

# THE SCIENCE BEHIND THE SURFACE



## WHAT IS BALL ROLL?

The ability of synthetic turf to influence ball-turf interaction of the ball rolling on the surface is measured as ball roll. Ball Roll is the distance a ball rolls on synthetic turf in meters when released from a height of one meter. The ball-surface interaction of the turf is directly related to the distance of the ball roll. The results of the test are compared to appropriate performance guidelines.



## HOW IS IT MEASURED?

Ball Roll is measured using a 45° ramp consisting of two smooth parallel rounded bars. The ball transfers from the ramp to the surface without bouncing or jumping. The ball is released from a height of one meter and the distance from the point the ball first comes into contact with the turf to the point below the center of the ball where it came to rest on the turf is measured. The ball roll test is done five times in each direction and the values are averaged.

In field tests, the ball roll is done at multiple locations in four directions (toward each sideline and toward each goal). For lab tests, the test should also be repeated with and against the turf pile to determine the effect of pile direction. According to FIFA, soccer ball roll should be between 4 m and 10 m.

## WHAT DOES THIS MEAN FOR MY FIELD?

Testing Ball Roll is important for sports like soccer, lacrosse, field hockey, baseball, and softball where there is ball /surface interaction. Shaw Sports Turf uses the calculations from this test to carefully engineer a surface that closely mimics natural grass. Having a synthetic turf ball roll that is very close to a natural grass ball roll allows players to react naturally when addressing the ball.

