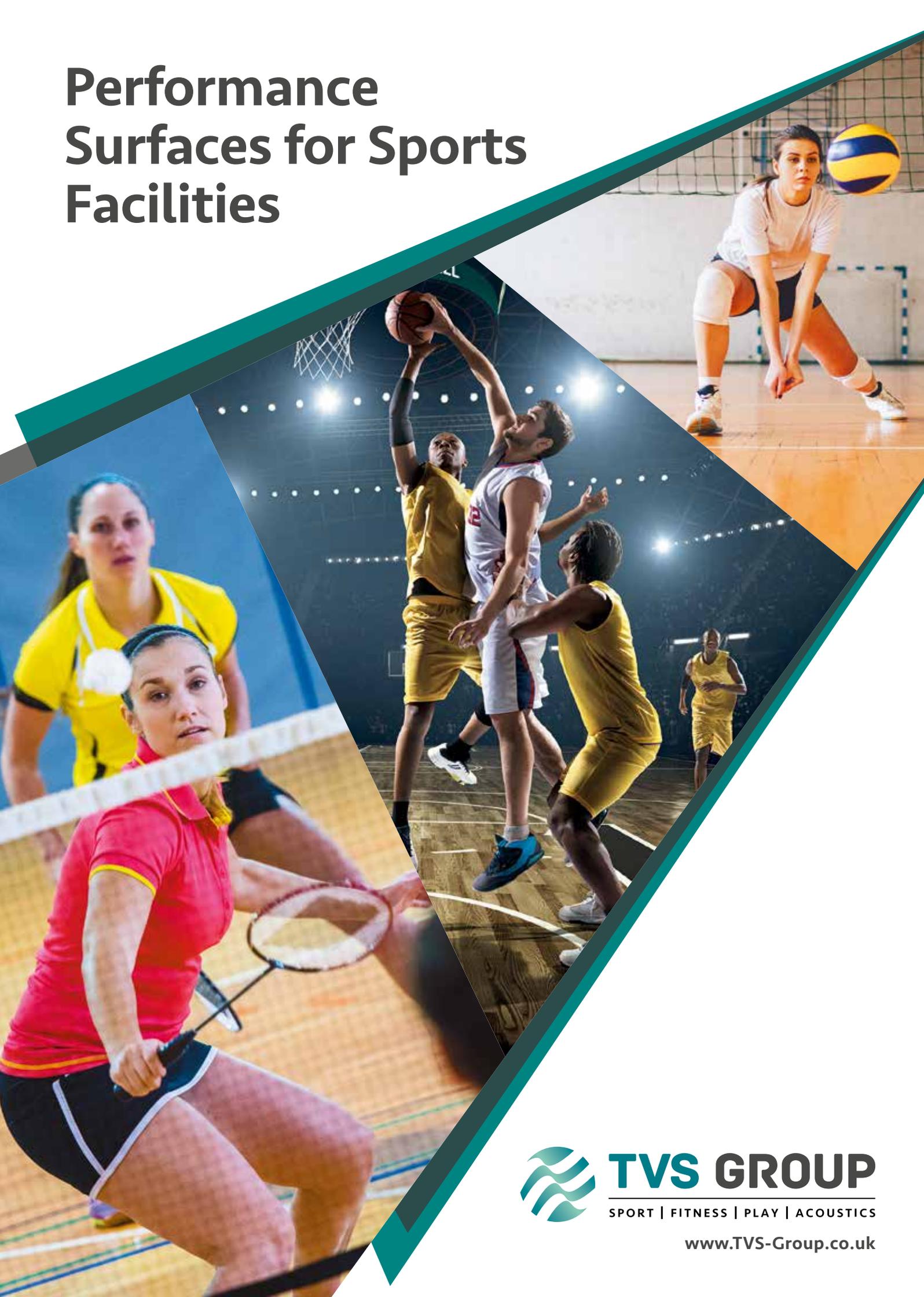


Performance Surfaces for Sports Facilities



TVS GROUP

SPORT | FITNESS | PLAY | ACOUSTICS

www.TVS-Group.co.uk



Overview

TVS Group is one of the leading sports flooring suppliers in the UK. With strategic partners and the best manufacturers worldwide we can offer a unique range of flooring options to suit any sporting or fitness space. You can find our range of flooring in school sports halls, community leisure centres as well as some of the most famous sporting arenas in the world.

The TVS Group was established in 2009 as a specialist supplier of noise and vibration solutions and has successfully evolved into four key strategic divisions; TVS Sports Surfaces, TVS Gym Flooring, TVS Play Surfaces and TVS Acoustics.

The business is balanced through a broad portfolio of products and a presence in international markets. Our strategy focuses on supplying best in class materials, shaping reliable and trustworthy partnerships while delivering outstanding customer service.

