

# Information Sheet

## Area Elastic Sprung Sports Floor Systems v Point Elastic Flooring

### Introduction

This document highlights the benefits of installing a Dynamik Athen or London sprung area elastic sports floor system compared to a point elastic foam backed surface.

### Typical Construction of Our Area Elastic Sports Floor Systems and Point Elastic Floors

An area elastic sports floor system can be constructed in 2 ways – our Athen and London systems are the two systems we offer:

The Athen sprung system is designed to be laid on a level slab or screed (+/- 3mm over 3m straight edge) and has a low construction height of 35mm. Accordingly it is a low profile high performance sprung sports floor. It is constructed using a high density elastic layer over which a solid load distribution panel is installed to accommodate a range of solid synthetic finishes. As every part of the surface is equally supported by the elastic layer consistent sports performance is guaranteed.

Alternatively

The Dynamik London system can be packed and levelled to take out variations in the sub floor, thus removing the need for a levelling screed. It is based on factory assembled elastic beams which support a counter floor and load distribution panel to accommodate a range of solid synthetic finishes. The structure of the system also allows underfloor heating and insulation to be incorporated between the beams.

The range of solid synthetic surface finishes include Sport vinyl, Sport linoleum, Sport polyurethane and Sport rubber.

Point elastic floors are designed to be laid onto a level slab or screed (+/- 3mm over 3m straight edge). They are typically a factory produced vinyl or synthetic playing surface which combines an integral foam backing similar to a foam backed carpet. This foam backing achieves low levels of shock absorption but despite this feels soft, which can be ideal for facilities that do not require high sports performance such as pre-schools or facilities that intend not to use heavy equipment, tables and chairs or incorporate non-sporting activities such as exams or social events.

### Performance Characteristics of Sports Floor Systems

The table below confirms the performance characteristics that each type of sports floor must meet to comply with EN14904 which is the recognised standard for indoor sports flooring. A3 and A4 represent area elastic floors and P1, P2 and P3 point elastic floors.

	A3	A4	P1	P2	P3
<b>Shock Absorption (%)</b>	40 < 55	55 < 75	25 < 35	35 < 45	> 45
<b>Vertical Deformation (mm)</b>	1.8 < 3.5	2.3 < 5.0	< 2.0	< 3.0	< 3.5

With superior shock absorption and higher vertical deformation, A3 or A4 sprung sports systems not only offer high sports performance but also superior protection and comfort compared to any point elastic floor.

The Athen and London systems can meet Class A3 or A4 performance criteria as required.

### Principal Benefits of Sprung Area Elastic Systems Over Point Elastic Surfaces

**Multi-sport – Multi-use** - Sprung systems finished in a solid playing surface, such as sport linoleum, can be used in both sport and non-sport environments. This is important as a typical sports hall needs to combine sports usage as well as community use or social functions whereby the floor must cope with spillages, indentation caused by tables and chairs, stiletto heels or non-sporting footwear.

**Surface Protection** – It is essential if using a point elastic floor or timber surface that heavy duty carpet tile protection be used to avoid indentation, tearing or puncturing of the surface. There is no requirement for protection with a sprung system finished with a solid synthetic playing surface.

**High Loadings** – Sprung area elastic systems can accept high loadings that arise when maintenance equipment or seating systems are used. The load distribution panels within the Athen or London systems distribute and accept the high loadings perfectly.

**Wheelchair Use** - Point elastic soft foam-backed floors are generally not recommended or liked by wheelchair users as they provide a surface with a high rolling resistance and poor maneuverability which in turn can cause muscular strains and fatigue issues if the small front wheels sink into the foam backing. A3/A4 Sprung systems finished with a solid surface provide an ideal surface for wheelchair use—low rolling resistance and ideal maneuverability as well as high indentation resistance and durability.

**25 Year Warranty** – Athen or London finished with a solid playing surface comes with a 25 year warranty as opposed to 10 years typically given for a P3 foam backed surface.

**Floating Floor** - The Athen and London systems are “floating floors” and hence bridge any movement joints that maybe within the floor slab.

**Low Life Cycle Costs** - The Athen and London systems finished with a solid playing surface will have a life in excess of 35 years as opposed to 15 years for a typical point elastic floor.

**Income Generation** – If it is intended to let out your facility as an income generator then the amount of revenue received is directly linked of the performance of the floor. Clubs are becoming more selective as to where they play and have a wider choice. It is therefore worth ensuring you choose a high performance floor.

## Pricing Considerations

What will surprise you is that comparing the high quality Athen or London area elastic sports floor systems to certain point elastic floors will give you a more cost effective alternative.

Specific pricing implications are due to the differences in construction methodology which are compared below:

Point Elastic	Area Elastic
<ul style="list-style-type: none"><li>• Requires a level slab</li><li>• Usually requires a liquid DPM</li><li>• May require a latex layer between the DPM and final surface</li><li>• Underfloor heating has to be laid in the slab</li><li>• Involves more wet construction processes</li><li>• Requires a heavy duty protection system such as carpet tiles to protect the surface</li></ul>	<ul style="list-style-type: none"><li>• Can be built off the structural slab</li><li>• Typically uses a visqueen DPM</li><li>• A floating floor therefore not stuck down</li><li>• Provides saving in construction time</li><li>• Underfloor heating can be installed between the beams</li><li>• Depending on choice of surface, no protection system is required</li></ul>

Once the above factors are considered a point elastic system will typically cost more than a superior area elastic sports floor system.

We would be pleased to provide a price comparison based on your specific requirements.

## Feedback and Market Opinion

Dynamik regularly receive feedback from end-user clients, specifiers and consultants who have stated that in their opinion a Sprung Area Elastic Sports System - finished in a solid synthetic playing surface is much more suitable for use in school facilities when compared to a point elastic surface or a sprung timber finish. It is clear that sprung systems finished in a solid surface provide high indentation resistance and low maintenance/life cycle costs - ideal for school usage.

## Conclusion

If you require a Multi-Sport, Multi-Use floor and have a level slab or screed; for longevity, durability and cost effectiveness the Athen system finished in a solid playing surface would be our recommendation.

Alternatively, if you do not have a level slab or screed we would recommend our London system.