PU MULTISPORT COMFORT

High-elasticity multi-layered system made from two-component polyurethane resin in combination with granular rubber matting for indoor playing surfaces

CE EN 14904 B_{FL}-s1

BENEFITS AND FEATURES

- Complies with EN 14904 standard as "Point Elastic"
- Excellent elastic and mechanical properties
- Durability
- Wide variety of colours available
- Reduces the effect of impact trauma
- Uniform and stable bouncing of the ball
- Comfort during use

PRODUCTS USED FOR THE SYSTEM

PU 200 FINISH, **PU 700 SL**, **PU SEALER 750**, **MAPECOMFORT PU**, **ADESILEX G19**

DESCRIPTION

PU MULTISPORT COMFORT is a multi-layered system consisting of two-component polyurethane resins in combination with a prefabricated, high-performance, elastic rubber mat specifically designed to create durable sports surfaces with a high level of comfort during use.
PU MULTISPORT COMFORT is a multi-layered system with excellent elastic and mechanical properties, allowing for optimum execution of movements and exercises performed by athletes.
Surfaces created using the **PU MULTISPORT COMFORT** system provide a good balance between stability, fluid movements and quick, safe changes in direction during movements, as well as a higher level of comfort, even when used frequently.
PU MULTISPORT COMFORT system is classified as “Point Elastic” according to EN 14904, as flooring providing a precise and immediate response when interacting with athletes’ movements; this peculiar characteristic contributes to reduce the effects of impact trauma.
The elastomeric composition of **PU MULTISPORT COMFORT** considerably reduces the level of impact noise caused by an athlete’s movements, bouncing balls, physical activity in general. These features make **PU MULTISPORT COMFORT** ideal for creating surfaces for sporting activities in schools, competitions at various levels and for games and sports in general for various age groups. **PU MULTISPORT COMFORT** playing surfaces also have a very attractive finish, may be renewed easily and rapidly and customised colours may also be created.

MAPEI SPORTS SYSTEM TECHNOLOGY

1	Concrete
2	**Adesilex G19** adhesive
3	**Mapecomfort PU** granular rubber mat
4	**PU Sealer 750** polyurethane filler
5	**PU 700 SL** polyurethane resin
6	**PU 200 Finish** polyurethane paint
7	**PU 200 Finish** polyurethane paint

COLOURS

PU MULTISPORT COMFORT can also be created in customised colours using the **ColorMap®** colouring system to be applied to self-levelling **PU 700 SL** and finishing **PU 200 FINISH** coloured products.

YIELD

The consumption levels indicated below consider a cycle applied at a temperature of between +15°C and +25°C on a flat, compact cementitious surface. Rougher surfaces and lower temperatures lead to higher consumption rates and longer hardening times for the adhesive used to bond **MAPECOMFORT PU** rubber mat.

PU MULTISPORT COMFORT

certified according to EN 14904 (and ASTM F2772-11)

Medium thickness 11 mm

To meet the requirements of EN 14904 the system requires the use of **MAPECOMFORT PU** 9 mm and that the total thickness of the system is at least 11 mm.
Even though the use of a mat with a different thickness and/or of a different nature (e.g. **MAPECOMFORT R** from 4 to 9 mm thick) and/or a different thickness of polyurethane coating are permitted, they could alter the final elastic-mechanical properties of the flooring. In such cases, check with MAPEI technical Services that it complies with the specified design requirements and stratigraphic layout prior to installation.

Bonding of MAPECOMFORT PU:

ADESILEX G19: 0.5-1.0 kg/m² (varies depending on the roughness of the substrate).
Other two-component adhesives from the **ULTRABOND TURF** range may also be used, according to the type of substrate.

Filler:

PU SEALER 750: 1 coat approx. 0.5 kg/m² (application with straight trowel).

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Self-levelling layer:

PU 700 SL: 1 coat approx. 2.6 kg/m² per 2 mm thickness (application with notched trowel of variable size).

Finishing layer:

PU 200 FINISH: 2 coats approx. 0.1 kg/m² per coat (application with 5-10 mm pile roller).

