

Hardness testing is essential after construction

By Sam Ferro

When constructing a new artificial turf surface there are, of course, many items to consider. While most construction related matters should be dealt with during contract negotiations or during construction, one very important factor needs to be taken care of right after the field has been installed. Field hardness testing (Gmax) is recommended by the Synthetic Turf Council, manufacturers, and turf experts for all new artificial turf installations. Hardness testing should be performed on-site after the infill has been added to the turf system.

Maximum allowable Gmax results or an acceptable range of results should be part of the architect and/or manufacturer specifications. Hardness testing is one of the final steps in the approval of a newly installed field. Results from another field or lab test results should not be used. Testing procedures must use the equipment and techniques detailed in ASTM method F 355A. A Clegg hammer is not acceptable for hardness testing on a synthetic field.

Gmax measurements provide an indicator of the shock attenuation or hardness of a surface. While this test measures field performance, it can also be related to safety. The impact from a fall is either absorbed by the player, equipment, or the field. Fields that are too hard can present an elevated risk of injury to the users. Fields that are too soft can present player performance problems.

Studies, including one by Northwestern on impacts to the head of a middle linebacker, show that a Gmax value of 200 should be the maximum threshold to provide an acceptable level of protection to users.

The turf industry has in general accepted a Gmax value of 200 as the maximum acceptable reading for an older synthetic field. New fields, however, should have much lower readings. Typical acceptable values are in the 90-150 range. These Gmax ratings are comparable to those obtained from good quality natural turf, and they allow for gradual hardening of the field over time.

Hardness testing performed immediately after field installation does not just provide a performance indicator. It also shows that you are

performing due diligence to provide an acceptable playing surface for your athletes. This can be very important in case of an unfortunate accident. Annual or routine maintenance testing after construction provides data for determining warranty compliance and for diagnosing or preventing problems. Proper construction, maintenance, and testing are all essential pieces of the puzzle for providing a safe, high performance field.

Sam Ferro is the President of Turf Diagnostics & Design. He can be reached at sferro@turfdiag.com. ■



Continued from page 14

Interestingly, Moore said GreensGroomer sells their synthetic maintenance equipment by the container full to overseas customers.

FieldTurf's recommendations

Troy Squires, VP Marketing for FieldTurf Tarkett, says his company provides a maintenance manual to all clients, and that by following the maintenance procedures outlined in that manual, their fields will be kept in optimum condition and playing characteristics will be maintained longer. Squires says there are two key areas when it comes to maintenance: litter removal and fill displacement.

FieldTurf leaves an estate sweeper with each field sold, which is designed for litter removal, e.g., peanut shells, paper, confetti etc. This kind of sweeping activity should be done on an "as needed" basis, but generally once a week during heavy use.

FieldTurf has a very heavy fill of sand and rubber that is unlikely to float, even in heavy rain, says Squires, but routine grooming of the field will assure that the infill is uniformly distributed at all times over the entire field surface. Intensive and repetitive use of certain areas of the field such as the kicking action of the players may cause the infill material to be displaced. ■