

Mapecoat TNS Race Track [NA]

Rapid-Curing, Water-Based Acrylic Coating for Marking Roadways and Racetracks



DESCRIPTION

Mapecoat™ TNS Race Track [NA] is a water-based, acrylic, rapid-film-forming product with selected fillers specifically formulated for marking asphalt roadways and road racing circuits.

FEATURES AND BENEFITS

- Approved by the Fédération Internationale de l'Automobile (FIA) and Fédération Internationale de Motocyclisme (FIM)
- Offers quick application and curing
- MAPEI's ColorMap™ system technology enables unlimited custom colors upon request.
- Excellent abrasion and UV durability

WHERE TO USE

- Protecting and coloring the surface of concrete in areas with high foot traffic
- Protecting and coloring surfaces made from concrete, architectural decorative concrete and self-locking blocks
- Protecting and marking the surface of asphalt, such as racetracks
- Protecting and marking the surface of access/exit routes in sports facilities, such as ramps and parking areas



- Creating road markings on asphalt surfaces for motor racing circuits
- Coloring and protecting concrete curbs on auto and motorcycle racetracks
- Marking out cycle lanes/tracks and pedestrian areas, and areas accessible to light vehicles

TECHNICAL CHARACTERISTICS

Mapecoat TNS Race Track [NA] is an acrylic resin-based, rapid film-forming product with excellent physical and mechanical characteristics, which make it suitable for coloring and protecting the surface of concrete and asphalt subject to a high level of foot traffic.

Thanks to the selected fillers used in its special formulation, *Mapecoat TNS Race Track* [NA] may be used as a finish coat on external flooring requiring a high level of slip-resistance, such as access and exit routes in sports facilities (ramps, stairs, etc.) The special formulation used to produce *Mapecoat TNS Race Track* [NA] enables all the FIA and FIM approval and safety requirements to be met regarding products used to mark out the road surface of motor racing circuits. Unlike a simple coloring system, *Mapecoat TNS Race Track* [NA] technology allows highly durable, non-slip surfaces to be created that maintain their surface roughness over the years, including in wet conditions. The mechanical properties of the film, combined with its high resistance to agents potentially harmful for the substrate (such as de-icing salts, oil and fuel), also make *Mapecoat TNS Race Track* [NA] an excellent solution for coating large outdoor surfaces, such as those that need to be treated periodically to prevent ice forming and/or for routine cleaning purposes.

Mapecoat TNS Race Track [NA] is particularly suitable for protecting substrates: In fact, in the case of concrete flooring, the colored coating limits the effect of agents that could damage or deteriorate the surface, such as carbon dioxide and moisture, thereby making the structure more durable. From an aesthetic point of view, the wide range of colors available, along with custom shades available using the ColorMap automatic coloring system, means that a wide array of colors may be created. *Mapecoat TNS Race Track* [NA] is tested in a Weather-Ometer to simulate severe physical and environmental cycles and is able to resist prolonged exposure to sunlight, particularly ultraviolet rays.

From an application point of view, *Mapecoat TNS Race Track* [NA] technology contains special components in the product that help form a film very quickly, so that surfaces may be opened to foot traffic much sooner (after around 30 minutes in certain conditions) than with traditional acrylic systems. *Mapecoat TNS Race Track* [NA] meets the main requirements of EN 1504-9 ("Products and systems for the protection and repair of concrete structures - Definitions, requirements, quality control and evaluation of conformity. General principles for the use of products and systems") and the requirements of EN 1504-2 ("Surface protection systems for concrete") for the following class: Surface protection products – coating (C) –protection against ingress (ZA.1d) + moisture control (2.2), increasing resistivity (8.2) (ZA.1e), physical resistance (5.1) (ZA.1f), chemical resistance (6.1) (ZA.1g).

LIMITATIONS

- When applying *Mapecoat TNS Race Track* [NA] to mark out the road surface of motor racing circuits, the instructions in this Technical Data Sheets must be followed to comply with FIA and FIM product approval requirements.
- Do not apply *Mapecoat TNS Race Track* [NA] if it is about to rain or in windy weather.
- Do not apply it on wet surfaces or surfaces still damp after hydro-cleaning, or the adhesion of *Mapecoat TNS Race Track* [NA] coating may be affected.

- Apply only when the ambient temperature is 41°F to 95°F (5°C to 35°C). Do not apply if the substrate temperature is higher than 122°F (50°C). Do not apply if the level of relative humidity (RH) is higher than 85%.

SURFACE PREPARATION

- All substrates must be structurally sound, dry, solid and stable. Substrate should be clean and free of dust, dirt, oil, grease, curing agents, concrete sealers, loosely bonded coatings, loose particles, old adhesive residues, and any other substance or condition that may prevent or reduce adhesion.
- The substrate on which *Mapecoat TNS Race Track* [NA] is to be applied must be compact, strong and flat, and must have no detached or loose areas. The application surface for the coating must be strong enough to withstand the loads acting on the flooring when in service, particularly surfaces used regularly or only occasionally by vehicles. New surfaces requiring treatment, or areas patched up with repair mortar, must be well-cured, perfectly clean, compact and dry.
- Before applying *Mapecoat TNS Race Track* [NA], concrete structures must be below 3% residual moisture and must be treated with a suitable adhesion promoter. Apply *Mapecoat TNS Primer EPW* diluted 1:0.5 with water and apply the first coat of *Mapecoat TNS Race Track* [NA] within 24 hours of the primer application.
- Before applying *Mapecoat TNS Race Track* [NA], any traces of dust or dirt on the surface must be vacuumed off or removed.
- Before applying *Mapecoat TNS Race Track* [NA], substrates made from asphalt must be cured and oxidized for at least 15 to 20 days.