SURFACE PREPARATION

1. Characteristics of the substrate

Before applying the **PU MULTISPORT COMFORT** cycle, the substrate on which it is to be applied must be carefully analysed. To get the best results it must be checked that there are no materials on the substrate which could impede adhesion of the coating, such as dust, detached or loose material, protective wax, curing products, paraffin, efflorescence, oil stains or layers of dirty resin, traces of paint or chemical products.
Any other kind of material or substance that could affect adhesion of the coating must be removed before starting work. If there are any such materials or substances, it is essential that the substrate is prepared using a suitable preparation method. The maximum residual moisture content of the substrate must be 3% (if it is higher than 3-6 % use **TRIBLOCK P**) and there must be a suitable vapour barrier. If these conditions are not met, the surface must be treated with suitable products. Once treated, make sure the surface is suitable for **ADESILEX G19** or adhesives from the **ULTRABOND TURF** range, otherwise the coating may detach and/or blisters may form. Make sure that the substrate is as flat as possible and that the pull-off strength is higher than 1.5 N/mm². If required, contact Mapei Technical Services for advice on the most suitable preparation method.

2. Substrate preparation

Substrates must be flat and free of any defects before applying the **PU MULTISPORT COMFORT** system. In case of cementitious substrates, the most suitable method for preparing the surface is by grinding with a diamond disk. All dust must then be removed with a vacuum cleaner. Any cracking present in the substrate must be repaired by applying the epoxy resin **EPORIP**. If necessary, repair areas of concrete with cementitious mortars from the **MAPEGROUT**, **PLANITOP** or **ULTRAPLAN** range. Expansion joints must be sealed by applying **MAPEFOAM** and **MAPEFLEX PU 45 FT** or **MAPEFLEX PU 40**, broadcasted with **QUARTZ 0.5** while the sealant is still fresh.
In case of bituminous substrates, cracks must be filled and repaired using reactive products such as **ULTRABOND TURF 2 STARS PRO**, ULT**RABOND TURF 2 STARS** or **ULTRABOND TURF PU 2K**.
In the presence of hollows up to 2 cm deep, it is recommended the use of a balanced mix of the above-mentioned products (**ULTRABOND TURF** or **ADESILEX G19**) and 15-20% by weight of dry silica sand **QUARTZ 0.9**. Broadcast **QUARTZ 0.5** or **QUARTZ 0.9** on the surface while it is still fresh, making sure it is completely saturated.

3. Preliminary checks before application

Make sure that all the checks from section 1 “Characteristics of the substrate” have been carried out and that all the operations indicated in section 2 “Substrate preparation” have been carried out correctly.
Ambient temperature must be above +8°C (ideal temperature would be +15°C ÷ +25°C) and the substrate temperature must be at least 3°C above dew point.

4. Preparation and application of the products

Carefully follow the preparation instructions contained in the Technical Data Sheets for each single product used to form the complete system: **ADESILEX G19**, **MAPECOMFORT PU**, **PU SEALER 750**, **PU 700 SL** and **PU 200 FINISH**.

Mat bonding (ADESILEX G19 and MAPECOMFORT PU)

We recommend rolling out the rolls of **MAPECOMFORT PU** so they may acclimatise sufficiently before they are laid. Apply **MAPECOMFORT PU** on **ADESILEX G19** or on adhesives from the **ULTRABOND TURF** range while they

are still fresh, and then carefully massage the surface from the centre working outwards to make sure there is full contact and to ensure that all air blisters are removed. If the mat is not perfectly flat, put weights (such as bags of sand) on the surface of the uneven areas, and on the joints and ends of the mat, until the adhesive has hardened (12-24 hours) For further information please refer to the products' Technical Data Sheets.

Fillers

PU SEALER 750 is a two-component polyurethane filler. The two components which make up the product must be mixed together just before application. Mix component B thoroughly and add the contents of component A. Mix with an electric mixer fitted with a mixing attachment at low speed to avoid entraining air into the product until they are completely blended. Pour the mix into a clean container and briefly mix again. After duly mixing the two components of **PU SEALER 750** apply it within the pot life indicated in the table, which refers to a temperature of +23°C (approx. 30 min). Pour **PU SEALER 750** directly on **MAPECOMFORT PU** and spread it out evenly with a smooth rubber or metal spreader. This cycle requires one coat at a consumption rate of 0.5 kg/m².