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Broughton High School

Combined Elastic Polyurethane Sports Surface



Bryanston High School

IAAF Accredited Sandwich Sprint Track

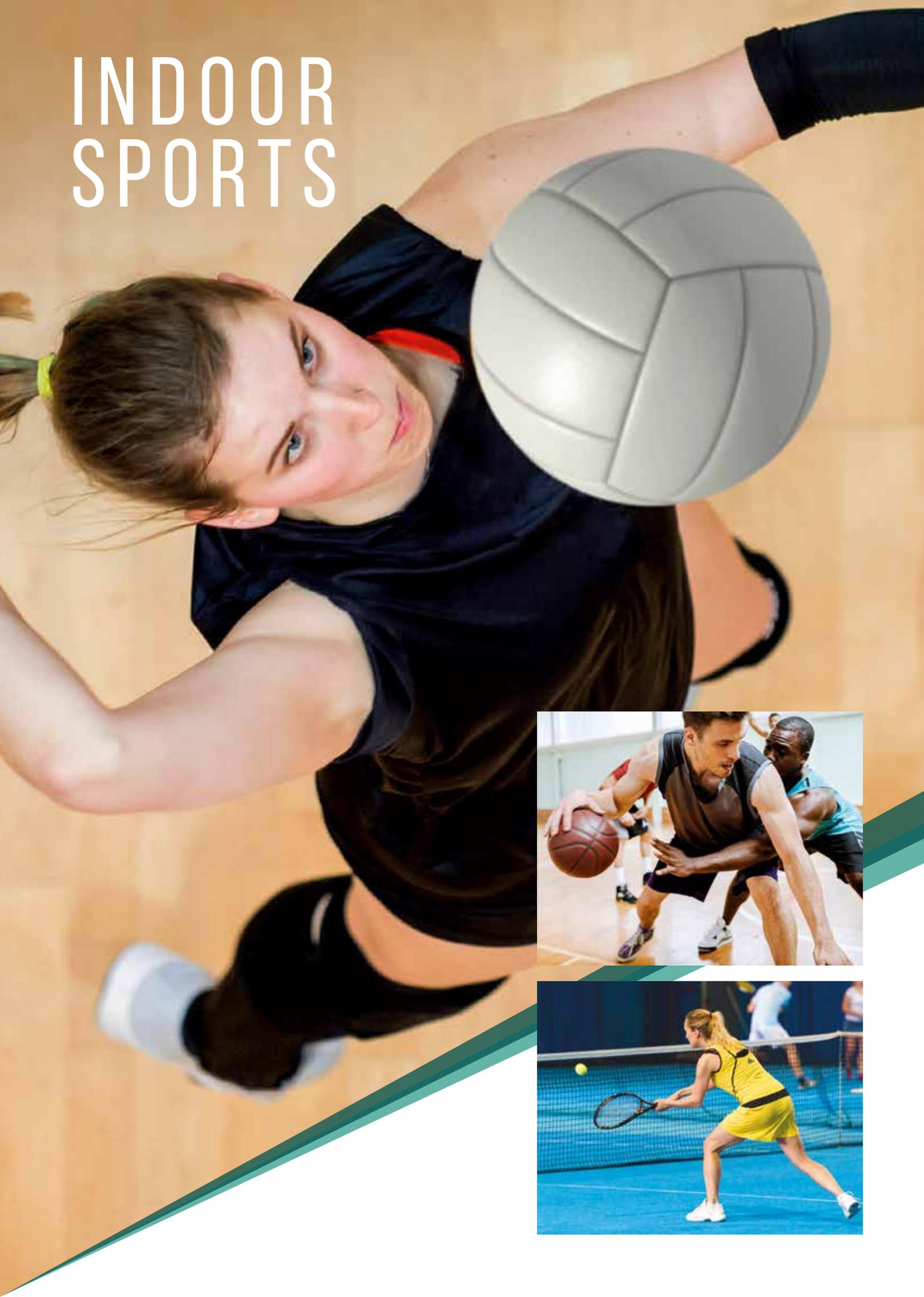


Hilbre High School

ITF Pace Rated, Porous Acrylic Tennis Courts



INDOOR SPORTS



Four main types of elastic floor

According to EN14904, the European standard for indoor sports floors, there is a requirement for some impact absorption and deflection when playing on multi-sport surfaces. This allows for player comfort, reduces the risk of injury and ensures consistency in sporting performance. There are a variety of ways to incorporate elasticity into a sports floor. Each is preferred by different sports and subject to specific competition standards. TVS has systems for all 4 elasticity types and can tailor each project's surface to suit individual sporting, budgetary and performance requirements.



POINT ELASTIC

A system which deforms in a very small area around the point of impact/application of force.

MIXED ELASTIC

A system with varying elastic layers, usually varying densities of underlay materials with a stabilising or stiffening layer to spread the deformation over a larger area than point elastic systems.

COMBINED ELASTIC

A combination of an area elastic system with a point elastic top surface. Deformation over both a small area in the point elastic and large area in the area elastic layers.

AREA ELASTIC

Energy from weight introduction is spread over a larger area, as such these systems have a higher shock absorption rate.

EN 14904

Elastic requirements for safe use

Acceptable range of force reduction (%)

Type	Point	Mixed	Combined	Area
1	≥25 <35			
2	≥35 <45			
3	≥45	≥45 <55	≥45 <55	≥40 <55
4		≥55 <75	≥55 <75	≥55 <75

