

# Mapecoat TNS Cushion PRO



**MULTI-LAYERED ELASTIC SYSTEM MADE OF OF ACRYLIC RESINS IN WATER DISPERSION, FOR SPORTS SURFACES**

## Products used in the system:

**Mapecoat TNS Line Tex, Mapecoat TNS Finish 1.3.4, Mapecoat TNS Base Color, Mapecoat TNS Grey Base Coat, Mapecoat TNS Base Coat Ultra, Mapecoat TNS Base Coat Ultra Plus, Mapecoat TNS White Base Coat or Mapecoat TNS White Base Coat HV**

### DESCRIPTION

**MAPECOAT TNS CUSHION PRO** is a multi-layered elastic system made of acrylic resins in water dispersion, specifically designed for the creation of professional and recreational sports surfaces both in interior and exterior, with high wear resistance and high comfort.

**MAPECOAT TNS CUSHION PRO** may be applied on both existing flooring and on surfaces to be covered with bituminous or cementitious conglomerate.

**MAPECOAT TNS CUSHION PRO** is a multi-layered system with elastic properties, which facilitate the athlete's movements. Surfaces created using **MAPECOAT TNS CUSHION PRO** provide a good balance between stability, fluid movements and quick, safe changes in direction during movements for the athletes, as well as a higher level of comfort, even when used at professional level.

Thanks to the special structure based on a flexible undercoat made with **MAPECOAT TNS BASE COAT ULTRA** and **MAPECOAT TNS BASE COAT ULTRA PLUS**, **MAPECOAT TNS CUSHION PRO** grants high elasticity to the system, thus reducing effects of impact trauma.

### PERFORMANCE AND ADVANTAGES

- The system grants high comfort when in use.
- May be applied directly over existing coated surfaces or on new concrete or bituminous conglomerate substrates.
- Can be used to form an attractive, flat, seamless, highly functional surface.
- Quick application, reduces the time required to carry out work and the down time of playing surfaces.
- Wide variety of colours available.
- Excellent price-performance ratio.
- Ordinary maintenance interventions are reduced.
- Solvent-free.

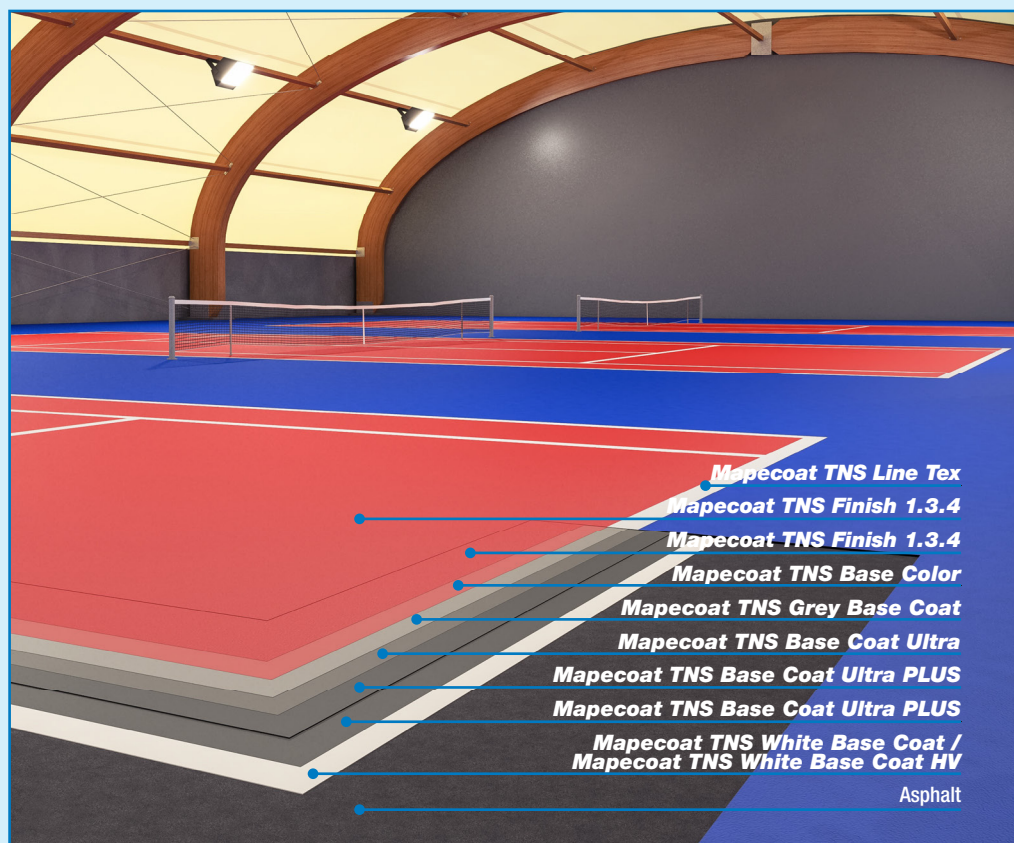
- Resistant to outdoor weather conditions.

