

# THE SCIENCE BEHIND THE SURFACE

**shaw**  
SPORTS TURF

## WHAT IS BALL ROLL?

Ball Roll is the length a ball rolls on synthetic turf in meters from a one meter drop. The speed of the turf is directly related to the distance of the ball roll. This test is performed in accordance with ASTM standards. The results of the test are compared to the Synthetic Turf Council performance guidelines for the type of field being tested.



## HOW IS IT MEASURED?

Ball Roll is measured using a 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 the top, and a measurement of how far the ball rolls from the ramp is taken. You measure the distance from the point the ball first comes in contact with the turf to the point below the center of the ball where it came to rest on the turf. The ball roll test is done in five different positions, each at least 100mm from the sides of the turf. The test should also be repeated at opposite ends of the turf to assess the influence of other factors such as turf pile pattern. The mean is calculated from all five tests in each direction, and then the mean of the two test directions is calculated. According to FIFA, ball roll must be between 4.0 m – 12.0 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.

