MAPECOAT TNS MULTISPORT FT

Two-component quick-drying multi-layered coloured epoxy-acrylic based system for indoor and outdoor sports surfaces

PRODUCTS USED IN THE SYSTEM

- Primer: **MAPECOAT TNS PRIMER EPW** (for cementitious surfaces and old resin only), **TRIBLOCK P** (for cementitious substrate with residual moisture only)
- Fillerised base coat: **MAPECOAT TNS EXTREME**
- Finish: **MAPECOAT TNS EXTREME SF**
- Line markings: **MAPECOAT TNS LINE SEAL**, **MAPECOAT TNS EXTREME SF**

CHARACTERISTICS

MAPECOAT TNS MULTISPORT FT is a system characterised by high resistance to wear, UV rays and weather conditions in general.
MAPECOAT TNS MULTISPORT FT may be applied on both old surfaces and on surfaces that need to be dressed with bituminous or cementitious conglomerate.
MAPECOAT TNS MULTISPORT FT is a quick-drying system that enables the various application phases to be completed quickly.
MAPECOAT TNS MULTISPORT FT may be applied at temperatures down to +5°C.

PERFORMANCE AND ADVANTAGES

- Very attractive finish and high functional characteristics.
- Excellent cost-performance ratio.
- Solvent-free.
- Resistant to external environment conditions in general.
- High resistance to UV rays.
- Quick-drying, including at low temperatures.

AREAS OF USE

- Multisport areas.
- Padel.
- Pickleball.
- Vehicle accessible multi-purpose areas.

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1	Concrete
2	Primer **MAPECOAT TNS PRIMER EPW / TRIBLOCK P**
3-4	Epoxy-acrylic coloured coating **MAPECOAT TNS EXTREME** (2 coats)
5	Epoxy-acrylic coloured topcoating **MAPECOAT TNS EXTREME SF**
6	Acrylic coloured paint **MAPECOAT TNS LINE**

SURFACE PREPARATION

1. Characteristics of the sublayer

Before applying the **MAPECOAT TNS MULTISPORT FT** system the substrate on which it is to be applied must be carefully analysed. For the best results, make sure the mechanical properties of the sublayer are sufficient to withstand the loads the flooring will be subjected to during play.

Minimum requirements for concrete substrates:

- cured according to specification (minimum 28 days);
- no rising damp (maximum residual moisture content 3%);
- dry;
- flat;
- no detached areas;
- sufficient slope for rainwater runoff.

Minimum requirements bituminous mats substrate:

- cured according to specification (minimum 15-20 days);
- dry;
- flat;
- no detached areas;
- sufficient slopes for rainwater runoff.

Note: The lack of a vapour barrier (in the case of concrete) could lead to detachments and/or the formation of blisters.
The mechanical characteristics of the substrate must be suitable for the specified area of use and compliant with the guidelines of Sports Associations and Federations where applicable.

2. Preparation of the substrate

Concrete substrates

- The surface of the floor must be prepared with suitable equipment (e.g. shot-blasting or grinding with a diamond disc) to remove all traces of dirt, cement laitance and crumbling or detached areas and to make the surface slightly rough and absorbent. Before applying the product remove all dust from the surface with a vacuum cleaner.
- As an alternative to the treatment mentioned above, in the case of smooth surfaces with low porosity, clean the surface with a solution of clean water and 5-10% of **ULTRACARE HD CLEANER** (or a similar product from

the **ULTRACARE** line); spread the solution over the entire surface with a single-head industrial floor cleaner, then rinse the surface thoroughly with clean running water (for further information refer to the **ULTRACARE HD CLEANER** product data sheet).

