Experts spell out the true cost of synthetic turf maintenance

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By: Lynne Brakeman
Athletic Turf News

Detroit — Maintaining synthetic turf systems is not as inexpensive or as "labor free" as some people may have been lead to believe.

That was the take-home message from the Michigan Sports Turf Managers Association's (MISTMA) May 11 Synthetic Turf Infill Maintenance Seminar held at the Detroit Lions' practice facility in Dearborn, MI.

About 75 attendees represented the entire spectrum of job titles that typically get involved in athletic field management in schools, universities and park systems: from custodians right up through athletic directors.

You could tell the AOs because they were the ones with the cell phones glued to their ears at every break.

Attendees were treated to a compressed introduction to synthetic turf systems. Along the way, they got some tips on painting synthetic surfaces from a vendor, met with regional equipment and supply vendors and got a tour of the Lions' three-year-old, multi-million dollar practice facility and its state of the art grounds shop.

The architect/builder

Bruce Lemons founded Foresite Design in 1990. His firm plans and builds athletic facilities. He has designed many synthetic infill system fields for schools and parks around Michigan. Lemons was a founding member of the Synthetic Turf Council (STC) which is creating voluntary industry standards for synthetic infill system manufacturers. He said STC is also

Outside Contractor Maintenance Charges

<table>
<thead>
<tr>
<th>Service Type</th>
<th>Cost</th>
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<tbody>
<tr>
<td>Consultation</td>
<td>$1,200</td>
</tr>
<tr>
<td>and/or Training</td>
<td>$3,000</td>
</tr>
<tr>
<td>$1,200 to $3,000 per day plus expenses</td>
<td></td>
</tr>
<tr>
<td>Repairs</td>
<td>$50 to $70 per linear foot</td>
</tr>
<tr>
<td>$50 to $70 per linear foot</td>
<td></td>
</tr>
<tr>
<td>Crumb Rubber</td>
<td>$5.00 to $1.00 per pound applied</td>
</tr>
<tr>
<td>$5.00 to $10 per pound applied</td>
<td></td>
</tr>
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The Detroit Lions' Headquarters and Training Facility cost $35.5 million and opened in 2002. The 469,000 sq. ft. complex includes a full-size indoor synthetic turf practice field, 2.5 outdoor practice fields, an auditorium and (of course) lots and lots of amenities for the players. MISTMA members got to tour the facility on a brisk but beautiful spring day.

The publicity over the incidence of staph infections has died down, but lots of professional teams, universities and high schools are treating their synthetic turf fields with anti-microbial products. A field manager we know says he does his to "cover his _ _ __." You can fill in the blanks. These treatments aren't cheap, typically in the range of 10 cents per sq. ft. for product. What do you think?

The threat is real and the cost is justified
I'm not sure, but we treat anyway
If I get more proof of a problem, we'll treat
Lots of hype, but no convincing evidence yet

dick to vote

FIELD MAINTENANCE

- We want it green, but clean too
- ToolCat utility vehicle does it all
- PGMS branch tours Great American Ball Park
- Turf conditioning 'heats up' on NFL fields
- Toro 'Super Bowl' deadline Oct. 16
- Fines help but cooperation the real key
- New law targets resident geese
- Toro adds deep-tine aeration line
- Underhill long-throw sprinkler designed to syringe synthetic and natural turf
- Turf-Tec redesigns precipitation gauges
- Toro, NIAAA team to fix softball field
- Baseball at Busch and beer at $7.25 a bottle
- Keep America Playing Tour visits K.C. and Washington D.C. in October
preparing position papers to answer frequently asked questions about synthetic infill system construction and maintenance.

Lemons showed slides of the synthetic field construction process. He warned attendees planning on installing new infill systems to make sure the contract requires testing the carpet material before the manufacturer sends it out to a finisher to apply the latex or polyurethane backing.

"You have to have the results before it is shipped to you," Lemons said. "Because if it's not to spec when you receive it, you will end up in negotiations with the manufacturer."

Lemons said his experience has shown that after a few years, the Gmax values (a measure of hardness) can vary quite a bit in different parts of a synthetic field. Since the consistency of the surface is very important to the safety of athletes, Lemons said his company is changing its specifications to stipulate that the Gmax values over the entire field must remain within plus or minus 5%.

Lemons passed around a 2 in.-thick piece of dense "e-layer" shock absorption pad manufactured from recycled rubber and urethane. Although it increases the initial cost of an infill system, many experts recommend paving a seamless e-layer over the asphalt or gravel base prior to laying synthetic turf. The substance is installed just like an athletic track and provides an extra cushion for the surface.

Lemons said new monofilament fiber technology is on the horizon that will offer better wear and performance characteristics and a longer guarantee than the current slit-film technology.

