

SUSTAINABILITY AND THE INDUSTRY



ARE WE ENTERING A NEW ERA FOR ARTIFICIAL TURF?

- Legislation is significantly influencing the direction of travel.
- The race is on to develop new systems which are sensitive to the environment and sustainable.
- What will be economically viable options?
- Is maintenance the key to protecting the interests of the industry.

Legislation, environmental concerns, and sustainability are driving change, but more importantly stimulating innovation in the artificial turf sector. It is a fact that whilst we do need to embrace environmental concerns the industry has had options which are sustainable for many years.

So, these are not new conversations we are having, they are however now tempered by the fact that change is being forced rather than by consensus. The use of alternative organic infills has been around for 15 + years. Even shock pads are not new being around for 30 years +. What has changed is the availability and diversity of new products on the market and the challenges the new systems present.

HOW CAN WE HELP?

A few years ago, we would see a limited number of artificial turf systems with an organic infill submitted for testing. Today the majority of systems which Sports Labs are testing contain organic infill and shock pads. Working with manufacturers we are at the coal face of the development of systems to determine what works and what does not work. Here we can have a constructive influence to play in the evolution of new systems without compromising intellectual property of manufacturers.



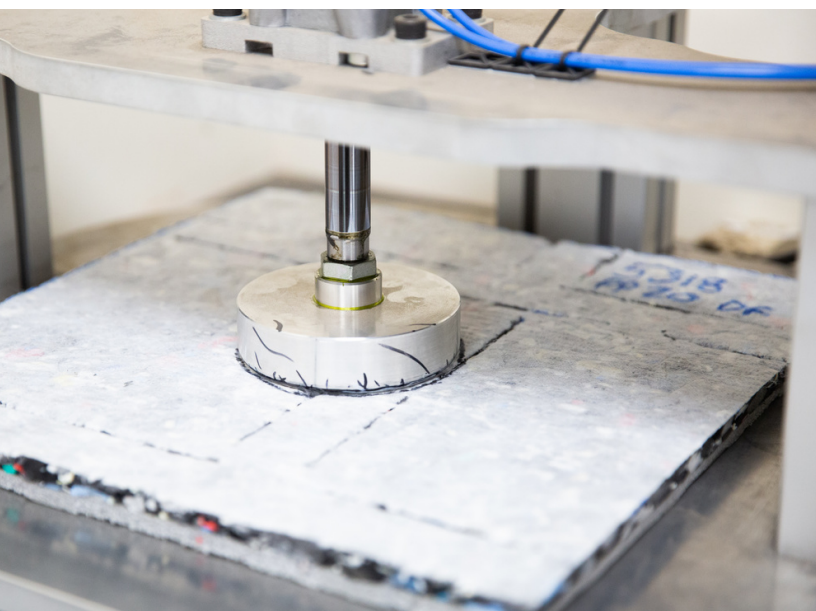
Our job is very much acting in an advisory capacity to identify what standards a system will or should comply with. Additionally advising on issues such as material degradation/compaction or issues with maintenance is an important part of our role.

We are also in the business of developing new test methods for evaluating the properties and performance of sustainable turf systems that can be assessed against the performance of conventional systems. Here we do act in a technical advisory capacity to governing bodies on modifications to standards to accommodate the properties of new systems coming onto the market.

WHERE DO SHOCK PADS COME IN?

It is a fact that in this new era of artificial turf systems we will require shock pads, good quality shock pads to ensure that the systems meet the requirements for player welfare and durability of performance long after they are installed. The good news is in general, shock pads last a long time, 2x life cycle of the turf which of course represents value for money and is a sustainable approach!

Shock pads should be considered an 'insurance policy' almost guaranteeing a minimum performance for your playing surface in terms of shock attenuation. Shock pads will retain properties which even if the pitch is badly maintained will protect the player. There is a vast array of shock pads out there and making sure that you get a good quality well designed pad is absolutely part of the equation to a well performing playing surface. Fortunately, component standards do exist and EN15330 part 4 covers the properties and performance of shock pads. Any pad being considered for your pitch should carry this mark.



One thing which is a significant topic for discussion in some Countries is how new systems fit into the burgeoning resurfacing market. Resurfacing is a significant % of some markets now occupying up to 50% of the market. Refurbishment of EoL pitches will require evaluation of any existing shock pad to assess it's suitability to be re-used with these new surfacing systems. This can only be done via a thorough site investigation which involves sampling and testing the existing shock pad that is being considered for re-use.

ALTERNATIVE INFILL MATERIALS (NON-POLYMERIC INFILLS)

Organic, Mineral and others

Organic infills are generally ranked as either granular or fibrous. Mineral infill is typically coated sand or just sand. There are other infill concepts around which are made to be <5mm particles, these may comprise of polymeric materials but would not breach EU legislation which defines intentionally added particles less than 5mm to be microplastics.



Granular organic infill

Are in general non resilient, what is meant by that is that they infill unlike polymeric infill does not give the player energy back, cork may be the exception to this. Granular organic infills have been found to provide higher levels of stability when the player interacts with the surface and limited feedback so far indicates that they can provide more grip than polymeric infills. There are other issues with granular infills but these are specific to the type of material being evaluated and should be investigated with a specialist Laboratory for detailed information when considering an alternative infill for your facility.

Fibrous

Such as Coco fibre or Coco peat has been on the market for a long time and is well known in Countries where it was first used. Coco fibre and peat have been mixed with other organic infill such as Cork to add body to its matrix.

The Coco fibre/peat is a by-product from Coconut production so generally emanates from Asia. It does come with a high player approval rating when used in optimum conditions. Maintaining the infill in optimum conditions can be a challenge due to the ambient environmental conditions one issue being a requirements to keep the materials at the correct moisture content.

Other factors include maintenance of the infill levels in the turf system. High use pitches may exhibit higher levels of wear and tear in the infill than expected and it could be that conditions where there is a lot of snow or freezing temperatures make this infill less suitable.

Infill with a particle size <5mm

The jury is out on this approach. That is due to the difficulty is ensuring the infill is well integrated with the pile of the artificial turf. Also, ascetically it is challenging to make a player comfortable with the look and feel of playing on this type of infill. It might not be a long-term solution to a ban on polymeric infills but there just might be a space on the market for this type of infill.

THE ROLE OF MAINTENANCE IN THE NEW SYSTEMS

Maintenance is key! To make sure the pitch is kept in optimum condition, to make sure the pitch is safe and consistent, to repair any issues observed, to top up the pitch, to get the pitch ready for a test, to protect your asset, to extend the life of your pitch.

We don't need new methodologies and equipment to deal with new materials. What we need is to apply the correct equipment for the scenario being dealt with and apply the processes regularly especially topping up and levelling operations.

There are many installations around Europe and taking learnings from these current installations which should be fed back into industry from the equipment suppliers and the installation contractors. There is definitely an educational requirement here.



WHAT ARE THE NEXT STEPS?

- Important learnings from current installations which can be fed back into industry.
- Test bed projects which can be monitored to gather valuable insights into the performance, durability and player experience on the new surfaces will provide valuable insights.
- Experience of maintenance of a variety of organic infilled pitches, specifically the methodologies and equipment required will help make sure these surfaces perform well.
- Further research to test the in-service performance of the new materials.

LOOKING FOR FURTHER INFORMATION?

- [ESTC Guidance on infill](#)
- [ESTC Guidance on shock pads](#)
- [ESTC Guidance on End-of-Life Turf](#)
- [End of life Guidance](#)
- [ESTC guide to Recycling facilities for synthetic turf systems in Europe](#)
- [Recycling facilities](#)
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