

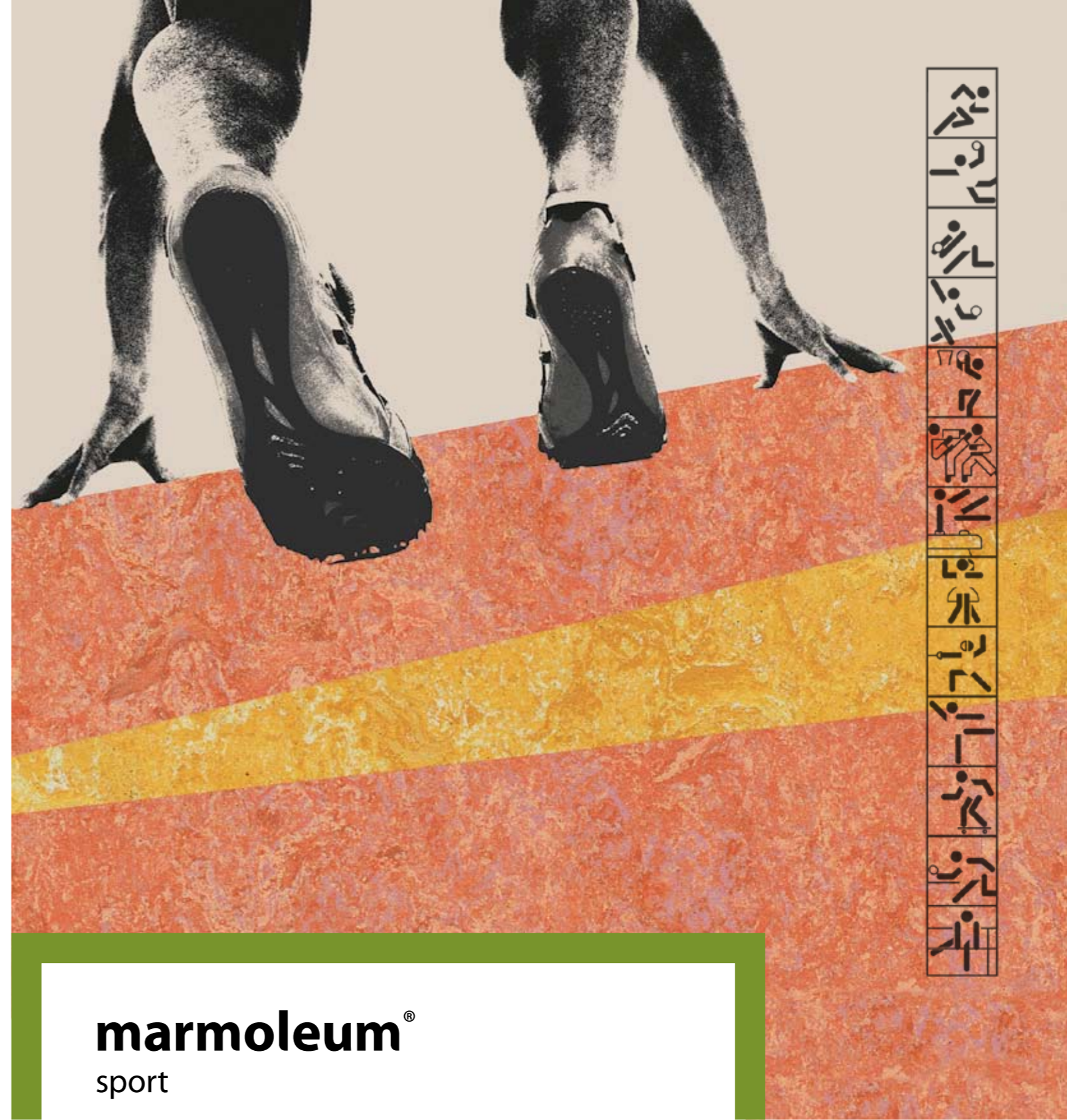
Forbo Flooring Systems is part of the Forbo Group, a global leader in flooring, bonding and movement systems, and offers a full range of flooring products for both commercial and residential markets. High quality linoleum, vinyl, needle punch and hardwood floors combine functionality, colour and design, giving you total flooring solutions for any environment.

Forbo Flooring B.V.
P.O. Box 13
1560 AA Krommenie
The Netherlands
Tel.: +31 75 647 74 77
Fax: +31 75 647 77 01
E-mail: contact@forbo.com
www.forbo-flooring.com



Forbo
FLOORING SYSTEMS

creating better environments



marmoleum®
sport

creating better environments

Forbo
FLOORING SYSTEMS





Experts in sports linoleum

For more than 100 years, Forbo Flooring Systems has specialised in creating better environments, producing stunning floor coverings whose designs, colours and structures are inspired by the world around us.

