

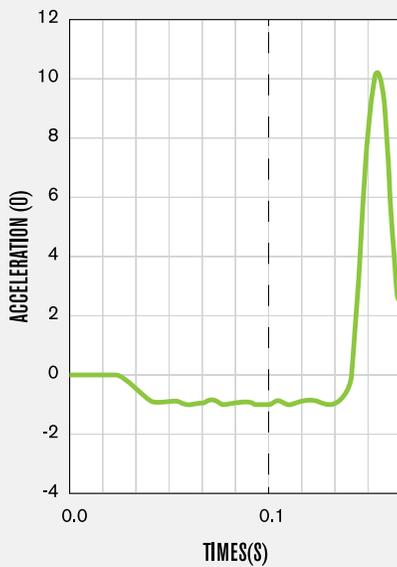
THE SCIENCE BEHIND THE SURFACE

shaw[®]
SPORTS TURF

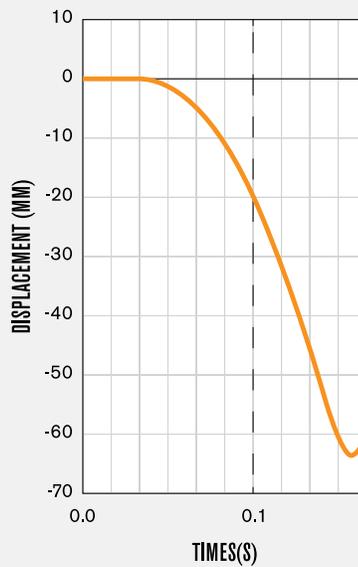
WHAT IS A FORCE REDUCTION?

Force Reduction is the amount of force absorbed by the surface exhibited as a measure of the surface's ability to reduce impact forces. The energy resulting between the contact of the athlete's foot and the synthetic turf surface is either absorbed by the surface or returned to the athlete. A hard surface returns a lot of energy to the athlete; this energy is absorbed by the lower extremity joints.

ACCELERATION VS TIME



DISPLACEMENT VS TIME



HOW IS IT MEASURED?

The Force Reduction of a field is measured using an artificial athlete which drops a 20 kilogram mass from a height of 55 millimeters on to the surface of the turf. A computer records the maximum force of impact on a turf field, and the maximum force generated on a rigid surface like concrete, the results are then used to compute force reduction. High quality fields should have a force reduction value between 60 and 70%.

WHAT DOES THIS MEAN FOR MY FIELD?

A harder surface absorbs less energy which can cause more impact related injuries like concussions. A surface that is soft and absorbs too much energy can result in more fatigue related injuries.

Shaw Sports Turf uses this calculation during testing to carefully engineer our turf surfaces for better safety and performance delivering a playing surface that reacts more like natural grass.