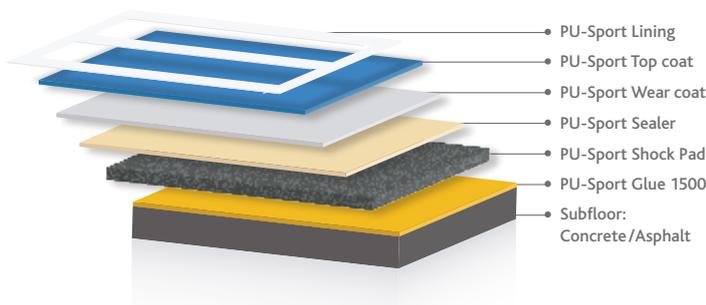
ELASTICITY TYPES KEY

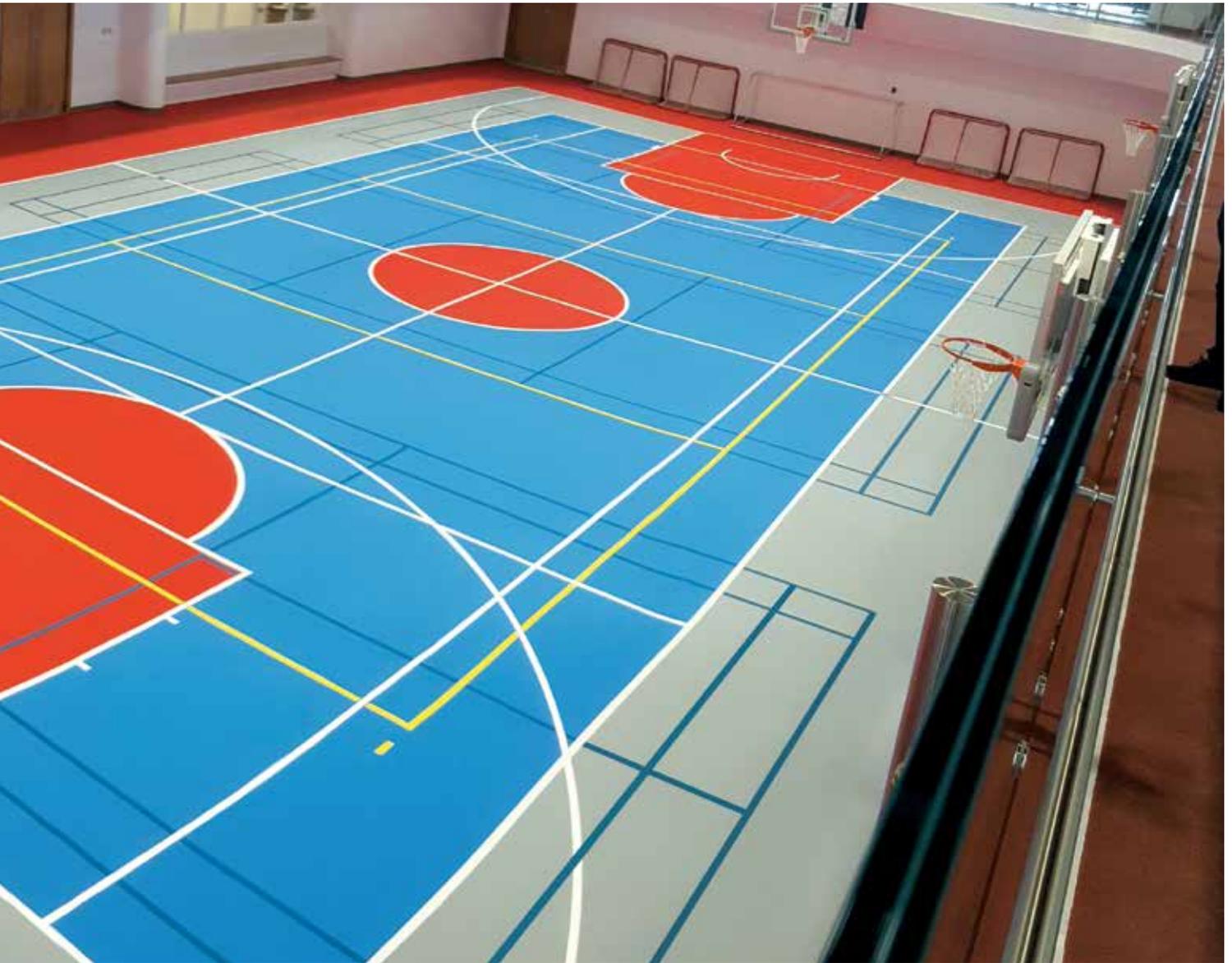
- P** POINT ELASTIC
- C** COMBINED ELASTIC
- M** MIXED ELASTIC
- A** AREA ELASTIC

Our TVS Sports PU system is an extremely versatile, high-performance surface for all kinds of different sports played in all possible climates worldwide. Its high slip resistance and excellent wear characteristics make it the perfect choice for athletes of all abilities and ages. Due to the durability of the surface and the point elastic performance, PU systems can be used for recreational and competitive play for many sports, as well as being suitable for non-sporting events. Assemblies, exhibitions, exams and seminars may all occasionally share modern multi-sports facilities and a TVS Sports PU system allows for this, making this a truly multi-purpose solution.

BS EN 14904 requirements:

Friction	80-110	Pass
Shock Absorption	25-75	Pass
Vertical Deformation	<5.0	Pass
Vertical Ball Behaviour	>90	Pass
Resistance to Rolling Load	<0.5 (no damage)	Pass
Resistance to Wear	<1.0	Pass
Specular Gloss	Lacquered <45	Pass
Resistance to Indentation	<0.5	Pass
Resistance to Impact	No splitting/cracking Permanent indent	Pass





Key features and benefits

- ▶ Seamless sports floorings
- ▶ Maximum slip resistance
- ▶ Excellent wear resistance
- ▶ Easy daily, periodic and long term maintenance
- ▶ Easily resurfactable when necessary
- ▶ EN14904 and DIN 18032-2 certified
- ▶ Optimal ball bounce
- ▶ Factory quality assurance according to ISO 9001
- ▶ Factory environmental care according to ISO 14001
- ▶ Wide range of standard colours and custom made colours on request

COLOURS

RAL 1015 LIGHT IVORY	RAL 7030 STONE GREY	RAL 3009 OXIDE RED	RAL 5024 PASTEL BLUE
RAL 7035 LIGHT GREY	RAL 7000 SQUIRREL GREY	RAL 6021 PALE GREEN	RAL 5015 SKY BLUE
RAL 7032 PEBBLE GREY	RAL 7024 GRAPHITE GREY	RAL 6011 RESEDA GREEN	RAL 5014 PIGEON BLUE
RAL 1001 BEIGE	RAL 3012 BEIGE RED	RAL 6002 LEAF GREEN	RAL 5009 AZURE BLUE

“The high slip resistance and excellent wear characteristics make the TVS Sports PU system the perfect choice for athletes of all abilities and ages.”

TVS is proud to be the UK-based partner for Robbins Sports Surfaces.