Like Marmoleum Sport. Developed especially for the field of sport and fitness, this beautiful yet practical top surface can be combined with a sprung undercarriage or special underlay to deliver excellent sporting properties. Great to play on, simple to care for and durable, Marmoleum Sport has proved itself in thousands of indoor sports facilities around the world.

Nature-based performance

Forbo linoleum is an environmentally friendly product. Manufactured from sustainable natural raw ingredients – linseed oil, rosin, wood flour, limestone, natural pigments and jute – it is fully biodegradable. This ensures that Forbo linoleum is a top performer in life-cycle assessments: it's simply the preferred floor covering, from raw materials to end of life. And that's not only good for the environment, it's good for sports facility users and operators alike.

Life cycle implications and composition, construction and maintenance requirements are central to the design of a high-performance sports flooring system. The typical sports floor sees intensive use, which it needs to be able to take. Just as important is that cleaning and maintenance are not only simple and cost-effective, but quick and safe too, avoiding the use of potentially harmful or unpleasant-smelling chemicals.

Thanks to its combination of natural materials and outstanding performance, Marmoleum Sport fits perfectly with the demanding health and safety requirements of today's sports facilities.

High impact standard

Marmoleum Sport conforms to EN 14904, the European Sports Flooring Standard for multi-sports use. EN14904 covers environmental issues, fire testing and quality control, and defines performance levels for point, area, mixed and combined elastic sports floors. These include force reduction, vertical deformation and grip, as well as resistance to indentation, rolling loads, impact and abrasion.

Marmoleum Sport meets all the specifications for grip, light reflection, environmental, fire resistance and quality control. Impact performance varies according to the kind of underlay or undercarriage system used.

Why Marmoleum Sport is the best choice

High level sports flooring performance

- flexible and elastic
- extremely durable
- resistant to slipping
- withstands heavy rolling loads
- cigarette resistant
- no squeaking noises
- warm to the touch
- complies with the European EN 14904 standard
- complies with the German DIN V 18032-2 standard

Unique collection

- available in both 3.2 mm and 4.0 mm thicknesses
- direction-free, unique marbled design
- 2 colours for wide design freedom
- invisible multicoloured welds

Natural and hygienic

- made from natural raw materials
- proven to be permanently bacteriostatic
- easy to clean and maintain



	Marmoleum Sport on sprung system	Marmoleum Sport Elastic
Application Area	Area elastic system	Point elastic system
School gyms	•	•
Indoor club sports	•	•
Recreation sports	•	•
Multi-sports facility	•	
Professional sports	•	

Marmoleum Sport benefits

Basketball, volleyball, football, hockey, table tennis, gymnastics... General fitness and children's play areas... Amateur sports halls, professional sports halls and purpose-built facilities... Marmoleum Sport is the ideal choice for virtually every indoor sports and multipurpose application. Marmoleum Sport, in combination with the appropriate undercarriage system, delivers the surface deformation, shock absorbency and energy return characteristics that are critical to a winning sports flooring system.

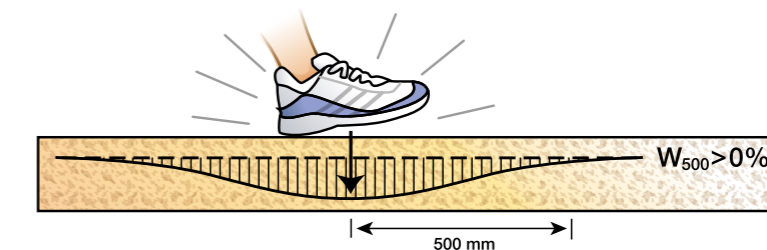
Marmoleum Sport has also been developed with the grip/slide trade-off in mind. So it's slippery enough to enable users to slide a little as they pivot, twist and decelerate, yet grippy enough to enable quick acceleration. It's smooth enough so that people won't suffer friction burns, yet rough enough to provide a trustworthy grip.

Marmoleum Sport applications

Marmoleum Sport can be used in two types of sports flooring systems according to EN 14904: area elastic and point deformation.

Area elastic (type A) sports flooring system

Marmoleum Sport is perfect for use in area elastic (sprung) sports floor constructions. Area-elastic floors minimise the risk of injury by spreading the force of an impact over a larger area. The combination of a sprung system with a Marmoleum Sport top layer provides increased force reduction and vertical deformation. This makes it suitable for more demanding sports. The construction of the sprung undercarriage determines the exact performance values.



