watered prior to use.

Do synthetic fields cause or prevent sports related injuries?

- Neither.
- The most definitive study comparing the incidents of high school football injuries on natural and synthetic fields concluded that the number of injuries was comparable.
- However, the study, conducted by the Human Performance Research Center, at West Texas A&M University and the Panhandle Sports Medicine Associates, found a significant difference in the type of injuries sustained on each surface.

What injuries were more common on synthetic surfaces?

- The study found that injuries occurring on synthetic surfaces tended to be noncontact injuries (i.e., running/sprinting), surface/epidermal injuries (i.e., rub burns), and muscle-related trauma (i.e., muscle strains and spasms).
- These were attributed, although not conclusively, to the higher speeds athletes can achieve on the more uniform and stable synthetic surface.

What injuries were more common on natural surfaces?

- The study found that injuries occurring more often on natural surfaces included concussions, ligament tears, and ACL related injuries.
- These were attributed, although not conclusively, to the inconsistent nature of natural grass surfaces caused by potholes and ruts.