Self-levelling layer

PU 700 SL is a two-component polyurethane self-levelling compound. The two components which make up the product must be mixed together just before application. Mix component B thoroughly and add the contents of component A. Mix with an electric mixer fitted with a mixing attachment at low speed to avoid entraining air into the product until they are completely blended. After mixing the two components of **PU 700 SL** apply and spread it over the surface within 5 minutes. Pour **PU 700 SL** directly on **PU SEALER 750** and spread it out evenly with a notched rubber or metal spreader. This cycle requires 1 coat at a consumption rate of 2.6 kg/m² per 2 mm of thickness.

Finishing layer

PU 200 FINISH is a two-component polyurethane paint. The two components which make up the product must be mixed together just before application. Mix component A thoroughly and add the contents of component B. Mix again for at least 2 minutes with an electric mixer fitted with a mixing attachment at low speed to avoid entraining air into the product until they are completely blended. After mixing the two components of **PU 700 SL**, the cycle requires two coats at a total consumption rate of 0.2 kg/m². Apply **PU 200 FINISH** directly on **PU 700 SL** and spread it out evenly with a roller or by spray.

Line marking

PU 200 FINISH may be used for the coloured tracing of road markings for various disciplines. **PU 200 FINISH**, in such cases, has to be applied by roller or brush.

Cleaning

Clean the tools used to apply the products before they harden with polyurethane thinners. Once the two products have completed their reaction, product residues may only be removed mechanically.

5. Hardening and step-on times

Once the system is complete, at +25°C, the surface sets to foot traffic after 12 hours.
Lower temperatures lead to longer hardening and step-on times.

CLEANING AND MAINTENANCE

Regular cleaning and maintenance operations increase the life of a coated floor, improves its aesthetic properties and reduces its tendency to collect dirt. Floors created using **PU MULTISPORT COMFORT** are generally easy to wash with neutral detergents, or with alkali detergents diluted at a concentration of 5 to 10% in water. Suitable detergents and cleaning tools are readily available for cleaning this type of surface. Manufacturers of these detergents supply all the information required on the cleaning procedures to apply. Our Technical Services Department is available for any information required.

TECHNICAL DATA

PERFORMANCE CHARACTERISTICS according to EN 14904 (and ASTM F2772-11) of the PU MULTISPORT COMFORT SYSTEM composed of: PU 200 FINISH, PU 700 SL, PU SEALER 750, MAPECOMFORT PU 9 mm, ADESILEX G19

STANDARD	TEST	RESULTS AND COMPLIANCE WITH REQUIREMENTS	
EN 13036-4	Slip resistance	PTV: result/class:	80-110 PTV 109
EN 1569	Behaviour under a rolling load	result/class:	≤ 0.05 mm no damage 0.08
EN ISO 5470-1	Wear resistance	result/class:	≤ 1000 mg per 1000 cycles 200 mg
EN 13238	Reaction to fire	result/class:	B_{FL}-S1
EN 14808	Shock absorption	Point Elastic: result/class:	25% ≤ P1 ≤ 35% 29%
EN 14904	Formaldehyde emission	Class E1 result/class:	emission ≤ 0.124 mg/m³ compliant
EN 12235	Vertical ball behaviour	on concrete: result/class:	≥ 90% 99%
EN 14809	Vertical deformation	Point Elastic P1: result/class:	≤ 2.0 mm 0.8 mm
EN 1516	Resistance to indentation	result/class:	≤ 0.5 mm after 24 hours 0.07 mm
EN 1517	Resistance to impact	result/class:	≤ 0.5 mm residual indentation 0 mm
EN ISO 2813	Gloss value	result/class:	matt surfaces ≤ 30% 8%

NOTES

Information regarding safety equipment and handling of the products are contained in the safety data sheets for each component. However, the use of protective clothing and equipment is recommended when mixing and applying the products.

If the products are to be applied on surfaces or under climatic and/ or service conditions which are different from those indicated in the System Technical Data Sheet, please contact MAPEI's Technical Services Department.

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