Pressure deformation of an area elastic (type A) sports floor

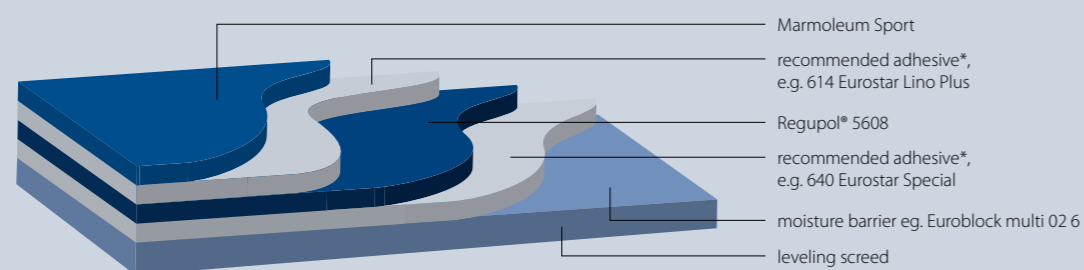
Point elastic (type P) sports flooring system

Marmoleum Sport can also be used to create point elastic flooring systems. Marmoleum Sport Elastic is a combination of Marmoleum Sport and a high-tech rubber underlay to cushion shocks directly at the point of impact. This helps to reduce the risk of repetitive stress problems associated with hard surfaces. Nor does the weight of the user determine the effectiveness of the cushioning effect, as with area elastic systems. Point elastic systems are therefore ideal for children's play areas and lower impact sports.

Marmoleum Sport Elastic

Marmoleum Sport + an advanced rubber underlay = Marmoleum Sport Elastic. Marmoleum Sport Elastic is a point elastic (type P) floor covering that consists of two layers that work together to provide a perfect base for low-impact sports.

The 7 mm thick shockpad underfloor is made of recycled rubber and foam particles, bound with polyurethane. The top surface is Marmoleum Sport. The rubber underlay and Marmoleum Sport are installed separately. The underlay can be affixed directly to the subfloor, which makes it a simple and cost effective sports floor system.



Rubber underlay specifications

Thickness:	7 mm
Weight per m ² :	3.34 kg
Tensile strength:	0.40 N/mm ² DIN 53 571-B
Elongation at break:	50% DIN 53 571-B
Stress at 25% compression:	0.30 N/mm ² DIN EN ISO 3386-2
Force reduction:	34% DIN 18032, part 2
Temperature resistance:	-40 °C up to 115 °C
Fire resistance:	Class B2 DIN 4102



marmoleum[®]sport

83120

3,2 mm
4,0 mm

83176

3,2 mm
4,0 mm

83208

3,2 mm
4,0 mm

83214

3,2 mm
4,0 mm

83211

3,2 mm

83215

3,2 mm

83213

3,2 mm
4,0 mm

83055

3,2 mm
4,0 mm

83210

3,2 mm

83146

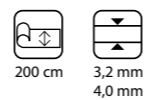
3,2 mm
4,0 mm

83182

3,2 mm
4,0 mm

83212

3,2 mm



Collection overview

Marmoleum Sport is the only linoleum sport flooring available in both 3.2 mm and 4.0 mm thicknesses. The 12 colours in the range have been developed to complement popular sports hall colours, making it possible to create integrated designs that take into account wall reflectance, the type of lighting and its positioning. The patterns featured in Marmoleum Sport also help to conceal dirt.

The colours in the Marmoleum Sport collection can be combined to add accented shapes in the floor for certain sports applications. Marmoleum Sport withstands heavy loads, has a proven long life expectancy, and is easy to clean and maintain.















Marmoweld mc

- 3120
- 3214
- 3213
- 3146
- 3176
- 3211
- 3055
- 3182
- 3208
- 3215
- 3210
- 3212

Technical specifications




marmoleum® sport

Marmoleum Sport meets the requirements of EN 548 and EN 14904

	Total thickness	EN 428	3.2 mm	4.0 mm
	Application areas	DIN 108032, part 2		
	Light reflection		≥ 0.20	≥ 0.20
	Friction coefficient		0.4 - 0.6	0.4 - 0.6
	Collection size		12	8
	Roll width	EN 426	2.00 m	2.00 m
	Roll length	EN 426	ca. 28 m	ca. 28 m
	Acoustical impact noise reduction	EN ISO 717-2	≤ 6 dB	≤ 6 dB
	Castor chair continuous use	EN 425	√	√
	Indentation-residual, typical value	EN 433	0.10 mm	0.13 mm
	Light fastness	ISO 105-B02	√	√
	Resistance to chemicals	EN 423	√	√
	Bacteriostatic properties		√	√
	Flexibility	EN 435	ø 50 mm	ø 60 mm
	Cigarette resistance	EN 1399	√	√
	Life Cycle Assessment		√	√

Marmoleum Sport meets the requirements of EN 14041



	Reaction to fire	EN 13501-1	C _{fl} s1	C _{fl} s1
	EC certificate 0432-CPD-13 5778			
	Slip resistance	EN 13893	DS: ≥ 0.30	DS: ≥ 0.30
	Body voltage	EN 1815	< 2 kV	< 2 kV

Invisible welds

For Marmoleum Sport matching multi coloured weld rods are available for all colours. Practical and decorative, this colourful weld rod harmonises perfectly with the Marmoleum sport colours. Marmoweld mc is used to create an invisibly sealed hygienic floor.

LD3055

MC3055

standard solution

patented Forbo solution