Mapecoat TNS Urban

MULTI-LAYERED SYSTEM MADE FROM ACRYLIC RESIN IN WATER DISPERSION FOR CYCLE PATHS, PAVEMENTS AND URBAN FEATURES

Products used for the system:
Mapecoat TNS Protection, Mapecoat TNS Line, Mapecoat TNS Urban and Mapecoat TNS White Base Coat

DESCRIPTION

MAPECOAT TNS URBAN is a multi-layered system made from acrylic resin in water dispersion with selected fillers and is used to make cycle paths, pavements and areas with urban features with high resistance to wear, UV rays and various weather conditions.
MAPECOAT TNS URBAN may be applied on existing painted surfaces or on new cementitious or asphalt surfaces that need to be dressed.
MAPECOAT TNS URBAN is used to dress surfaces to protect the substrate (asphalt or concrete) against wear and tear and forms a non-slip finish resistant to the possible contact with oil, fuel and de-icing salts.
Surfaces dressed with **MAPECOAT TNS URBAN** also have a very attractive finish and may be renewed easily and rapidly.
The **MAPECOAT TNS URBAN** system is certified by ANAS (Italian Highways Authority).

PERFORMANCE AND ADVANTAGES

- Protects surfaces against wear and tear.
- Durable, characterised by high resistance to wear and abrasion from foot traffic.
- Resistant to all weather conditions, smog and direct ultraviolet rays.
- Solvent-free and eco-friendly.
- Forms attractive, flat, seamless and highly functional surfaces.
- Quick application, reduces the time required to carry out work and the down time of surfaces.
- Wide range of colours available.
- Guarantees an excellent cost-performance ratio.

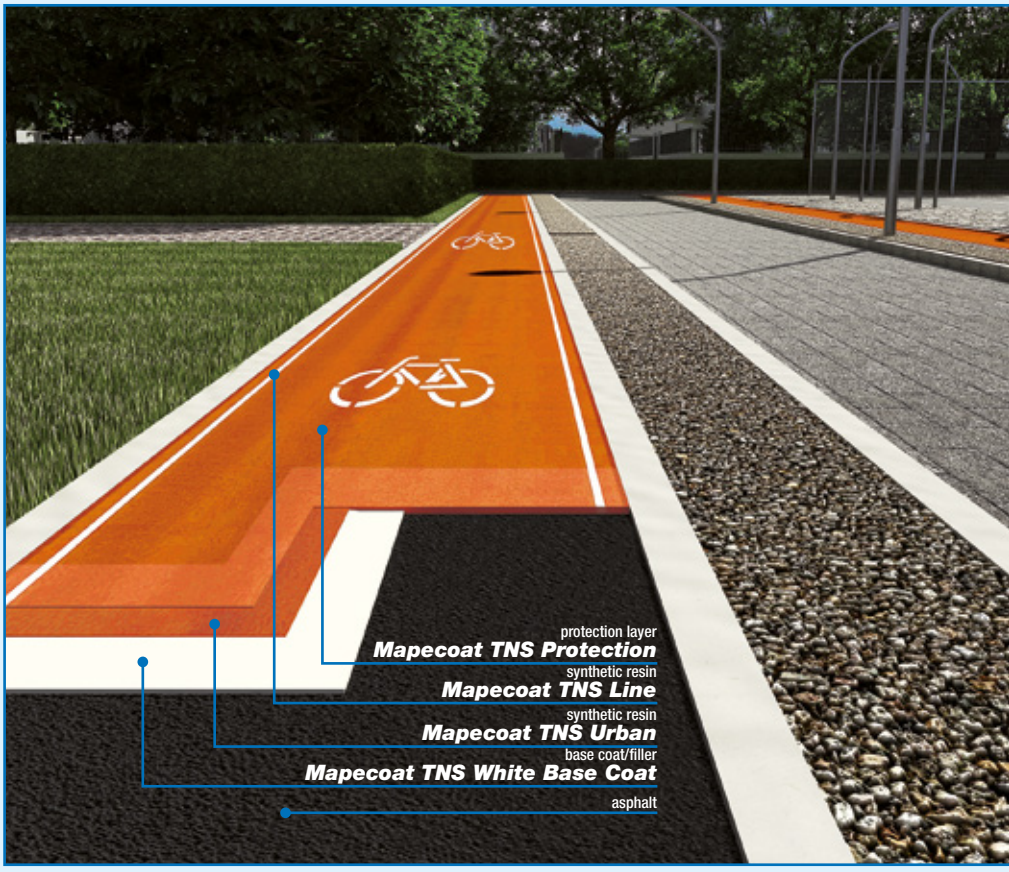
CHEMICAL RESISTANCE

Surfaces dressed with **MAPECOAT TNS URBAN** are resistant to:

- diluted acids;
- alkalis, including 50% sodium hydroxide and detergents normally used for cleaning floors up to a concentration of 20-30%;
- mineral oils, diesel, petrol, kerosene and de-icing salts.