- For surfaces with a residual moisture content of up to 3% use **MAPECOAT TNS PRIMER EPW**.
- If the level of residual moisture is between 3 and 6% apply an adequate chemical barrier of **TRIBLOCK P** three-component epoxy-cementitious primer.
- Any cracks must be repaired by filling them with epoxy resin such as **EPORIP**, **EPORIP TURBO**, **EPOJET** or an equivalent Mapei product. If required, repair damaged areas of concrete with a cementitious mortar from the **MAPEGROUT** range, **PLANITOP** or an equivalent Mapei product.
- Seal expansion joints by applying **MAPEFOAM** and **MAPEFLEX PU 45 FT** or **MAPEFLEX PU 40** or an equivalent Mapei product and broadcast the sealant while still fresh with **QUARTZ 0.5**.

Bituminous substrates

Fill and repair any cracks, including deep cracks, with a suitable filler such as **ULTRABOND TURF 2 STAR**S or **ULTRABOND TURF 2 STARS PRO**, or with **ULTRABOND TURF PU 2K**, **MAPEFLEX XPRESS 80/400** or **MAPEFLEX ASPHALT CRACK REPAIR** (two-component quick-drying products).

- For depressions holding water up to 2 cm deep, we suggest using a balanced mix of the products mentioned above (**ULTRABOND TURF**) and 15-20% in weight of **QUARTZ 0.9** dry silica sand; broadcast the surface while still wet with **QUARTZ 0.5** or **QUARTZ 0.9**, making sure it is completely saturated.
- Badly damaged or worn asphalt must be removed and replaced by applying **MAPE-ASPHALT REPAIR 0/8**.

3. Preliminary checks prior to application

Make sure that all the checks from section 1 “Characteristics of the sublayer” have been carried out and that all the operations indicated in section 2 “Preparation of the substrate” have been carried out correctly.
The surrounding temperature must be between +10°C and +35° (the ideal application temperature is +15°C to +25°C) and the temperature of the sublayer must at least 3°C above dew-point.

4. Preparation and application of the products

Carefully follow the preparation instructions indicated in the data sheet for each single product in the application cycle.
The consumption rates below refer to the application of the **MAPECOAT TNS MULTISPORT FT** system on a flat concrete surface. Rougher surfaces and lower temperatures could affect consumption and lead to longer hardening times.

YIELD OF PRODUCTS

Primer:

MAPECOAT TNS PRIMER EPW: 1 coat (approx. 0.10-0.15 kg/m²)

Fillerized base coat:

MAPECOAT TNS EXTREME: 1 coat (approx. 0.40-0.60 kg/m²)

Finish colour coat:

MAPECOAT TNS EXTREME SF: 2 coats (approx. 0.20-0.40 kg/m² per coat)

Line markings:

MAPECOAT TNS LINE SEAL, MAPECOAT TNS LINE (2 coats, according to the lines to be marked out)

Notes:
If **MAPECOAT TNS MULTISPORT FT** is applied on old resin flooring apply **MAPECOAT TNS PRIMER EPW** or **TRIBLOCK P** (refer to the relative technical data sheets for application procedures).

5. Cleaning tools

To clean tools used to apply the system refer to the relative technical data sheet for each single product used.

6. Hardening and step-on times

Once the complete system has been applied the step-on time is 2 hours at +23°C and 50% R.H. Lower temperatures could extend the hardening time and, therefore, the time before flooring can be put into service.

7. Cleaning and maintenance

Regular cleaning and maintenance of sports floors helps extend their service life, maintain their attractive finish flooring and reduce dirt pick-up. Refer to the dedicated manuals for information on cleaning and maintenance operations.

8. Safety instructions for preparation and application

For further and complete information about the safe use of our products please refer to the relative Safety Data Sheet for each product, available on our website www.mapei.it.