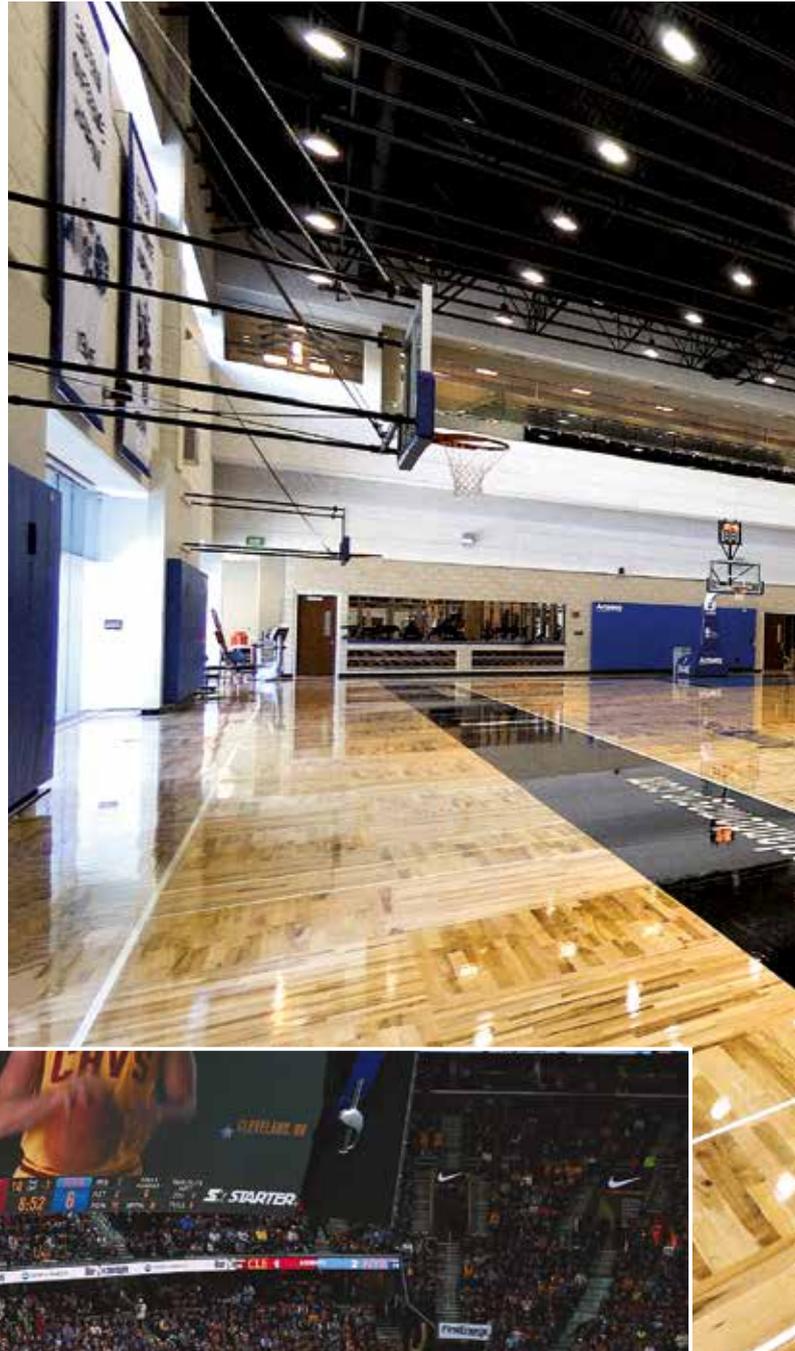
Founded in 1894, Robbins is best known for its work with America's multi-billion-dollar basketball league, the NBA. The family-owned firm is a preferred supplier to 15 of the NBA's Arenas and 22 of its training and practice facilities. The difference in quality is evident, with 22 of the last 27 NBA championships being won by teams who play and train on Robbins Floors.

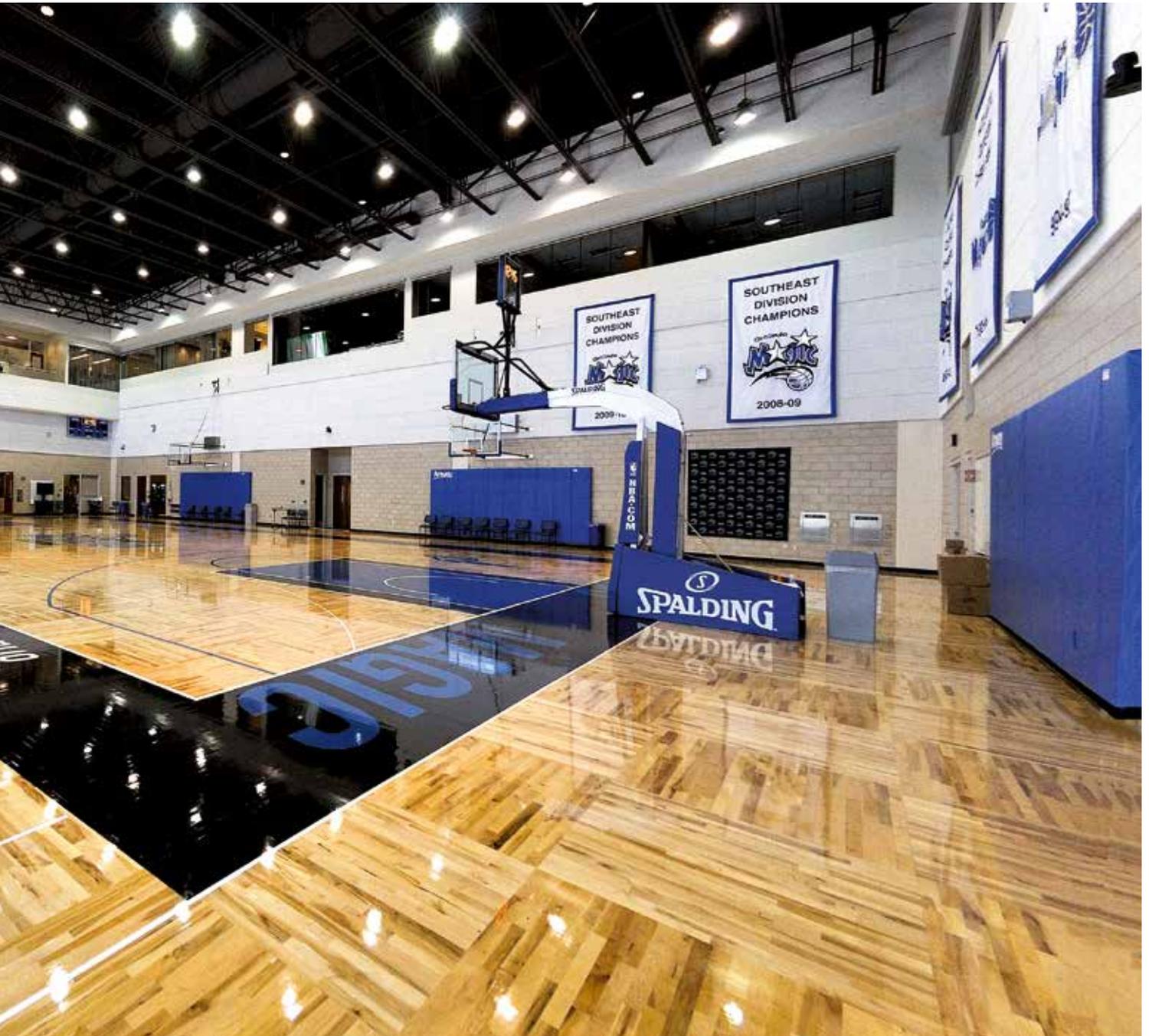
Robbins is one of only a few MFMA-approved, FSC-certified, Rainforest Alliance-certified manufacturers of solid maple floors in America, guaranteeing peace of mind when buying one of our floors. The solid maple floors are also one of the best long term investments in sporting performance; due to their construction and very nature, a Robbins/TVS floor should last for over 40 years with correct maintenance.