The university athletic turf manager

Amy J. Fouty, CSFM, athletic turf manager for Michigan State University (MSU), currently supervises the Astroplay indoor practice field at Duffy Daugherty Football Building and a modular natural bluegrass field at Spartan Stadium. In her previous position at the University of Michigan, she managed a Field Turf infill system. Fouty believes synthetic systems have a definite place in an athletic field manager's toolkit.
"However, safety is our first priority," she said. "There are concerns with regard to the safety of the products used to make the fields, as well as with how to clean and disinfect synthetic infill fields. Synthetic infill manufacturers need to get information and solutions out to the people who have to deal with these issues on a daily basis."

Fouty said her three main concerns are:

- Safety (stability and footing)
- Playability (consistency and confidence)
- Aesthetics

Fouty prefers sewn seams to glued seams because they are stronger, more flexible and last longer. When it comes to line markings, she recommends spending the money to tuft-in as much as possible.

"If you paint lines, the first time you groom over the lines the product spreads over the field. The dried paint is abrasive, slippery and the lines don't look good very long," she said.

Fouty had her crew manufacture a field magnet that can be dragged over the field once or twice a year to capture metal objects that get tossed or dropped. And, for the first few years, static control is a problem that requires a spray of diluted fabric softener.

"It also takes away the old tire smell," Fouty said. "Without the fabric softener, our indoor facility smells like old tires and locker rooms."

The meat of Fouty's presentation was a break down of the maintenance budget for MSU's indoor practice field. You could see field managers scribbling notes as she listed the actual maintenance equipment needed, typical costs for outside contractors and cost for materials and labor for regular field grooming. Bottom line: MSU's field costs nearly $23,000 a year to maintain.

<table>
<thead>
<tr>
<th>Synthetic Turf Maintenance Equipment</th>
<th>Cost Range</th>
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<tbody>
<tr>
<td>Boom Sprayer</td>
<td>$1,000 to $35,000</td>
</tr>
<tr>
<td>Sweeper</td>
<td>$1,500 to $20,000</td>
</tr>
<tr>
<td>Broom</td>
<td>$500 to $3,000</td>
</tr>
<tr>
<td>Painter</td>
<td>$500 to $3,000</td>
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<tr>
<td>Groomer</td>
<td>$1,500 to $2,000</td>
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<tr>
<td>Cart (to tow equipment)</td>
<td>$2,500 to $16,000</td>
</tr>
<tr>
<td>Field Magnet</td>
<td>$500 to $1,000</td>
</tr>
<tr>
<td>Rollers</td>
<td>$250 to $2,000</td>
</tr>
<tr>
<td>Total</td>
<td>$8,250 to $82,000</td>
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The professional field manager

Charlie Coffin, sports field manager for the Detroit Lions, shared stories about the challenges of managing a synthetic infill system at Ford Field, a $500 million multi-use professional facility that opened in August 2002. The facility was designed to host up to 120 events a year, including Detroit Lions football games, other sporting events, concerts, banquets, tradeshows, business meetings and conventions. For its first year alone, planners expected 1.5 million people to attend events at Ford Field.

"We were sold these fields on the basis that there would be no maintenance," Coffin said. "That just wasn't true."

Coffin said planners decided the covered field didn't need a drainage system. But with no rain to flush through the infill system, contamination has become a worrisome issue. What to do about erasing paint lines alone has become a major headache. Because so many types of sports are played on the field, Coffin is painting and erasing lines every week of the year.

During one event, Coffin noticed that the opposing team had set up a tent along the sidelines. It turned out, rather than take a long walk to get to the bathroom, the players were using the tent as cover and peeing right onto the field.

With events as diverse as flea markets and marathons, Coffin says he can quickly fill a magnet with the junk that gets dropped on the field. Covering the field for events like rock concerts has been another adventure. Coffin discovered that laying down plywood meant the field got filled with wood splinters that had to be picked out by hand.

Coffin recommended the field managers be sure and cover areas that would get heavy foot traffic with canvas.

"But, Lord help me! Do not use duct tape," he exclaimed. "We taped a sideline tarp down once. In order to get the glue off the turf we sat on our hands and knees rubbing Goof-Off® into the fibers."

Despite the hairy stories of trial and error, Coffin, like Fouty, said he has gained respect for synthetic turf systems.

"This synthetic indoor field has made our outdoor facilities better," Coffin said. "When it rains, they go inside. That improves the main field. As a grass guy, I didn’t really want a synthetic field at first. But it’s been good for us. In fact, we’re now thinking about installing an outdoor synthetic field."

Experts spell out the true cost of synthetic turf maintenance - Athletic Turf
This water recycling station cleans and filters the water used to clean mowers and vehicles.

These filters capture grass clippings, dirt, fertilizer and other contaminants from the reclaimed water before it is recycled.

More than 75 athletic field managers and athletic directors learned a lot at MISTMA’s 2005 Synthetic Infill System Maintenance Seminar.

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