References

Toyota Park



Uponor involvement

Project highlights

- Fourth major soccer-specific field in the United States
- Features an Uponor turf-conditioning system
- Warm fluid circulates through PEX tubing buried underground
- Keeps playing surface in excellent condition year-round

Products used

- 85,000 square feet
- 142,800 feet of ¾" Wirsbo hePEX™ tubing
- 168 loops at 850 feet per loop
- ProPEX® fittings

Toyota park features Uponor PEX turf conditioning system

See how our turf-conditioning application using Wirsbo hePEX™ provided a chilly mid-western soccer stadium with...
Toyota Park, the fourth major soccer-specific field in the United States, features a state-of-the-art Uponor turf-conditioning system that keeps the playing surface in excellent condition year-round, no matter the weather or temperature. The system circulates a warm, water-and-glycol mixture through PEX tubing buried underground. The intent is to warm the root zone beneath the grass so the playing surface remains soft and forgiving to falling players, even at sub-freezing temperatures.The radiant heating system consists of roughly 28 miles (nearly 150,000 linear feet) of ¾" Wirsbo hePEX™ tubing, that serpentines from end zone to end zone, eight inches on center and ten inches below the 200-foot by 425-foot playing surface. The only connections are at the copper manifolds, positioned at the south end of the field, where each PEX loop begins and ends -- thus removing potential service issues to outside the playing area. The copper headers are fitted with stub-outs at the factory for making the PEX connections, saving substantial time on the job site.

Project Facts:

Location	Completion
US - Midwest, Illinois	2006

Application categories

Hydronic Heating & Cooling

Project Type

New building

PEX turf conditioning preserves natural turf all year long

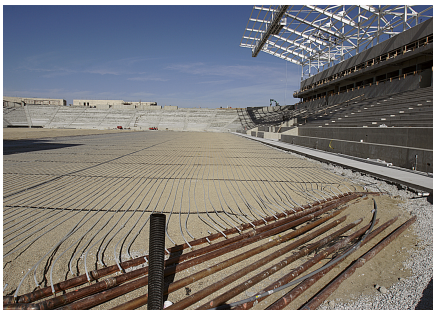
Four heating zones

Like the interior of a home or a large office, the field is segmented into four heating zones, also running the length of the field from goal to goal. Each zone contains 42 loops and two temperature sensors that sit within underground boxes connected to one another with plastic conduit. If any underground sensors ever need to be repaired, all eight are on a GPS (Global Positioning System), according to Bennett, enabling service personnel to pinpoint the positions of the underground boxes to within 18 inches. “We also provide a complete photo log of the boxes’ installation, which should also help in locating them,” he says.

On sunny days, the demand for warmth varies from zone to zone, depending on the position of the sun. The sensors in each zone communicate an average demand back to a series of control valves, which modulate the flow of warm water in response. The objective is to keep the root system at a consistently comfortable 65°F, says Bennett. “The field is warm and moist enough that it can actually grow grass in December or even January,” he remarks. “The freezing point for the glycol mixture is minus-25 degrees, so the system can be filled with fluid year-round, without the hassle and expense of draining and re-filling it prior to each season.”

Toyota Park









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Uponor North America

Uponor North America
5925 148th Street West
Apple Valley, MN 55124

General: 800.321.4739
Fax: 952.891.2008

W www.uponor.com