TVS can offer solutions at every level: from the elite and professional requirements of stadiums and arenas, through recreational and training facilities for all ages and budgets, to the small assembly or multi-purpose community hall.

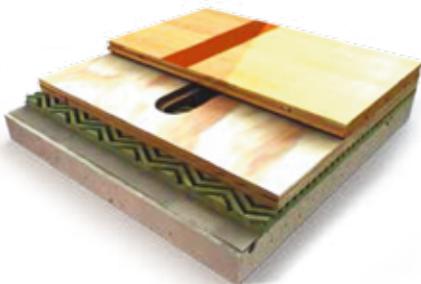
Key features and benefits

- ▶ 40+year life expectancy
- ▶ FIBA Class 1 competition standard available
- ▶ EN14904 compliant
- ▶ Low maintenance requirements
- ▶ Low lifetime costs

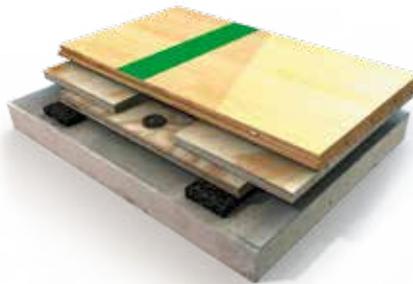




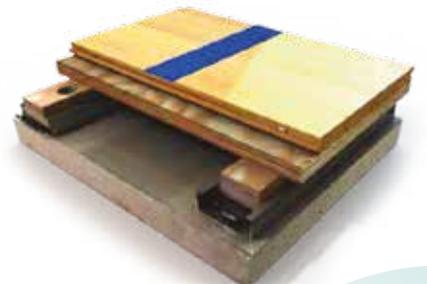
Bio-Channel® Star



Eclipse®



Bio-Channel® Classic



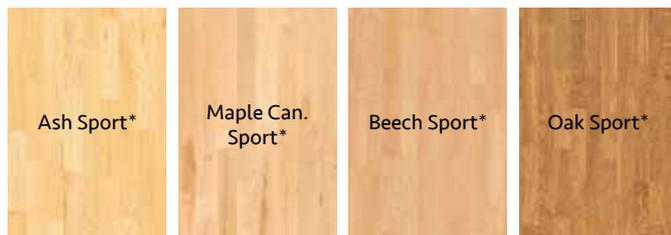
"The solid maple floors are one of the best long term investments in sporting performance."

When it comes to choosing the right sports floor for your facility, Engineered Timber Floors offer you a wide range of options. With 4 species of timber to choose from and systems to meet floor heights of anything from 29mm up to 147mm as standard, you have the flexibility to create the perfect sports floor of your choice. As well as offering solutions to meet building requirements, we can also adapt this system to suit a unique range of applications including yoga and HIIT studio spaces, general gym and fitness areas as well as traditional sports halls and squash courts. All our engineered timber sports floors are EN14904 tested and certified, rainforest alliance certified and FSC certified.

Key features and benefits

- ▶ Range of timber species available
- ▶ Fast installation time
- ▶ Long lifespan – usually 25 years plus
- ▶ FIBA and World Squash accredited surface

WOOD SPECIES & GRADING

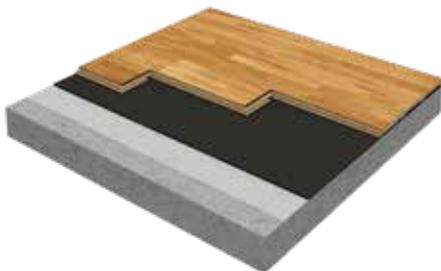


*FSC™ Mix 70%





Actiflex Stadium



Arenaflex Olympia



Flexbat Olympia



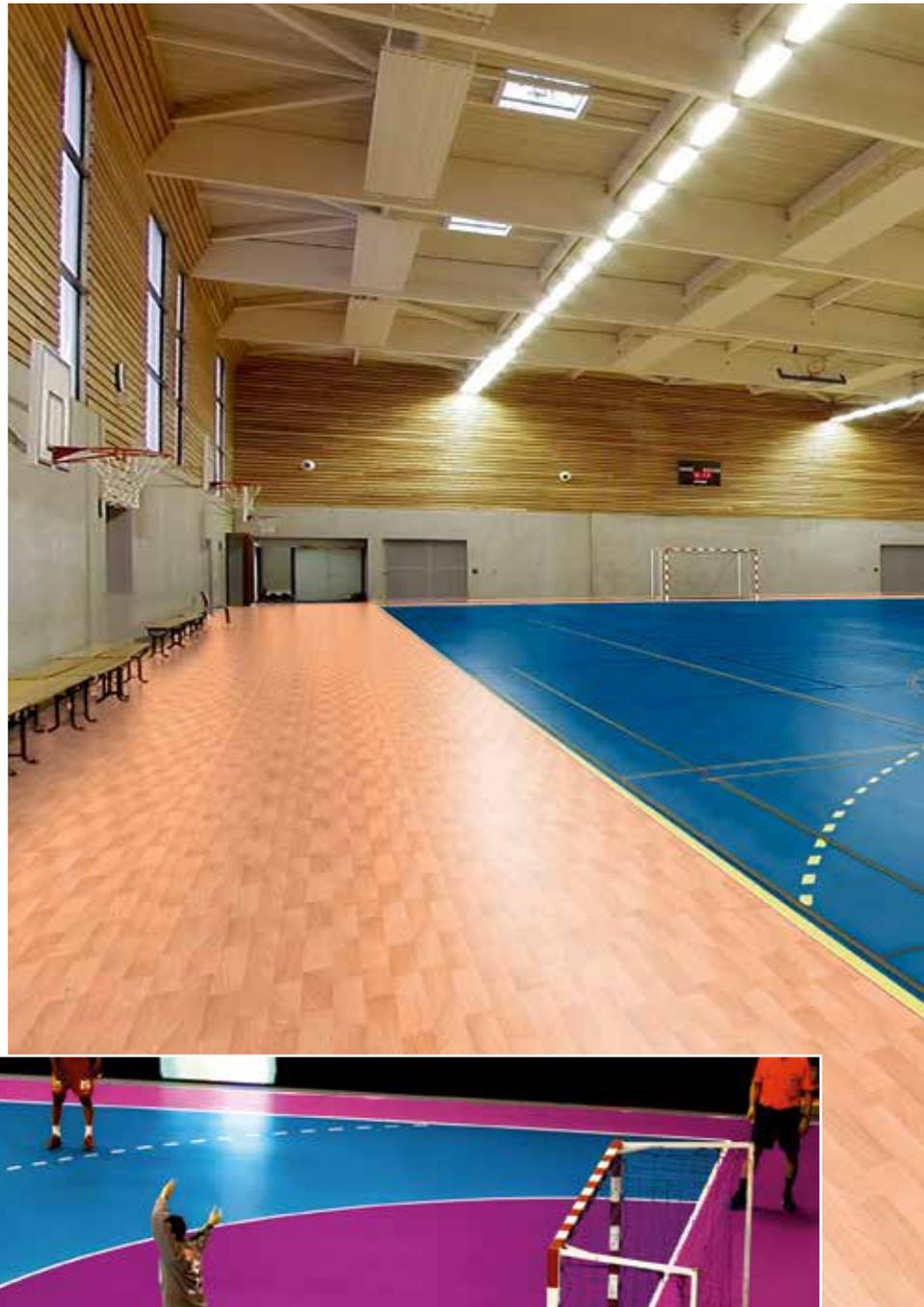
"All our engineered timber sports floors are EN14904 tested and certified, rainforest alliance certified and FSC certified."