### COLOURS

**MAPECOAT TNS CUSHION PRO** may be customized upon request, thanks to **ColorMap** automatic colouring system applicable for **MAPECOAT TNS FINISH 1.3.4**.

### YIELD

The consumption levels indicated below refer to application at a temperature between +15°C and +35°C on a flat, compact bituminous conglomerate surface.



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In particular, the consumption rate of **MAPECOAT TNS WHITE BASE COAT** or **MAPECOAT TNS WHITE BASE COAT HV** may vary according to the absorbency and roughness of the substrate, as well as the application procedure.

Filler undercoat:

**MAPECOAT TNS WHITE BASE COAT** or **MAPECOAT TNS WHITE BASE COAT HV**

1 coat  
bituminous conglomerate surface thin wear mat approx. 1 kg/m<sup>2</sup>;

Flexible undercoat:

**MAPECOAT TNS BASE COAT**

**ULTRA PLUS** 2 coats  
approx. 1.1 kg/m<sup>2</sup>  
(for each coat)

Flexible undercoat:

**MAPECOAT TNS BASE COAT ULTRA**

1 coat  
approx. 0.8 kg/m<sup>2</sup>

Flexible undercoat:

**MAPECOAT TNS GREY BASE COAT**

1 coat  
approx. 0.6 kg/m<sup>2</sup>

Middle finish coating:

**MAPECOAT TNS BASE COLOR**

1 coat  
approx. 0.5 kg/m<sup>2</sup>

Finishing layer:

**MAPECOAT TNS FINISH 1.3.4**

approx. 2 coats  
approx. 0.3-0.5 kg/m<sup>2</sup>  
(for each coat)

Markings:

**MAPECOAT TNS LINE TEX**

2 coats  
consumption to be verified according to markings to carry out.

**NOTE:** if **MAPECOAT TNS CUSHION PRO** is applied on cementitious substrates, always apply **MAPECOAT TNS MAPECOAT TNS PRIMER EPW** or diluted **TRIBLOCK P** according to procedures suggested in the respective Technical Data Sheet. In case of application on cementitious substrates, application of **MAPECOAT TNS WHITE BASE COAT** or **MAPECOAT TNS WHITE BASE COAT HV** is not required.

## SURFACE PREPARATION

### 1. Characteristics of the substrate

Before applying the **MAPECOAT TNS CUSHION PRO** cycle, the substrate on which it is to be applied must be carefully analysed. The substrate must be strong enough for the loads the surface will have to withstand when in use. Make sure there is a suitable vapour barrier underneath concrete

PERFORMANCE CHARACTERISTICS OF MAPECOAT TNS CUSHION PRO SYSTEM consisting of: Mapecoat TNS Line Tex, Mapecoat TNS Finish 1.3.4, Mapecoat TNS Base Color, Mapecoat TNS Grey Base Coat, Mapecoat TNS Base Coat Ultra Plus, Mapecoat TNS Base Coat Ultra, Mapecoat TNS White Base Coat or Mapecoat TNS White Base Coat HV

STANDARD	TEST	RESULTS AND CONFORMITY	
EN 14808:2005*	Shock absorption	(%)	SA ≤ 10
		result/class:	4.3
EN 14809:2005*	Vertical deformation	mm	≤ 3
		result/class:	0.3