COLOURS AVAILABLE

MAPECOAT TNS URBAN is



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Mapecoat TNS Urban

available in 24 different colours from the standard colour chart and personalised colours upon request.

CONSUMPTION RATES

The consumption rates indicated below are for a cycle applied at +15°C to +25°C on a smooth, compact concrete surface. Rougher surfaces and lower temperatures lead to higher consumption and longer hardening times. The consumption of **MAPECOAT TNS WHITE BASE COAT** in particular may vary according to the type of substrate and the flatness of the preparation method used.

MAPECOAT TNS URBAN	average thickness of system 1-1.5 mm
1° layer: **MAPECOAT TNS WHITE BASE COAT**	1.0 kg/m^2
Finish: **MAPECOAT TNS URBAN**	1.0 kg/m^2 (2 coats)
Protection layer: **MAPECOAT TNS PROTECTION**	0.2 kg/m^2 (2 coats)

N.B.: when applying **MAPECOAT TNS URBAN** on concrete substrates, prime the surface with **MAPECOAT TNS PRIMER EPW** at a rate of around 100 g/m^2, depending on the absorbency of the substrate.

SURFACE PREPARATION

1. Characteristics of the substrate

Before applying the **MAPECOAT TNS URBAN** cycle, the substrate on which it is to be applied must be carefully analysed. To get the best results, the following must be checked:

- there must be no materials or debris on the substrate which could potentially impede adhesion of the coating, such as:
  - cement laitance;
  - dust, detached or loose material;
  - protective wax, curing products, paraffin or efflorescence;
  - oil stains or layers of dirty resin;

TECHNICAL DATA OF MAPECOAT TNS URBAN (after 7 days at +23°C)	
Wet abrasion (DIN 53778) (cycles):	> 15,000
Taber abrasion test after 7 days at +23°C - 50% R.H. CS17 disk, 1,000 revs (loss in weight):	< 0.1 g (<1%)
Shore A hardness:	60
Ultimate tensile strength (DIN 53504) after 7 days at +23°C:	0.7 N/mm^2
Elongation at failure (DIN 53504) after 7 days at +23°C:	110%
Change in colour after 1,000 hours exposure to a Weather-Ometer (according to ASTM G 155 cycle 1) **– blue:** **– green:** **- sky blue:** **– red:** **– white:**	 ΔE < 0.8 ΔE < 0.5 ΔE < 0.5 ΔE < 0.5 ΔE < 0.5
Vapour diffusion resistance coefficient (μ) (ISO 7783/2):	250
Resistance to the passage of water vapour for a 0.5 mm thick dry layer S_D (m) (ISO 7783/2):	0.12
Capillary action water absorption factor W_{24} [kg/(m^2·h$^{0.5}$)] (ISO 1062/3):	0.09
Adhesion to concrete (N/mm^2):	2.40
Resistance to fuel (UNICHIM N.394 par. 6.4), ANAS test report 2133/0359/11:	no defects
Resistance to lubricants (UNICHIM N.394 par. 6.3) and engine oil, ANAS test report 2133/0359/11, BPN:	no defects
Resistance to saline solution (UNICHIM N. 394 par. 6.2), NaCl solution and saturated $CaCl_2$, ANAS test report 2133/0359/11:	no defects
Skid resistance (sliding friction) (EN 1436), ANAS test report 2133/0359/11, BPN:	62
Skid resistance class (EN 1436):	S4 (SRT ≥ 60)
Resistance to freeze/thaw cycles, 10 cycles (EN 1367-1):	no defects

– traces of paint or chemical products.

Any other kind of material or substance that could affect adhesion of the dressing 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. If required, contact Mapei Technical Services for advice on the most suitable method.

- The pull-off strength of the substrate must be more than 1.5 N/mm^2.
- The substrate must be as flat as possible, and in all cases with a maximum slope of 1.5%.
- For concrete substrates, the maximum moisture content must be not higher than 4% 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 **MAPECOAT TNS WHITE BASE COAT**, otherwise the dressing may detach and/or blisters may form.

MAPECOAT TNS WHITE BASE COAT may only be applied on top of other acrylic resin finishing products after carefully checking that the old paint and **MAPECOAT TNS WHITE BASE COAT** are compatible.

2. Substrate preparation

It is very important that the surface is prepared according to specification to guarantee correct installation and to get the best performance from the **MAPECOAT TNS URBAN** system. The most suitable method to prepare concrete surfaces is by shot-blasting or with a diamond disk. All dust must then be removed with a vacuum cleaner. Do not use chemical preparation methods, such as acid rinsing, or aggressive percussion tools, to prevent damaging the substrate. Any defects present, such as holes, pitting, cracking, etc. must be repaired beforehand with **EPORIP**, **MAPEGROUT** or **PLANITOP SMOOTH&REPAIR**, depending on the width and depth of the defects and cracks.

