



**SPORT  
COURT**  
OUTDOOR SURFACES



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Biomechanical  
comparative study

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## **PowerGame+™ Modular sport surfaces**

Safe sports practice

**Gerflor®**



# Reduce the risk of injury while practicing sports

## INSIGHTS

EFFORT EXERTED OVER A BASKETBALL GAME



**92%**

of injuries concern the lower limbs



**30%**

of injuries are related to impacts and physical stresses



**4-5**

kilometres travelled



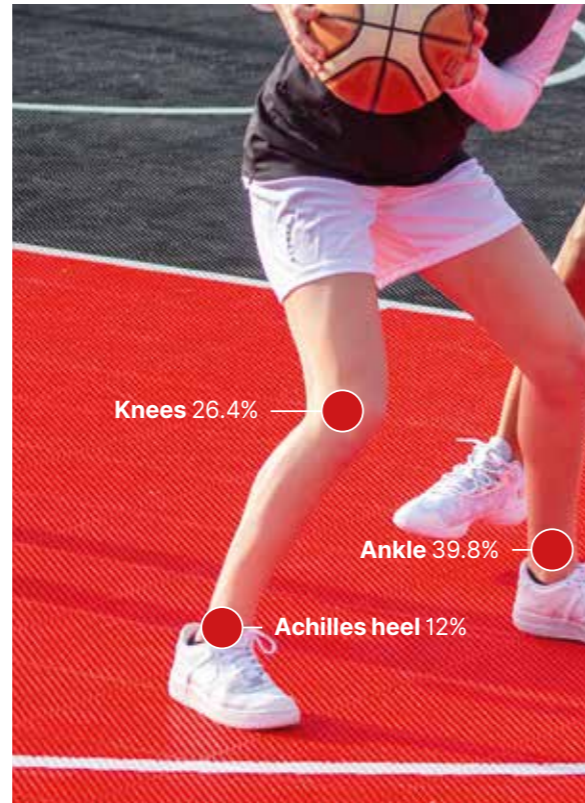
**50-60**

short sprints at maximum intensity



**100**

jumps



Physical areas at risk of trauma

## OBSERVATION +

**4 000**  
impacts

i.e. 500 to 800 tons per leg for the total duration of a basketball game





# Sports comparative study Concrete vs PowerGame+™

The Interuniversity Laboratory of Motricity Biology, located on several sites in France, associates researchers in the field of **physiology, biomechanics and neurosciences applied to physical and sports activities and to healthcare.**



## PURPOSE OF THE STUDY

Assess the contribution of PowerGame+™ tiles to the reduction of muscular efforts, shocks and vibratory stresses compared to playing basketball on a concrete surface.

## TARGET

Population of young basketball players from 13 to 19 years old.

## THE MATCH CONCRETE VS POWERGAME+™



## EQUIPMENT USED IN THE STUDY

### Surface EMG electrodes

- Measurement of muscle activation and associated efforts

### Triaxial accelerometers on the heel, tibia and calf

- Measurement of shocks and vibrations

### Opto-reflecting cameras

- Motion capture

## 5 TYPES OF MOVEMENTS TESTED



# PowerGame+™ Benefits

✓ Excellent energy restitution

10%

muscular fatigue reduction

🏃 Better cushioning when running

20%

shock reduction on all movements combined

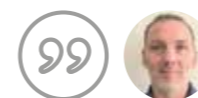
🏃 Higher running speed

10%

performance boost

🦶 Better prevention of stress fracture risks and pathologies

Tibial strain reduction



« Our study has enabled us to demonstrate that the Sport Court® PowerGame+™ surface reduces shocks and muscle fatigue when playing compared to a concrete surface. A significant reduction in the level of muscle activation for the same performance has been observed, as well as a limitation of the vibrational behavior of the muscle at low frequencies, which correspond to the resonance frequencies of human tissues. Thus, Sport Court® outdoor tiles will significantly reduce mechanical stress and therefore reduce the risk of injury for the players.»

Christophe HAUTIER,  
Director of Research Unit of the Interuniversity Laboratory of Biology and Motor Skills.

## GAIN IN-GAME COMFORT WHILE REDUCING FATIGUE AND THE RISK OF INJURY

- Less mechanical stress
- Fewer shocks
- Less fatigue in games
- Less risk of fatigue injury