## TECHNICAL DATA REFERRING TO FINISH 1 (after 7 days at +23°C) 3°C)

ASTM G 155 cycle 1	Variation of colour after 1000 hours exposure to Weather Ometer - blue: - green: - light blue: - red: - white:	ΔE ΔE ΔE ΔE ΔE	< 0.8 < 0.5 < 0.5 < 0.5 < 0.5
Exposure of coatings to high temperatures (EN 1062-11) (7 days ageing at +70°C)		Compliant (adherence ≥ 1.5 N/mm <sup>2</sup> )	
Slip resistance (EN 13036-4), on wet surface:		≥ 55 N/mm <sup>2</sup>	
Abrasion resistance (EN ISO 5470-1), Δ wheel H22, 1000 cycles:		< 3 g	
Chemical resistance - group 1 (petrol), EN 13529 - group 3):		Class II	
Chemical resistance - group 3 (oil / fuels), EN 13529 - group 3):		Class II	

substrates. If this is not possible, treat the surface with a suitable product and then, after treating the surface, check to make sure the surface is suitable for **MAPECOAT TNS CUSHION PRO**, otherwise it may detach and/or blisters may form. To allow proper adhesion of **MAPECOAT TNS CUSHION PRO** on cementitious conglomerate surfaces it is necessary to apply a suitable primer. In presence of residual moisture over 3% use **MAPECOAT TNS PRIMER EPW**. In case of residual moisture levels between 3 and 6%, as an alternative, apply a suitable chemical barrier by using **TRIBLOCK P** three-component epoxy-cementitious primer. For a successful application make sure that the substrate is free from materials that could compromise the adhesion of the coating, such as cement laitance, dust, loose or detaching parts, wax residues, curing products, paraffins, efflorescence, oil stains, dirty resin layers, paint residues or chemical residues. Any other kind of contaminants that could

affect adhesion of the coating must be removed before starting work. If such materials or substances are present, it is essential that the substrate is prepared using a suitable preparation method. It is possible to apply it is possible to apply **MAPECOAT TNS CUSHION PRO** over other finishes only after a careful evaluation of compatibility. In case of new bituminous substrates it is advisable to use a bituminous mat between 0 and 6 mm and of 3 cm thickness. After creating the asphalt layer it is advisable to wait approximately 10 days to allow complete oxidation of the bitumen. Make sure that the substrate is as flat as possible, and that the pull-off strength is higher than 1.5 N/mm<sup>2</sup>. If required, contact Mapei Technical Services for advice on the most suitable preparation method.

### 2. Preparation of the substrate

Substrates must be flat and free of any defects before applying **MAPECOAT TNS CUSHION PRO**.

In case of bituminous conglomerate substrates, the surface of the floor must be prepared with suitable power tools to remove all traces of dirt, cement laitance and crumbling or detached parts and to make the surface slightly rough and absorbent. Before applying **MAPECOAT TNS CUSHION PRO** remove all traces of dust from the surface with a vacuum cleaner. Repair cracks by filling them with **EPORIP** and repair any damaged areas in the concrete with a cementitious mortar from the **MAPEGROUT, ULTRAPLAN** or **PLANITOP** 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. Bituminous conglomerate surfaces to be treated with this product must be dry, clean, free of loose material and as flat as possible. Defects such as pitting, cracks or hollows must be repaired using **ULTRABOND TURF 2 STARS PRO**, **ULTRABOND TURF 2 STARS** or **ULTRABOND TURF PU 2K**. In the presence of hollows up to 2 cm deep, it is recommended to use of a balanced mix of **ULTRABOND TURF** 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. In the case of particularly deteriorated or dirty areas of asphalt, it may be necessary to remove these areas and then repair them with **MAPE-ASPHALT REPAIR 0/8** cold-applied reactive asphalt.

### 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 "Preparation of the substrate" have been carried out correctly.

The surrounding temperature must be between +10°C and +35°C (the ideal application temperature is between +15°C and +25°C) and the temperature of the substrate must be at least 3°C higher than the dew-point temperature.