TVS Sports Vinyl is, as standard, a preformed point elastic system, which can be tailored to suit any indoor environment. By altering the performance and density of the elastic foam underlays, these systems can be made to suit sports halls, fitness studios, classrooms, hallways and any other area required. The ease of installation and high wear resistance mean they are a popular choice in schools, colleges, universities and leisure facilities worldwide.

Specifically for sports halls, the vinyl can be manufactured to attain all point and mixed elastic performance characteristics. The vinyl layer itself can also be installed directly over a sprung floor to create an area or combined elastic surface.

Key features and benefits

- ▶ A preformed wear resistant sports floor solution
- ▶ Offers optimal comfort and safety
- ▶ Suitable for recreational and elite level sports
- ▶ Pre-laminated – installation times vastly reduced
- ▶ Available in a wide range of colours

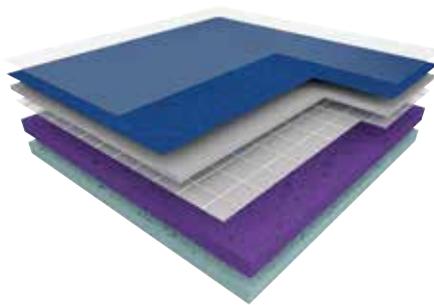




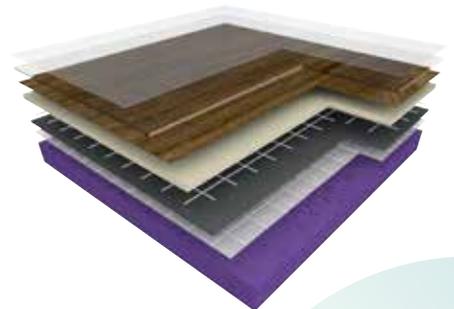
TVS Sports Vinyl Surface



TVS Sports Vinyl Sport



TVS Sports Vinyl Multi-use



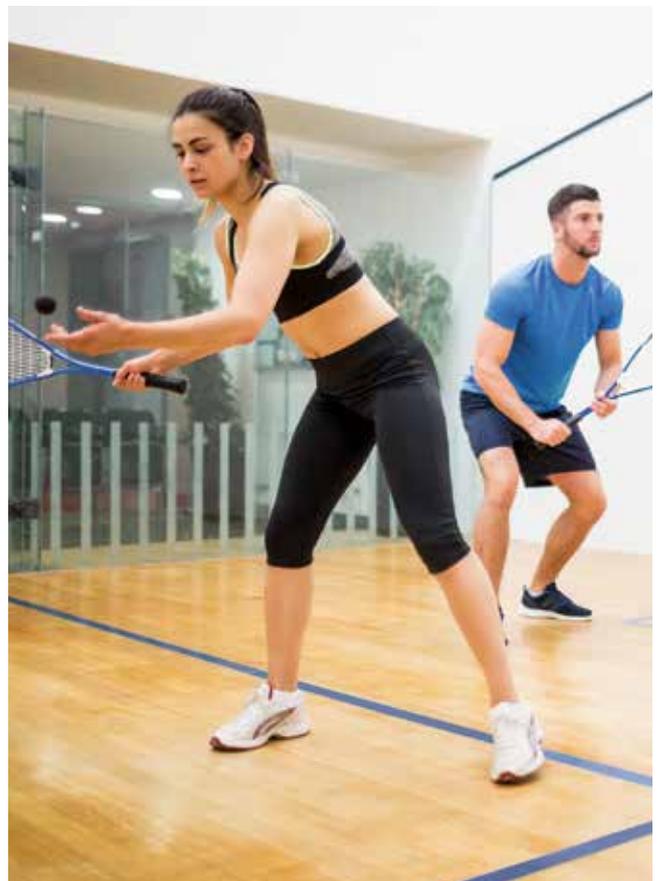
“Specifically for sports halls, the vinyl can be manufactured to attain all point and mixed elastic performance characteristics.”

