Why shock pads are the safest bet for your field

Informed buyers are getting out of the Stone Age and into the Technology Age. Laying carpet over stone outside was OK ten years ago, but today, systems have evolved to provide better drainage, greater safety, greater longevity, and more environmental solutions to a project. There are many reasons why placing a "pad" under the turf is now the growing trend in the industry for the best quality synthetic turf sports fields:

Concussions are Front Page News

The growing media attention about concussions in sports means that every measure must be taken to ensure the optimum safety of a surface. Using shock pads helps protect the players from injuries that result from hard impacts with the surface, and the owner from liability. Preventing concussions from occurring is far better than treating them after the fact.

Same Safety as Pristine Natural Turf

An optimal *natural* turf field will produce a G-Max of 90-110. A proper synthetic turf field, with at least a 2 1/4" turf built over a stone base, will produce an opening g-max of around 120. But over the life of the turf, the g-max will typically climb to a g-max of 165 or higher. The higher the g-max, the lower the safety. But a synthetic turf field over a quality shock pad will produce 90-100 G's just like natural grass. The reduction in the likelihood of severe head injury between a 100 G field and a 165 G field is 50%. Using a shock pad under the turf means you don't have to sacrifice safety for performance.

Injury / Symptom	AIS Degree	1 Minor	2 Moderate	3 Major	4 Severe	5 Critical	6 Survival Uncertain
Headache, Dizziness							
Loss of Consciousness							
Skull Fracture							
Neurological Damage							
Hemorrhage							
Brainstem Damage							
Brain Tissue Disruption							

FIFA Performance Measures

Concussions are not the only safety concern with synthetic turf fields. Cartilage, ligaments, tendons and muscles are also susceptible to injury if the performance of a synthetic surface is not properly calibrated. Much of the FIFA testing for fields is related to surface performance, and is designed to measure the properties of a synthetic turf surface as compared to the typical values achieved on stadium quality *natural* turf field. In fact, a recent research study showed no difference in injury rates on a FIFA 2-Star quality *synthetic* field vs. a perfect *natural* turf field. So achieving the proper force reduction and vertical deformation levels (two proven measures for bone and spine impacts, foot stability and soft tissue injury) is essential for a well performing field. Using a shock pad as a component to the turf system has been proven to achieve, and *maintain*, those levels, whereas turf over a stone base may start that way, but degrades outside the desired levels after only a few years.

Better Footing, Better Game

Sand content in the infill is essential for footing and ballast for turf stability, but it reduces the impact absorption qualities and force reduction of the surface. A shock pad allows sand to be used in the infill without sacrificing safety. The pad lets the turf backing flex, helping prevent over compaction of the sand layer that occurs when the turf system is installed over a hard surface. So you get a far better playing surface plus even greater safety.

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More about why shock pads are the safest bet for your field.

Lack of Maintenance Resources

If properly maintained, a synthetic field can perform and last mostly as desired. The problem is, fields are not properly maintained due to budget cuts and lack of training. Infill migration and compaction are inevitable and are primary causes of field hardening. A shock layer helps prevent compaction, maintains significantly better safety levels, and offers a critical "safety layer" when infill is displaced.

It Saves Money

Using a shock pad under synthetic turf allows you to use a shorter turf system since the safety of the field is not solely dependent on the turf infill alone. The benefits to a shorter turf include: less expensive product, better stability and footing, less disposal costs, and faster installation. Some Brock systems even replace the drainage (and its cost) under the turf. The money saved on the turf helps pay for some of the pad cost at the outset, and then more each time the turf is replaced. You may pay a little more today, but you will spend far less over time – A proper pad system can be reused, therefore amortized, over several turf cycles. *(Analysis available)*

More Durable Fibers

Fiber technology has vastly improved over the last 10 years so many companies are touting longer fiber life. The advent of the monofilament also means that the fiber does not have a built in "degradation period" as with slit films. So using a shorter turf in combination with a shock pad does not result in shorter turf life. In fact, many believe turf lasts longer over a pad, just as indoor carpet does. And a study published by FieldTurf showed traction and footing on a 2" turf mimicked the highest quality natural turf. *(Study available)*

Less Expensive Field Replacement Costs

Using a shorter turf means less disposal costs. Plus having a "pad" system over the base protects it, and eliminates the expense of repairing it during replacement, a cost sometimes as high as $50,000.

All of these facts are backed by independent research, available on request.

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