### 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: **MAPECOAT TNS WHITE BASE COAT** or **MAPECOAT TNS WHITE BASE COAT HV**, **MAPECOAT TNS BASE COAT ULTRA PLUS**, **MAPECOAT TNS BASE COAT ULTRA**, **MAPECOAT TNS GREY BASE COAT**, **MAPECOAT TNS FINISH 1.3.4** and **MAPECOAT TNS LINE TEX**.

• **Sublayers**  
(**MAPECOAT TNS WHITE BASE COAT** or

### **MAPECOAT TNS WHITE BASE COAT HV** **MAPECOAT TNS WHITE BASE COAT** and **MAPECOAT TNS WHITE BASE COAT HV**

are semi-flexible, fillerized acrylic resin-based filler undercoats in water dispersion.

Diluted with maximum 15% water according to environmental conditions and apply using a rubber trowel such as **TROWEL 65** for **MAPECOAT TNS** or a metal trowel.

Wait 12 to 24 hours at +23°C and 50% R.H. before applying the following product. In any case, always verify that the applied layer is completely dry before carrying out the following steps. For further information please refer to the products' Technical Data Sheets.

• **Flexible layers**  
(**MAPECOAT TNS BASE COAT ULTRA PLUS**, **MAPECOAT TNS BASE COAT ULTRA**, **MAPECOAT TNS GREY BASE COAT**)

**MAPECOAT TNS BASE COAT ULTRA PLUS** is a flexible acrylic wet-lay cushioned undercoat in water dispersion and rubber granules up to 1.5 mm. Dilute with maximum 15% water according to environmental conditions.

Wait 12 to 24 hours at +23°C and 50% R.H. between coats. In any case, always verify that the applied layer is completely dry before carrying out the following steps. For further information please refer to the products' Technical Data Sheets.

**MAPECOAT TNS BASE COAT ULTRA** is a flexible acrylic wet-lay cushioned undercoat in water dispersion and rubber granules up to 0.8 mm. Dilute with maximum 15% water according to environmental conditions.

Wait 12 to 24 hours at +23°C and 50% R.H. between coats. In any case, always verify that the applied layer is completely dry before carrying out the following steps. For further information please refer to the products' Technical Data Sheets.

**MAPECOAT TNS GREY BASE COAT** is a flexible acrylic resin-based undercoat in water dispersion. Dilute with maximum 15% water according to environmental conditions.

Wait 12 to 24 hours at +23°C and 50% R.H. between coats. In any case, always verify that the applied layer is completely dry before carrying out the following steps. Once **MAPECOAT TNS GREY BASE COAT** is dry, sand the surface to remove irregularities if present and remove dust residues with an industrial vacuum. For further information please refer to the products' Technical Data Sheets.

• **Finish** (**MAPECOAT TNS BASE COLOR**, **MAPECOAT TNS FINISH 1.3.4**.)

**MAPECOAT TNS BASE COLOR** is a coloured acrylic coating in water dispersion, with selected fillers, for

intermediate layers. Dilute with maximum 10% water according to environmental conditions. Wait 12 to 24 hours between coats and, in any case, always verify that drying is complete before carrying out the following steps. For further information please refer to the products' Technical Data Sheets.

**MAPECOAT TNS FINISH 1.3.4** are coloured acrylic resin-based finishes in water dispersion with selected fillers. Dilute with maximum 10% water according to environmental conditions. The application requires 2 layers with 12 to 24 hours waiting time between two coats, at +23°C and 50% R.H. In any case, always verify that the applied layer is completely dry.

For further information please refer to the products' Technical Data Sheets.

• **Road markings**  
(**MAPECOAT TNS LINE SEAL** and **MAPECOAT TNS LINE TEX**)

Apply **MAPECOAT TNS LINE TEX** by roller in 1 or 2 coats (12 to 24 hours between coats at +23°C and 50% R.H.), according to the dilution ratio and the coverage required. To optimise the lining of **MAPECOAT TNS LINE TEX**, **MAPECOAT TNS LINE SEAL** can be previously applied. For further information please refer to the products' Technical Data Sheets.

• **Cleaning**  
Please refer to the respective technical data sheets of products to clean tools used during application.

**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 flooring's service life, improve its aesthetic properties and reduce its tendency to collect dirt. For cleaning and maintenance operations please refer to the respective manuals.

**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 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.**