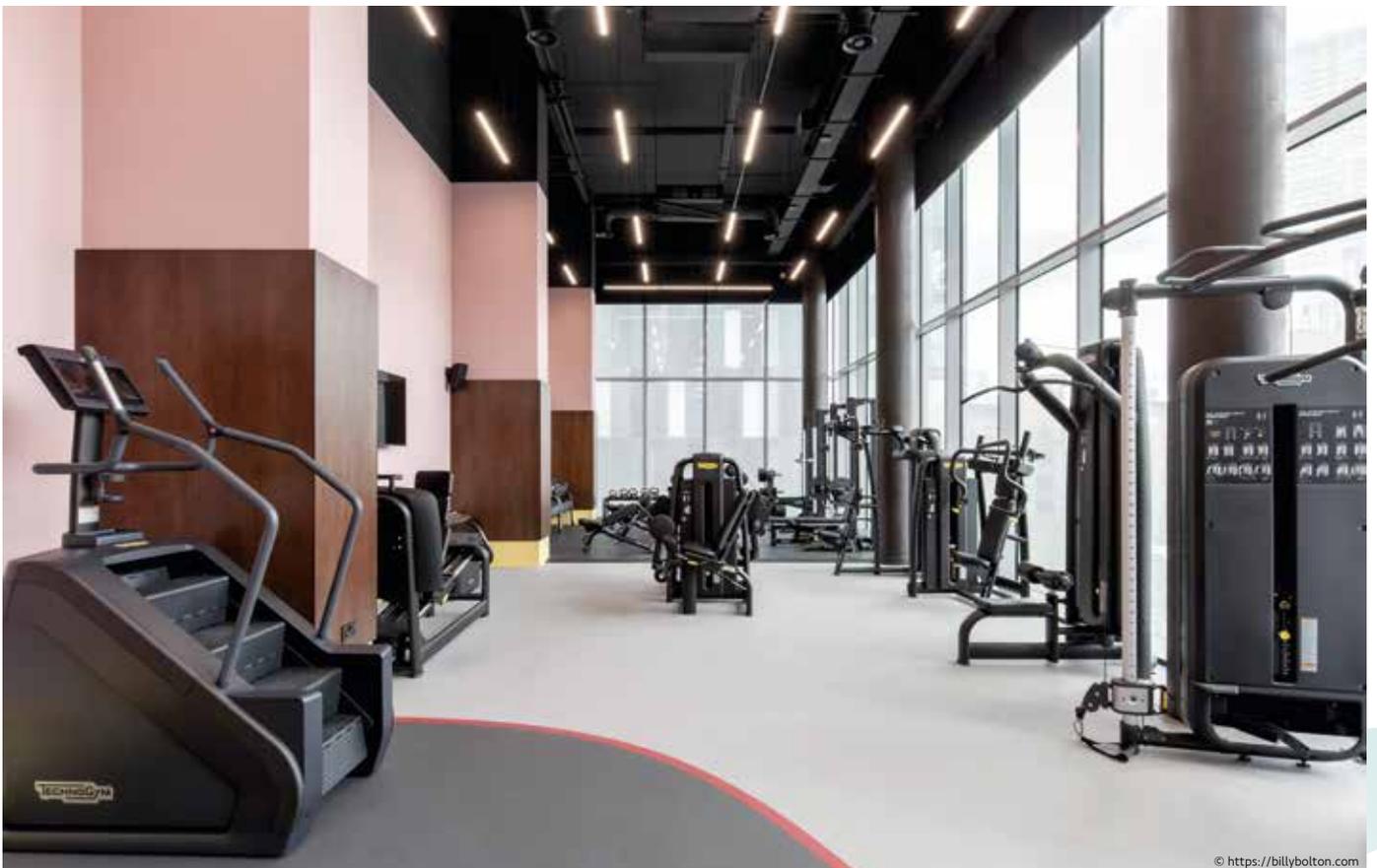
Squash Courts

TVS works with one of the world's leading manufacturers of engineered timber sports surfaces to offer a WSF (World Squash Federation) accredited system for all four of our high quality timber species – Ash, Beech, Maple and Oak. This finish is compliant to DIN 18032-2 and tested to a friction rate of 0.59, giving the optimal grip for competitive squash play.

Studios

TVS has the expertise to tailor your floor to the exact needs of the space. For studios this poses a unique challenge. Some studios have to be completely specialised for a single intended purpose such as Barre/Ballet studios. Others need to be truly multifunctional facilities offering dance, drama, yoga, spin and HIIT training. We can work with you to determine the performance and finish requirements to cater to all the needs of your facility whether that be specialised spin cycle concepts, peaceful yoga spaces or a true multi-use space which has to seamlessly switch daily between classroom, martial arts dojo and functional training space. Contact our experts today to start working on your design.





© <https://billybolton.com>

TVS ABSorb Sport Panels

An impact-resistant, Class A acoustic absorber for use in sports halls, five-a-side pitches, gyms and event centres.

TVS ABSorb Sport Panels have undergone extensive impact testing to ensure their suitability for use within sports halls. As one of the only acoustic panels to be impact-resistant to DIN 18032-3, their versatility allows them to be installed at low levels in areas where traditional acoustic panels would be susceptible to knocks and damage. Available in a variety of colours, they can brighten and add interest to any space.

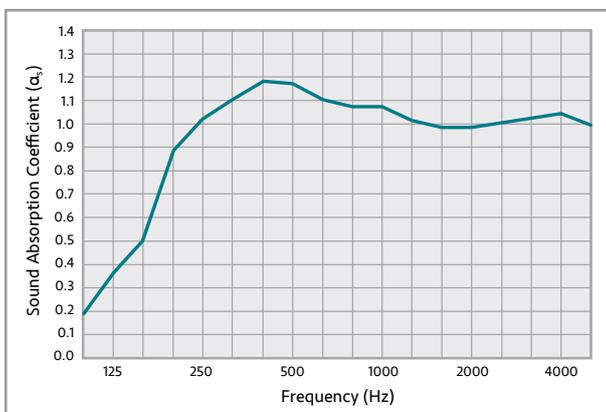
Key features and benefits

- ▶ Impact resistant to DIN 18032-3
- ▶ Class A acoustic absorber
- ▶ Can be installed at low levels on walls
- ▶ Manufactured to size and shape required
- ▶ Quick and easy to install
- ▶ Specialist mounting kit available





Acoustical Performance



Sound absorption values

Frequency (Hz)	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
Sport panels (α _v)	0.19	0.36	0.50	0.89	1.03	1.10	1.18	1.17	1.10	1.07	1.07	1.02	0.99	0.99	1.01	1.03	1.05	1.00

Physical Information

Panel Size	Bespoke Design Max panel size – 2700mm x 1200mm
Colours	Choice of 80 colours available – Cara & Lucia ranges
Ball Impact Resistance	Pass (DIN 18032-3)
Fire Resistance	TVS ABSorb Sport core has been tested and offers class 0 fire rating to BS476: Part 6 and the fabric facing complies with class 1 to BS476: Part 7 and also complies with BS EN 1021-1 cigarette (Class 0 fabrics can be supplied on request)
Weight	Our TVS ABSorb Sport Panels weigh in at 4.4kg/m ² <i>Note: All weights are given as approximations</i>

Case Study – Deansgate Square, Manchester

TVS Sports Flooring and Acoustics

Project Information

Client: Renaker Build Ltd

Main Contractor: Renaker Build Ltd

Acoustic Consultant: Fisher Acoustics

Project Objective

Deansgate Square's tallest tower reaches 64-storeys and the development houses more than 1,500 stylish apartments and penthouses. It also boasts one of the most luxurious health and fitness complexes in the region.

