

Information Sheet

Engineered Hardwood Board v Solid Timber Board

Introduction

This document highlights the benefits of using a DYNAMIK engineered hardwood board compared to a solid timber board after considering the typical construction of timber boards in sports installations.

Typical Construction of Timber Floors

Engineered Hardwood Board with a Plywood Core – manufactured to combine a solid hardwood wear layer with a high density multi-layer plywood core. The high density multi-layer core provides superior indentation resistance and high dimensional stability.

Engineered Hardwood Board with a Softwood Core – manufactured to combine a solid hardwood wear layer with a softwood core.

Solid Timber Board - typically 22mm thick made from narrow staves of timber joined by a double dovetail joint which is typically no more than 4mm below the surface of the board.

Sanding and Resealing

Engineered hardwood boards when compared to solid timber boards are 7 times more dimensionally stable when exposed to changes in temperature and humidity.

Solid timber boards cup and curl at the board edges, as illustrated below, as they expand and contract, therefore you need to sand off the peaks to get to the scratches in the hollows. A consequence of this is that a typical sand and reseal on a solid timber floor will be more frequent and will actually bite into and consume more of the hardwood.



Engineered hardwood boards do not cup and curl therefore you only need to abrade the surface to remove scratches and consume little, if any, of the hardwood.

Consequently the average life of a floor with an engineered hardwood board will be significantly longer, particularly so with a DYNAMIK engineered hardwood board which incorporates a factory applied UV hardened abrasion resistant lacquer.

Appearance of Finished Floor and Cleaning & Maintenance

Because a solid timber floor suffers greater expansion and contraction, a typical installation needs to include 'washer gaps' every 4 boards to take up some of the expansion and contraction. Engineered hardwood floors only require a perimeter expansion gap. Aesthetically these gaps look unattractive and are a trap for moisture and dirt and therefore the cleaning regime needs to address this.

Timber Species

Engineered hardwood boards come in a greater variety of wood species including European Oak, Maple, Beech and Ash. Oak has increased stability, increased indentation resistance and an ability to hide minor scratches due to its natural appearance.

Environmentally Friendly

An engineered hardwood board typically uses 80% less precious hardwood than a solid timber board.

Floor Loadings

The construction of an engineered hardwood board incorporating a plywood core layer increases the elasticity of the floor. When coupled with a plywood undercarriage over an elastic layer such as our Komfort Elite system distributed floor loadings of up to 2000kg/m² can be achieved - far in excess of any loadings that a solid timber board laid over battens can achieve.

Underfloor Heating

Underfloor heating causes more movement in the floor system due to the proximity of the heat source. Given the increased dimensional stability engineered hardwood systems are better suited for underfloor heating.

Sports Performance

Solid timber floors only offer elasticity from the sub construction as the surface boards are very ridged, with a DYNAMIK engineered hardwood floor both the surface and the sub construction combine to give high levels of performance and comfort.

Life Cycle Costs

A DYNAMIK engineered hardwood floor will benefit from much lower costs in terms of day to day maintenance given the absence of washer gaps and a less frequent need for a sand and reseal due to the factory applied UV-cured lacquer.

The cost of maintaining a typical 600m² solid timber floor to the manufacturer's instructions is in the region of £72,000 over a 25 year period, the cost for a comparable engineered hardwood floor is significantly less, being in the region of £44,000.

Conclusion

Wood floors have evolved such that if your preference is for a hardwood finish then a DYNAMIK engineered Oak hardwood floor should be the obvious choice – superior sports performance and lower life cycle costs come as standard.



Over 16,000m² of seamless engineered hardwood sports flooring, in Oak, has been installed at the American Sports Centre in Anaheim, California, making it the largest sports hall in the world.