PERFORMANCE CHARACTERISTICS MAPECOAT TNS MULTISPORT FT SYSTEM			
STANDARD	**TEST**	**RESULTS**	
TECHNICAL DATA FOR MAPECOAT TNS EXTREME SF			
ASTM G 155 cycle 1	Change in colour after 1,000 hours exposure to a Weather-Ometer – blue: – green: - sky blue: – red: – white:	 ΔE ΔE ΔE ΔE ΔE	 < 0.8 < 0.5 < 0.5 < 0.5 < 0.5
EN 13036-4	Slip resistance on wet surfaces	class III for external use (according to EN 1504-2) unit of measure	≥ 55
EN ISO 5470-1	Resistance to abrasion, variation in weight, H22 disc, 1,000 cycles	g	< 3
EN 13529 – group 3	Resistance to chemicals – group 3 (oil / fuel)	Class II	
Dynamic friction coefficient: **- rubber, dry surface (μ):** **- rubber wet surface (μ):** **- leather, dry surface (μ):** **- leather, wet surface (μ):**		 0.87 0.67 0.58 0.51	

PERFORMANCE CHARACTERISTICS OF MAPECOAT TNS EXTREME SF FINISH FOR CE MARKING ACCORDING TO EN 1504-2, SYSTEMS 2+ AND 3: ZA.1d + ZA.1e + ZA.1f + ZA.1g (C, principles PI - MC - PR - RC - IR)			
ESSENTIAL CHARACTERISTICS	**TEST METHOD ACCORDING TO EN 1504-2**	**REQUIREMENTS**	**PRODUCT TYPICAL VALUES**
Cross-cut test:	EN ISO 2409	≤ GT2	GT0, compliant
Permeability to CO_2:	EN 1062-6	S_D > 50m	130 m
Permeability to water vapour:	EN ISO 7783-1 EN ISO 7783-2	Class I: S_D <5 m (permeable to water vapour)	Class I
Capillary absorption and water permeability :	EN 1062-3	w < 0.1 kg/·m²h$^{0.5}$	< 0.1 kg/m²·h$^{0.5}$
Thermal compatibility: ageing: 7 days at +70°C:	EN 1062-11	Bond ≥ 1.5 N/mm^2	compliant
Thermal compatibility: freeze-thaw cycling with de-icing salt immersion:	EN 13687-1	Bond ≥ 1.5 N/mm^2	compliant
Thermal compatibility: thunder-shower cycling:	EN 13687-2	Bond ≥ 1.5 N/mm^2	compliant

Thermal compatibility: thermal cycling without de-icing salt impact:	EN 13687-3	Bond ≥ 1.5 N/mm^2	compliant
Resistance to temperature shock	EN 13687-5	Bond ≥ 1.5 N/mm^2	compliant
Bond strength by pull-off:	EN 1542	Bond ≥ 1.5 N/mm^2	compliant
Reaction to fire:	EN 13501-1	euroclass	C-s1, d0 / B_{FL}-s1
slip resistance, on wet surface:	EN 13036-4	Class III ≥ 55	≥ 55
Exposure to artificial weathering:	EN 1062-11	After 2000 h of artificial adverse weather conditions: no flacking according to EN ISO 4628-5	No blistering, cracking, peeling. (slight change in colour)
Abrasion strength:	EN ISO 5470-1	Loss of weight < 3 g abrading wheel H22/rotation 1000 cycles/load 1000 g	< 3 g
impact strenght:	EN ISO 6272-1	No cracks or delamination after loading: Class I ≥ 4 Nm	Class I
Chemical resistance - group 3 (oil/ fuel):	EN 13529	Class II: 28 days with no pressure	Class II
Chemical resistance - group 11 (alkali):	EN 13529	Class II: 28 days with no pressure	Class II
Chemical resistance - group 12 (salts):	EN 13529	Class II: 28 days with no pressure	Class II
Chemical resistance - group 14 (surfactants):	EN 13529	Class II: 28 days with no pressure	Class II
Hazardous substances:	n/a	-	NPD

NOTES

Information regarding safety equipment and handling of the products are contained in the Safety Data Sheets for each component of the cycle available on the website www.mapei.com. However, the use of protective clothing and equipment is recommended when mixing and applying the products.

If the cycle is applied on different surfaces from those mentioned above, or in climatic conditions and/or for final uses not mentioned above, please contact the Technical Services Department at MAPEI S.p.A.

Mapei S.p.A.

Via Cafiero, 22, 20158, Milano

+39-02-376731 www.mapei.com mapei@mapei.it

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