TVS Group was approached to recommend a specialist acoustic floating floor and sports flooring capable of isolating residents from any unwanted noise that might be transmitted during the use of health and fitness facilities.

"The project involved work across a wide range of facilities from fitness areas to a sports hall and studios for yoga and spinning classes," said TVS Group Sales Director Andy Roberts. "TVS was selected because of its dual ability to address acoustic requirements and specify, supply and install high quality sports flooring solutions. Acoustics were a key element

of the project and we needed to meet stringent criteria to guarantee satisfaction for both residents in adjoining apartments and leisure users involved in different activities."

The prestige nature of the project at Deansgate Square also meant that TVS would have to deliver bespoke flooring and acoustic wall materials that integrated seamlessly with the colour themes already chosen for the various fitness areas.

Sports hall & fitness studios

Designed to be used for a variety of fitness and sports activities, the spacious sports hall and adjoining fitness studios needed flooring that would be both shock-absorbent and offer the perfect grip rating for excellent aerobic performance and user comfort. A seamless polyurethane flooring system, TVS PU-Sport, was chosen as the perfect solution with all the various colours custom produced to match the designer's vision for the new facilities. Free-flowing zone markings were then added to separate activity spaces within the studios and heavy duty SPORTEC® Style tiles were installed in the free weights zone to provide maximum impact resistance. TVS supplied paint finishes for the impact resistant walls to match the flooring.





With all sports halls, reverberation and acoustic issues are a concern, and large, open spaces can result in flutter echoes. To combat this, TVS was able to install its clever, custom-sized and colour-matching TVS Absorb Sport Panels.

Acoustic floating floor

For the High Intensity Interval Training facility and separate Yoga Studio, TVS installed a specialist Dry RESi Floating Floor system to dramatically reduce impact and airborne sound transmission. Acoustic Dry Floating Floors are a lightweight alternative to concrete-based systems and feature an air gap below and special isolators that help to cushion impacts and suppress structural noise. They are also quick to install and offer outstanding performance over the lifetime of a building.

Finally, TVS decoupled all the different elements of the fitness and health complex from one another ensuring that, even when every activity area was in use, there would be nothing to distract users, whether involved in high tempo training or the calm and tranquillity of a yoga class.



© Images: <https://billybolton.com>

OUTDOOR SPORTS



When deciding on your preferred outdoor facility, there may be many factors to take into consideration – sporting requirements, environmental impacts, available space, logistical limitations and even return on investment. TVS Group can deliver a solution that’s built around your specific needs. We can create professional level, LTA pace-rated tennis court systems, FA, World Rugby and FIFA recognised artificial turf systems, as well as IAAF certified athletics tracks. Alternatively, we are just as adept at delivering multi-use play spaces for schools and hard-wearing, long-lasting multi-sport turf systems for facilities that are hired. We can also offer advice on lifetime maintenance to ensure you get long-term value from your facility.

TVS Group works with some of the world’s leading manufacturers to ensure our clients have access to the best choice of materials to suit their requirements.



Artificial Turf systems have become increasingly specialised over the last 15 years. New Artificial Turf products must undergo strenuous testing processes to prove that they are suitable for key individual sports such as football, tennis, hockey and rugby, with the governing body of each sport issuing its own certification based on specific sporting criteria. At TVS, we are able to work with manufacturers worldwide to provide you with a wide range of options that ensure your facilities meet your individual needs, whether that's a competitive tennis club, or a primary school in need of an outdoor all-weather play space. Our partners also allow us to cater to multiple sports in a single space, such as offering a hybrid turf for both football and hockey play, a long pile system for football and rugby, or a dense smooth surface for tennis and hockey. Contact our experts today to start designing your new space.





TVS can offer a range of hard outdoor sporting surfaces to suit your budget and aspirations. All our surfaces are designed to improve safety by increasing and standardising the grip rating across the entire surface while also improving the visibility of game areas. This method allows us to turn any outdoor space into one which encourages physical activity and sports participation.

We include within this range both permanent and portable systems. TVS can offer solutions for full new build installations as well as refurbishment of existing surfaces.

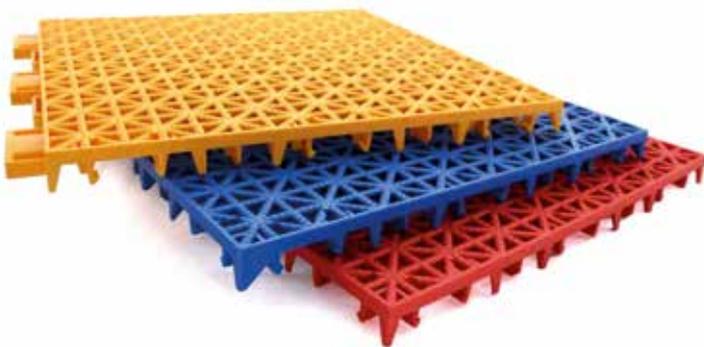


Before



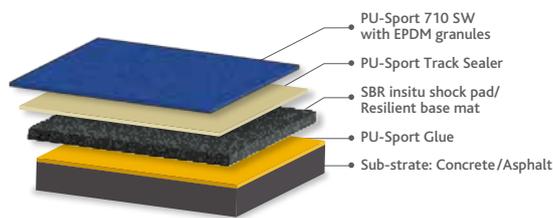
After





IAAF-certified TVS Uni-Versa SW1200 sandwich system

Our spike-resistant, IAAF-certified SW1200 track is a fully-compliant professional athletics system. This can be installed at any indoor or outdoor facility where performance is paramount. This custom-installed track will ensure the most competitive surface is available for training or competitions. The cushioned EPDM rubber top surface ensures a long lifespan while ensuring athlete comfort and reduced instances of muscle fatigue and injury.



TVS Uni-Versa

TVS Uni-Versa offers a very flexible indoor or outdoor athletics surface, available for use in any environment. This preformed, solid EPDM rubber system has an open granular finish offering maximum grip and performance. Equally suitable in multi-use facilities or as a casual indoor/outdoor jogging track, its preformed nature, along with extremely high calibre fire and emissions certifications, make this an ideal solution for indoor athletics facilities.





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