A Specifier's Guide to Sports Flooring

Sports flooring provides stability, support and impact absorption. It is more than just a surface; it is a dynamic element that can help or hinder an athlete's performance.

Why do we need sports flooring?

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Safety first.
A shock-absorbing floor to reduce joint stress and minimise injuries from falls.

Peak performance.
A consistent surface to give athletes confidence.

Durability and longevity.
A long lasting floor to reduce operational costs.

Initial design considerations

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Is it a single-use or multi-use facility?

What sport is being played?

Is it accessible and wheelchair friendly?

What level and age are the athletes?

European Standard EN 14904 specifies requirements for surfaces for indoor facilities for multi-sport use.

Why is EN 14904 relevant to Australian specifiers?

In Europe, sports facilities are frequently required by law or regulation to meet EN 14904, which ensures that the venues follow health and safety guidelines. It has been adopted by sports governing bodies, school boards and other institutions in the design of sporting facilities to minimise the risk of injury and ensure ease of sports practice.

This trend is seen around the world, including Australia.

Types of sports flooring

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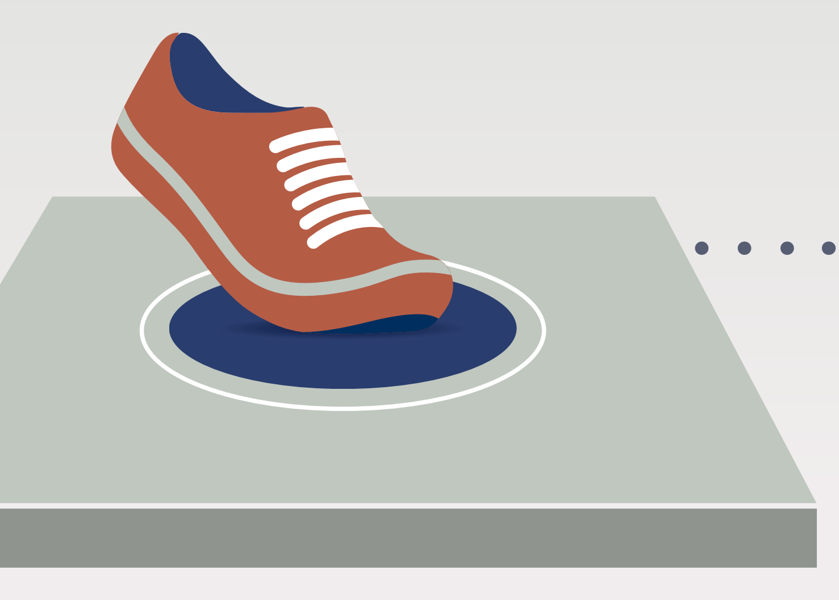

Point elastic (P1, P2 or P3).

Point-elastic floors apply a point force that causes deflection only at or close to the point of force application.

Area elastic (A3 or A4).

Area-elastic systems offer a high degree of comfort and shock absorption by deflecting an impact over a large surface area.

Combined-elastic system (C3 or C4).

A combined system refers to an area-elastic floor with a point-elastic top layer.

Properties of sports flooring

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- Shock absorption evaluates a surface's ability to reduce impact force.
- Vertical deformation refers to the ability of the floor surface to deflect under load.
- Vertical ball behaviour is the ball bounce height when it falls vertically on a surface.
- Co-efficient of friction (CoF) is a measurement of slip resistance and describes the ability of surfaces to resist the sliding or slipping of the shoe sole.

