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Sports Surfaces

Serve a Winning Court

Tennis Surface Innovations

By Ron Fenhaus

In the United States, tennis continues to be a popular activity, exhibiting the strongest growth from 2000 through 2010 for traditional sports based on Tennis Industry Association (TIA) research. The Tennis Industry Association continues to support player growth efforts with programs such as "Cardio Tennis" and "QuickStart Tennis" for players age 10 and under. While the game of tennis is enjoyed by players of all ages, certain factors can limit the frequency of play, including injury and access to courts. When considering how to increase frequency of play at your facility, the availability of player-friendly courts should be a top priority.

For generations, courts in the United States have traditionally been constructed of asphalt or concrete, generally covered with a painted surface—hard with no forgiveness. But during the past 20 years, athletic surfaces have experienced dramatic technological improvements, driven by the inclusion of performance testing for shock absorption and uniformity. Most sports (indoor and out) have taken advantage of sport surface performance improvements and now are played on surfaces with markedly improved player well-being characteristics. The athletes' well-being and comfort are at the heart of EN and DIN performance testing criteria, recognizing the importance of the playing surface for the safety of the user. Hard surface tennis courts provide no resiliency and pound a player's body, allowing impact repetition to knees and ankle joints. This impact repetition contributes to back and leg fatigue that can lead to player injuries.

So why have tennis players and the tennis industry ignored playing surface innovations? Is it a perception that a user-friendly surface will not deliver the speed/rate of play desired? The latest generation of monolithic pad-and-pour performance urethane tennis surfaces offers an ITF Category 4 Medium Fast surface that will meet the rate-of-play expectations of almost every recreational and competitive player, along with many professionals. Based on ITF Court Pace Rating (CPR), "studies have shown that only very high level players (4.5 or 5) can perceive pace accurately and even they cannot accurately determine pace on certain surfaces such as grass, or for certain strokes or types of serves, such as those with significant topspin." For the vast majority of players, a blazingly fast, hard and unforgiving court is not going to benefit their game or enhance their playing experience.

While urethane surfaces are not new to tennis and it has long been recognized that they offer superior lifecycles once installed, the drawback has been the installation process, considered complex and expensive because the surface layers were spray applied. Additionally, older generation urethane systems posed environmental concerns due to their high VOC emission levels.

Today's newest urethane systems are seamless pad-and-pour designs that are equally at home indoors or outdoors. The surface coatings have excellent color fastness and are resistant to UV breakdown. The system build-up starts with a 4-millimeter to 9-millimeter recycled rubber mat glued down with a urethane

adhesive to the asphalt or concrete surface. The rubber mat is then sealed with a urethane pour filled, and then a 1.5-millimeter two-part urethane wear layer is poured across the surface. The urethane tennis surface is then squeegee-applied and finally the courts are lined.

These high-performance systems are formulated from low-VOC and waterborne components that meet all federal VOC requirements as well as architectural LEED criteria. For durability and longevity, urethane seamless pad-and-pour courts provide elongation, shear and impact resistance that cannot be matched by acrylics. All are critical characteristics for keeping courts looking their best, resisting racket hits and chips, and minimizing surface crazes or spiders as the surface ages.

These new two-part urethane tennis systems may rewrite how existing courts are renovated. Cracks and birdbaths can be filled and leveled with two-part urethane. The urethane has excellent compression and elongation properties and will resist reappearing. From there, installation follows the normal process and the recycled rubber base mat is glued down. The repaired defects below will not telegraph though to the surface through the rubber base mat, ensuring a quality, athlete-friendly, cushioned court renovation. This court renovation can eliminate the need for an asphalt surface retopping and the associated cost of removing and resetting the fences, a real budget saver!

Whether a for-profit club or a municipal facility, increasing the number of frequent players should be a standing goal. Achieving that goal results in improved facility utilization, budgets and revenues. A urethane pad-and-pour court system incorporating a 9-millimeter base mat would provide a user playing on the court 32 percent shock absorption along with 66 percent energy restitution. Offering a playing surface that is user-friendly will assist in increasing demand and the number of frequent players at your courts. If you are willing to drive across town to go to your favorite restaurant or sporting goods store, it stands to reason that frequent tennis players will drive, bike or walk to get to their preferred court. The question is—will it be yours?

ABOUT THE AUTHOR

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