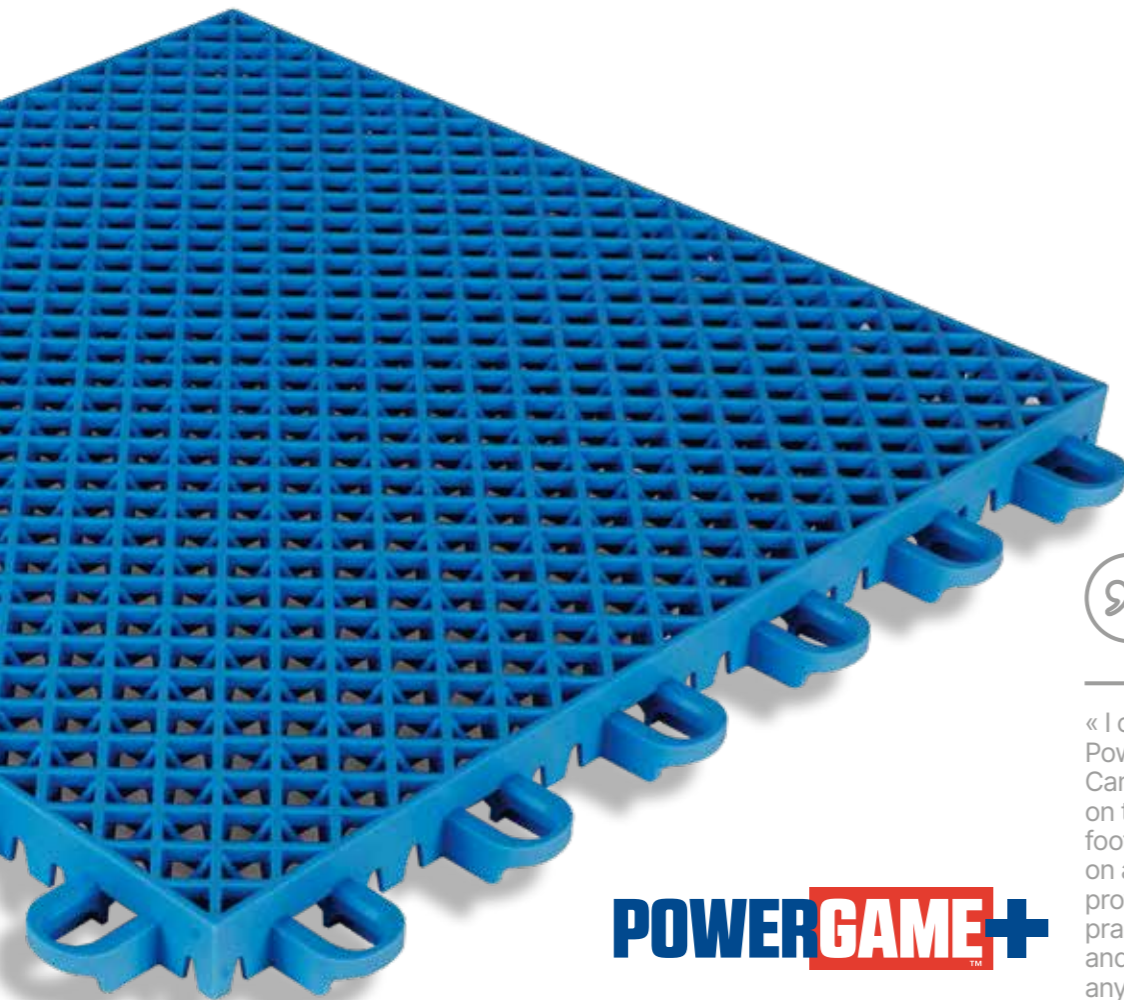


# The next step in multisports outdoor surfacing



- **Wide choice of colors available**  
Playful and colorful eye-catching recreational areas
- **Versatile and modular surface**  
Suitable for all outdoor multisports or recreational applications
- **Robust interlocking system**  
Surface stability, excellent ball rebound and player comfort

- **Reinforced connection locks and loops**  
Durability of permanent or temporary installations (assembly/dismantling)
- **Double grid structure for a fast drying of the surface**  
Enhanced safety and longer playtime
- **Protection against injuries**, thanks to shock absorption, reduction of joint stress and fatigue



**POWERGAME+**



« I chose Sport Court® PowerGame+™ tiles for my court in Cameroon, West Africa. I feel safe on the surface. It allows for great footwork and better cushioning than on a concrete or asphalt surface and provides for better comfort during practice. The surface is very stable and the ball rebound is on par with any other basketball court. »

Joakim NOAH,  
French-American former professional basketball player.

THEY TRUST US



## INSTALLATION



It only takes 4 hours of installation and 2 hours of line marking, to lay

**1 000 M<sup>2</sup>**

of a PowerGame+™ modular surface



**we care / we act** Our Commitments for a Sustainable future



**CARBON FOOTPRINT\***  
-20 % kg  
CO<sub>2</sub> equivalent/m<sup>2</sup>  
between 2020 and 2025



**BIOSOURCED CONTENT\*\***  
10 % by 2025



**RECYCLED CONTENT**  
30 % by 2025



**ADHESIVE FREE\*\*\***  
35 % by 2025



**ANNUAL VOLUME RECYCLED**  
60 000 t by 2025



\* Scopes 1 and 2 defined in the GHG protocol \*\* % of activity with biosourced materials \*\*\* % of activity - adhesive free solution