For asphalt surfaces, we recommend applying a 3 mm thick bitumen mat made from particles 0 to 6 mm in size. After applying the asphalt mat, we recommend waiting around 10 days before applying **MAPECOAT TNS WHITE BASE COAT** to allow the bitumen to oxidise. Apart from the checks carried out as described in section 1 "*Characteristics of the substrate*" no other surface preparation is required. Defects such as holes, pitting, cracking, etc. must be repaired with **ADESILEX G19** or **MAPEFLEX PU 70 SL**, depending on the width and depth of the defects and cracks.

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.

The surrounding temperature must be between +15°C and +30°C and the temperature of the substrate must at least +3°C above the dew-point temperature.

4. Preparation and application of the products

Carefully follow the preparation instructions contained in the Technical Data Sheet for each single product used to form the complete system. **MAPECOAT TNS WHITE BASE COAT**, **MAPECOAT TNS URBAN**, **MAPECOAT TNS LINE** and **MAPECOAT TNS PROTECTION**.

Thickness of system 1-1.5 mm

- **First base layer** (**MAPECOAT TNS WHITE BASE COAT**)
  Apply **MAPECOAT TNS WHITE BASE COAT** as is or diluted with 5-10% of clean water, depending on the application method used. Mix the product mix with a drill at low-speed with a mixing attachment to form a smooth, even paste. Pour the mix prepared according to the indications above onto the surface to be dressed and spread it out in an even layer with a smooth trowel or a rubber spreader.

- **Sanding and removing the dust with a vacuum cleaner**
  When the **MAPECOAT TNS WHITE BASE COAT** has hardened, sand the surface to eliminate any uneven areas from the surface and remove all traces of dust with an industrial vacuum cleaner.

- **Surface protection** (**MAPECOAT TNS WHITE BASE COAT**)
  Protect the surface just treated with **MAPECOAT TNS WHITE BASE COAT** against rain, strong air currents, high temperatures, falling leaves or other such objects which could damage the surface.

- **Cleaning**
  Clean tools used to apply **MAPECOAT TNS WHITE BASE COAT** with clean water. Once dry, traces of the product must be removed mechanically.

- **Finish** (**MAPECOAT TNS URBAN**)
  Apply **MAPECOAT TNS URBAN** diluted with 10-15% of clean water. Mix with a drill at low-speed with a mixing attachment to form a smooth even paste. Pour the mix prepared according to the indications above onto the surface to be dressed and spread it out evenly and uniformly using a rubber spreader. This cycle requires at least two coats of **MAPECOAT TNS URBAN**. Wait 12 hours between each coat in normal temperature and humidity conditions.

- **Surface protection** (**MAPECOAT TNS URBAN**)
  Protect the surface just treated with **MAPECOAT TNS URBAN** against rain, strong air currents, high temperatures, falling leaves or other such objects which could damage the surface.

- **Cleaning** (**MAPECOAT TNS URBAN**)
  Clean tools used to apply **MAPECOAT TNS URBAN** with clean water. Once dry, traces of the product may only be removed mechanically.

- **Horizontal lines** (**MAPECOAT TNS LINE**)
  Apply **MAPECOAT TNS LINE** directly on dry **MAPECOAT TNS URBAN**. Dilute with 10-15% of clean water and mix with a drill at low-speed with a mixing attachment to form a smooth, even paste. Apply the product prepared according to the indications above with a brush, roller or by spray. To improve the cover of **MAPECOAT TNS LINE** we recommend applying two coats at 8-12 hours between each coat.

- **Protection layer** (**MAPECOAT TNS PROTECTION**)
  Apply **MAPECOAT TNS PROTECTION** directly on dry **MAPECOAT TNS URBAN**. Carefully mix components A and B together. Dilute with 10% of clean water and mix with a drill at low-speed with a mixing attachment to form a smooth, even paste. Apply the product as prepared according to the indications above with a roller or by spray. To improve the cover of **MAPECOAT TNS PROTECTION** we recommend applying two criss-cross coats at 8-12 hours between each coat.

5. Hardening and step-on times
At 25°C **MAPECOAT TNS URBAN** sets to foot traffic after 12 hours. Wait at least 24 hours after the second coat before allowing vehicles to drive over the surface.
Lower temperatures lead to longer hardening and step-on times.

CLEANING AND MAINTENANCE

Regular cleaning and maintenance operations increase the life of dressed surfaces, improves their appearance and reduces their tendency to collect dirt. Surface dressed with the **MAPECOAT TNS URBAN** system are generally easy to wash with a solution of 5 to 10% neutral or alkali detergent diluted with 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.

NOTES

Procedures regarding the safe handling of the products are contained in the Material Safety Data Sheet for each single product in the system. The use of protective clothing and equipment is recommended when mixing and applying the products.

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

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