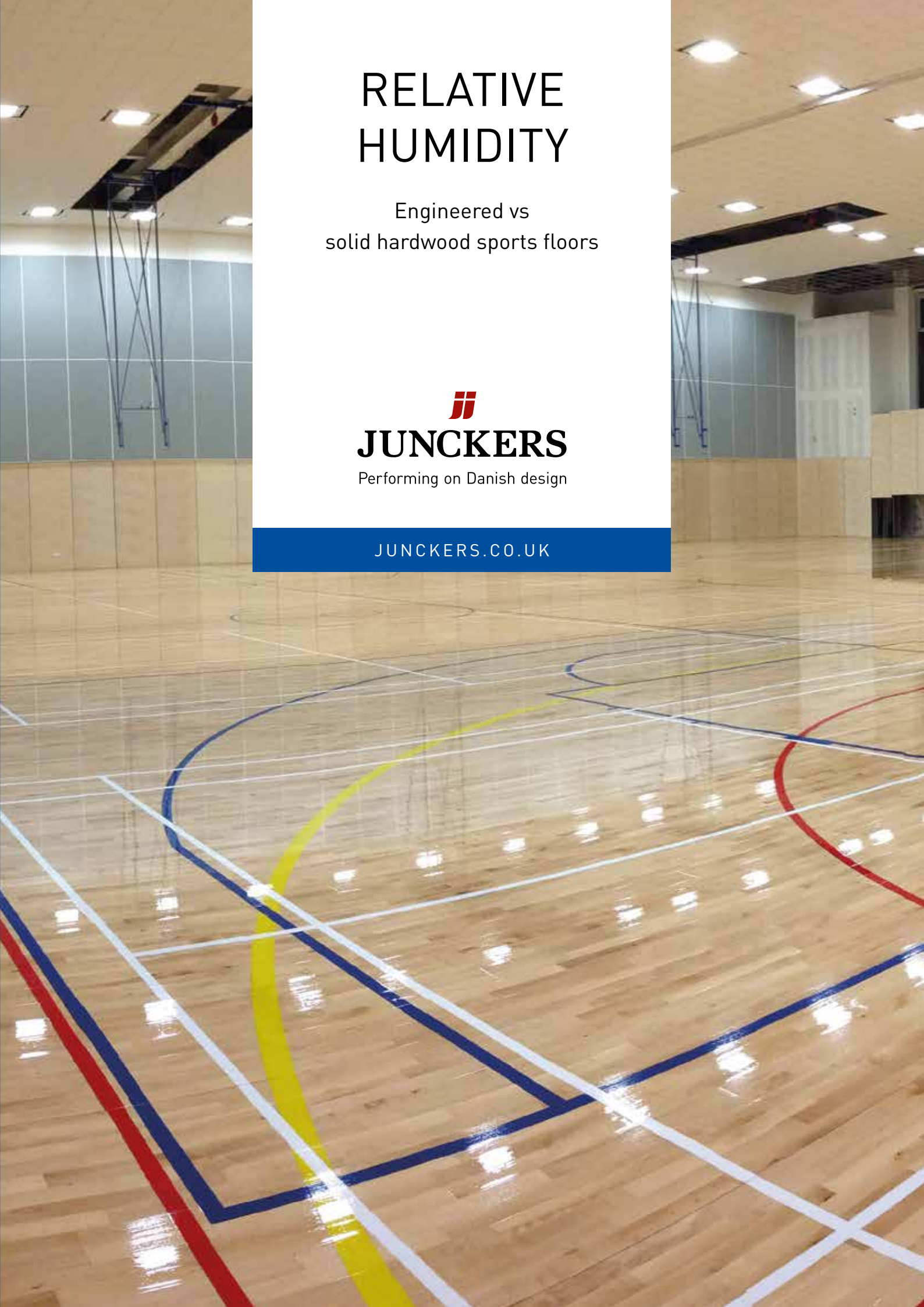


RELATIVE HUMIDITY

Engineered vs
solid hardwood sports floors

JUNCKERS

Performing on Danish design

JUNCKERS.CO.UK

ENGINEERED VS SOLID HARDWOOD SPORTS FLOORS

DELAMINATION AND LOSS OF STRENGTH UNDER REPEATED CYCLING OF HUMIDITY LEVELS

ENGINEERED FLOORS

ENGINEERED WOOD FLOOR

- Top layer de-bonding from the board due to natural humidity changes in the building.
- Both sealed and unsealed boards are prone to delamination through humidity changes.

