Information Sheet

Benefits of Sprung Synthetic Finishes over Sprung Timber Finishes

Introduction

Typically in the past the usual finish for a sports floor was solid timber.

With advances in technology and material science the sports market has seen a move towards engineered timber and a range of synthetic surfaces.

Dynamik offer a full range of sports floor finishes including timber, sport linoleum, sport vinyl, seamless polyurethane and sport rubber and therefore have no bias to any one particular sports floor finish. What we have seen however is an ever increasing trend towards synthetic surfaces, laid over our Athen and London sports floor systems, and we expect this to continue.

We explain the rationale in further detail below.

Sports Performance and Synthetic Surfaces

You should be aware that there is absolutely no compromise in sports performance between a sprung sports floor finished in timber or a synthetic surface such as Sports Linoleum.

You should also note that sprung sports systems such as our Athen or London when finished with a synthetic surface still incorporate the performance benefits of timber in their sub-construction.

It is also interesting to note that the majority of European countries install synthetic surfaces such as solid linoleum or vinyl onto a sprung wooden undercarriage in most of their sports facilities.

If you watch top level sporting events including the Olympics you will find most sports are played on a sprung synthetic surface – the exception is Basketball where in Elite Basketball Arenas a timber finish is required to meet FIBA 1 playing standards. We work very closely with Basketball England and are their official flooring supplier accordingly, we have installed timber surfaces to a number of their sporting arenas where the primary focus is Basketball.

Multi-sport – Multi-use

Sport specific sports halls are rare in an increasingly competitive market. A typical sports hall must now combine sport usage and community use together with a range of non – sporting activities.

Sport usage can range from badminton to basketball or spin class to trampoline use. This range of sporting activities imposes high demands on a sports floor. It must perform for the badminton player but must be able to resist damage from trampolines and spinning bikes which are moved across the floor.

Community use can involve local social functions whereby the floor needs to cope with spillages and stiletto heels.
The hall may then be used by the school for a range of non-sporting activities, such as dining, exams, parent teacher evenings or prom nights to name but a few. A synthetic finish has the ability to deal with these non-sporting usage whilst still providing the required sports performance.

The need to protect the sport finish with carpet tiles or alternative surface protection is purely optional with a sprung synthetic surface whereas this is not the case with a sprung timber surface – floor protection must be used in order to protect the timber from indentation and scratches as well as maintaining its warranty.

Life Cycle Costs

In terms of life cycle costs there is a significant additional cost in maintaining a sprung timber floor compared to a sprung synthetic floor.

We estimate that over a 25 year period for an engineered timber board this can be in the range of £75 to £100/m2 and for a solid timber board in the range of £125 to £150/m2.

The above covers both periodic re-lacquers and the required full sanding and sealing which is a requirement of all companies client warranty obligations. The above maintenance is not required with a sprung synthetic floor finish applied to the Dynamik Athen or London sprung systems.

Surface Protection

As noted above surface protection is not optional on a sprung timber floor during periods of non - sport usage. Protection is often insisted upon by timber manufacturers for their warranty to be valid.

Depending on the form of protection adopted be it carpet tiles or alternatives there is a capital cost of purchase (this typically varies between £10 and £15 per square meter) and an on-going cost for staff to lay out these products and then uplift, in addition during the period of laying down the product and up-lifting the hall is out of use and there is of course the associated storage space required.

Water Damage and Climatic Conditions

If there are any roof leaks or spillages on the floor the synthetic surface is highly resistant and non-absorbent, whereas a timber surface is absorbent and has gaps where water can ingress and as a result be easily damaged which can require a full or part replacement of the floor.

We are consistently replacing more sprung timber sports hall floors due to roof leaks or ingress of moisture than we do sprung synthetic floors.

Climatic conditions are becoming more variable, both in terms of temperature but more importantly humidity.

All timber surfaces expand and contract with changes in relative humidity, and we now find that this increased humidity has led many sports floors to move and expand due to the increased moisture within the atmosphere.

Dynamik have taken the decision to only install sprung engineered timber systems which are far more stable than solid timber floors nevertheless we still find movement in both sprung solid and engineered timber floors.

By contrast our sprung systems finished with a synthetic playing surface have been far more stable and have not expanded and contracted to the same extent – this is because the surface is sealed and therefore has a degree of protection from climatic changes.

Increased stability of the sport floor means lower maintenance costs with a higher life expectancy plus consistent sports performance such as slip resistance and surface evenness.

Dynamik Athen and London Sprung A3/A4 Sports Floor Systems

The Dynamik Athen and London systems are ideally suited to accommodating a non-foam backed synthetic surface finish. The choice of system will depend on individual site conditions. Principally the Athen system can be used for refurbishments and where a level slab exists whereas we would recommend our London system on new build projects where a levelling screed can be omitted and the system can be packed and levelled directly of the structural slab. The London system is also ideal where underfloor heating is to be incorporated within the floor void.

Conclusion

Both timber and synthetic sports floor finishes have a place in the market and we install both but we would advise that people make an informed choice and we hope that this information sheet assists that process along with discussions with ourselves.

We would further advise that our sprung floors are fully warranted for 25 years and have an average life expectancy in excess of 35 years.