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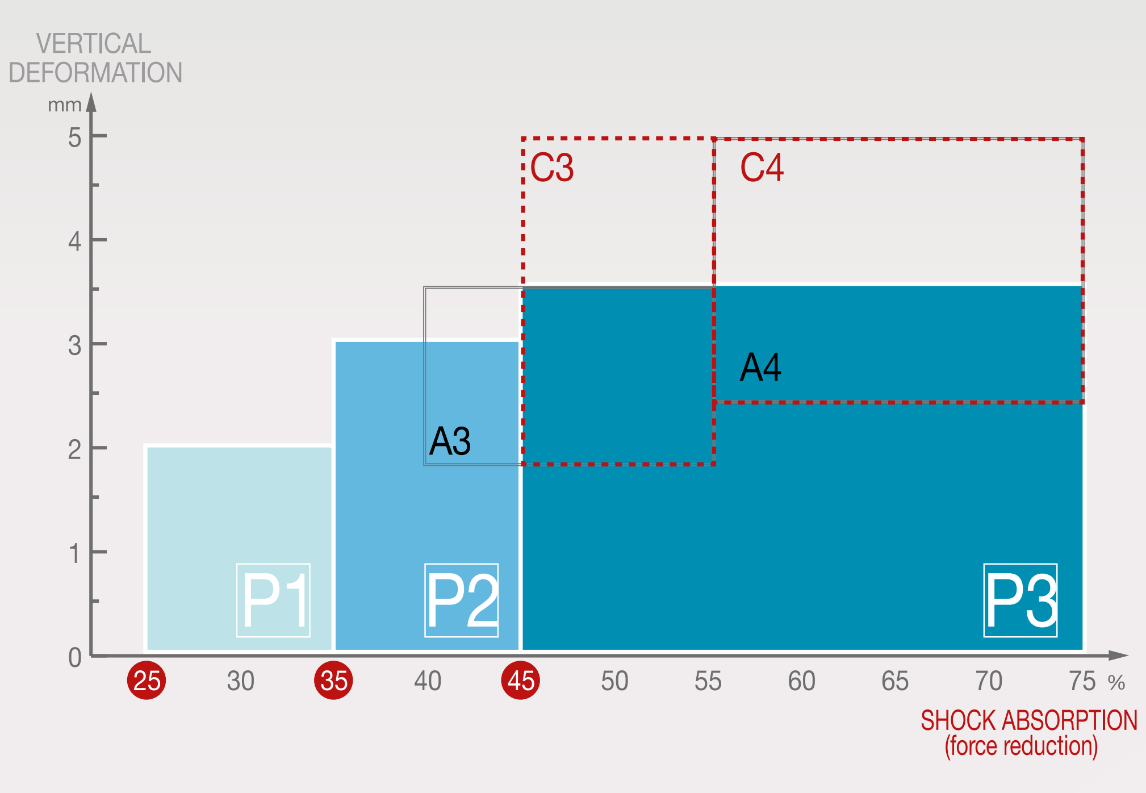
Classification of sports floors



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Testing and verification

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The tests required by EN 14904 are conducted under strict guidelines and are overseen by independent, certified testing bodies.

EN 14904 standard values

EN 14904	DESCRIPTION	STANDARD	REQUIREMENT	UNITS
SPORTS PROPERTIES	Vertical deformation	EN 14809	≤ 3.5	mm
	Shock absorption (Force Reduction)	EN 14808	≥ 25	%
	Friction coefficient	EN 13036-4	80 - 110	-
	Ball bounce	EN 12 235	≥ 90	%
TECHNICAL CHARACTERISTICS	Indentation resistance	EN 1516	≤ 0.5	mm
	Wheel resistance	EN 1569	≥ 1500	N
	Impact resistance	EN 1517	≥ 8	N/m
	Abrasion resistance	EN ISO 5470-1	≤ 1000	mg
	Gloss	EN ISO 2813	≤ 30	%
	Flatness	EN 13036-7	< 6mm/3m	-
CLASSIFICATION	Fire rating	EN 13501-1	C_{fl}-s_1	-
	Formaldehyde emission	EN 717-1/2	≥ E1	-
	Pentachlorophenol emission	EN 12673	< 0.1	%

Foundations for Peak Performance
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Specifying high-performance sports flooring

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Gerflor Taraflex®

Taraflex® is a high-performance vinyl sports flooring range recognised as the gold standard in sports flooring used in premium facilities around the world. From low-impact activities (like school assembly halls) to elite and performance sports (like professional sporting venues), it provides a full range of P1/P2/P3 products (compliant with EN Standard 14904) to offer the ideal solution to adapt to all users.

Connor Sports

Gerflor's Connor Sports is a hardwood sports flooring offering unparalleled quality and performance. Thousands of schools, community groups and professional teams from across the country play on the maple hardwood flooring and subfloors. Every square metre of Connor Sports flooring is subjected to thorough testing including humidity resistance, long-term stability, force reduction, vertical deflection and area of deflection to exceed the strict MFMA industry standards.