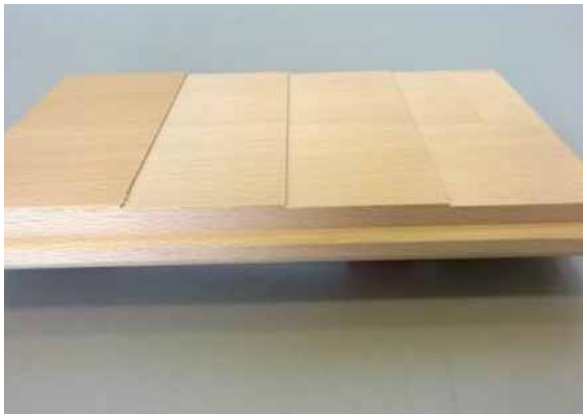
ENGINEERED WOOD FLOOR CONSTRUCTION

- Lamella blockboard core; low strength wood liable to adhesion failure
- Thin top wear layer

SOLID HARDWOOD FLOORS

JUNCKERS SYLVASPORT FLOOR

- Junckers solid Beech sports floors are guaranteed for use with retractable seating systems
- No veneer, layers or glue bonds which can fail
- Retains A3 or A4 performance under EN 14904
- Superior structural strength, proven by independent testing



SYLVASPORT SOLID WOOD FLOOR CONSTRUCTION

- Unique Press dried solid hardwood Beech and Maple
- Natural humidity changes does not cause floor to delaminate
- Life span in excess of 60 years achievable

JUNCKERS FEATURES AND BENEFITS

PRESS DRIED BEECH OR MAPLE: FOR STABILITY

All Junckers SylvaSport Beech and Maple solid hardwood floors are press dried. Junckers developed this unique process in the 1950's and no other manufacturer can claim, like-for-like, their boards are as stable as a Junckers floor. Press drying gives you:

- **Improved dimensional stability:** Reduced seasonal expansion and shrinkage
- **Improved hardness:** Press drying permanently "compresses" the wood.
- **Improved structural strength: Simply;** a stronger floor which will take higher loads. Some suppliers offer oak but this has 30% less structural strength than press dried beech and so is not recommended by Junckers for dedicated sports floors.

Press drying gives Junckers complete control of the drying process resulting in a consistent and stable floor.

ENGINEERED SPORTS FLOORS: A LIMITED LIFETIME AND STRENGTH

After installation, repeated cycling of humidity levels the core layers of some engineered or multi layered boards causes stress between the different layers of wood and they will delaminate and the floor will fail. This means that it may fail the shock absorption and deflection criteria for sprung floors (EN 14904).

In squash courts the floor will normally be unsealed. But at least one engineered floor manufacturer will not guarantee their floors if used in this way because they are likely to delaminate.

ENGINEERED SPORTS FLOOR: UNACHIEVABLE HUMIDITY RANGES

Claims that engineered boards are the most stable wood floors are undermined by the manufacturer's installation and use instructions, where they often specify impossibly narrow humidity ranges. Typically 40%RH to 60%RH. It is not normally possible to maintain a narrow 20% humidity range, and so there is a risk that the board may bow or delaiminate. The manufacturer will not accept this as a product defect. Junckers floor boards are designed to operate within the range 35%RH to 65%RH which is a normal range for occupied buildings in the UK.

ENGINEERED SPORTS FLOORS: EXPANSION GAPS

Manufacturers of engineered sports floors usually specify the same size expansion gaps as for Junckers SylvaSport solid hardwood floors, suggesting that engineered sports floors are not more stable and will expand to the same extent.

HOW MUCH SCIENCE AND KNOW-HOW HAS GONE INTO DESIGNING ENGINEERED SPORTS FLOORS?

Examples of delamination, splintering, bowing and glue adhesion failure of some engineered floors raises a question over how much timber "engineering" know-how is used when designing the product. The floor board should be designed with layers which support and stabilise one another, but evidence shows otherwise.

RELATIVE HUMIDITY

With Junckers solid wood/timber sports floors there is no risk of delamination

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