PRODUCT PREPARATION

- *Mapecoat TNS Race Track* [NA] can be used as is or diluted up to 10% with water, depending on the air and substrate temperatures. It is recommended to thoroughly homogenize the product before use, using a low-speed drill, to avoid entraining air.

PRODUCT APPLICATION

- *Mapecoat TNS Race Track* [NA] may be applied with conventional roller techniques such as with a 5-mm mohair. To mark out large surfaces more quickly, apply the colored finish by spray using an airspray road-marking machine with variable-flow pump, a mixed HVLP (high volume, low pressure) air system or a diaphragm pump. This system generally involves applying at least 2 coats of *Mapecoat TNS Race Track* [NA], waiting 8 to 12 hours between each coat in normal conditions.
- As soon as the surfaces have been coated, they should be protected from rain to prevent *Mapecoat TNS Race Track* [NA] from coming into contact with water during its initial drying phase; otherwise, its adhesion and the overall quality of the work may be affected.

CLEANUP

- Use water to clean the tools used to apply the product as well as any spills or smudges while the product is still fresh/wet. Thoroughly clean all tools and equipment, particularly spray pumps, immediately after applying the product.
- Once dry, *Mapecoat TNS Race Track* [NA] may only be removed mechanically.

COVERAGE RATES

Specific values for motor racing circuits:

- On asphalt surfaces – 0.02 to 0.04 U.S. gal. per sq. yd. (0.09 to 0.18 L per m²) per coat
- On concrete curbs – 0.03 to 0.06 U.S. gal. per sq. yd. (0.13 to 0.25 L per m²) per coat

PACKAGING

- *Mapecoat TNS Race Track* [NA] is supplied in plastic pails measuring 5 U.S. gals. (18.9 L) (containing 4 U.S. gals. or 15.1 L of product to allow room for dilution and mixing).

STORAGE

- *Mapecoat TNS Race Track* [NA] remains stable for 6 months if stored in a dry place away from sources of heat at a temperature between 41°F to 86°F (5°C to 30°C). Protect containers from freezing in transit and storage.

Product Characteristics

Consistency	Thick liquid
Color	White, from the color chart range, or in various colors obtained using the ColorMap automatic tinting system
Density – EN ISO 2811-1	1.60 g/cm ³ +/- 0.05 (white)
Dry-solids content – EN ISO 3251	76% +/- 2 (white)
VOCs (Rule #1113 of California's SCAQMD)	77 g per L

Application Data

Dilution rate	0% to 10%		
Surface drying time	At 41°F (5°C) and 80% RH: 30 minutes	At 73°F (23°C) and 50% RH: 15 minutes	At 95°F (35°C) and 80% RH: 15 minutes
Drying time (at 68°F or 20°C and 50% RH per ASTM D711)	< 20 minutes		
Application temperature (ambient)	41°F to 95°F (5°C to 35°C)		
Coverage for application on motor racing circuits	On asphalt surfaces: 0.02 to 0.04 U.S. gal. per sq. yd. (0.09 to 0.18 L per m ²) per coat On curbs or concrete elements: 0.03 to 0.06 U.S. gal. per sq. yd. (0.13 to 0.25 L per m ²) per coat		

Performance Characteristics for CE Certification According to EN 1504-2, Systems 2+ and 3 – Class ZA.1d + ZA.1e + ZA.1f (C, principles PI – MC – IR – PR)

Test Method	Test Results
Cross-cut – EN ISO 2409	GTI, compliant ($\leq T2$)
Permeability to CO ₂ – EN 1062-6	μ : 529.363
	sD: 66 m
	sD dry thickness: 0.000125 m
	Compliant: sD > 50 m
Permeability to water vapor – EN ISO 7783	μ : 6576
	sD: 0.8 m
	sD dry thickness: 0.000125 m
	Compliant: sD < 5 m
Capillary absorption and permeability to water – EN 1062-3	W: 0.01 kg/(m ² h ^{0.5})
	Compliant (w < 0.1)
Thermal compatibility: ageing: 7 days at +70°C – EN 1062-11 4.1	Compliant (adherence ≥ 1.5 N/mm ²)
Thermal compatibility: Freeze/thaw cycles with immersion in de-icing salts – EN 13687-1	Compliant (adherence ≥ 1.5 N/mm ²)
Thermal compatibility: Storm cycles – EN 13687-2	Compliant (adherence ≥ 1.5 N/mm ²)
Thermal compatibility: Thermal cycles without immersion in de-icing salts – EN 13687-3	Compliant (adherence ≥ 1.5 N/mm ²)
Resistance to thermal shock – EN 13687-5	Compliant (adherence ≥ 1.5 N/mm ²)
Direct tensile adherence test – EN 1542	Compliant (adherence ≥ 1.5 N/mm ²)
Reaction to fire – EN 13501-1	Euro class: B-s1, d0; BFL-s1
Slip resistance – EN 13036-4	III, external (> 55 units per test on wet surface)
Exposure to artificial atmospheric agents – EN 1062-11:2002 4.2	Compliant
Abrasion resistance – EN ISO 5470-1	Δ weight < 0.5 g – H22 disk, 1000 cycles
	Compliant (Δ weight < 3 g)
Impact strength – EN ISO 6272-1	Class I (≥ 4 Nm)
Chemical resistance – EN 13529, Group 3 (oils-fuel)	Class II (28 days)
Chemical resistance – EN 13529, Group 11 (alkali)	Class II (28 days)
Chemical resistance – EN 13529, Group 12 (salts)	Class II (28 days)
Chemical resistance – EN 13529, Group 14 (surfactants)	Class II (28 days)

Hazardous substances – EN 1081	Compliant
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Other Performance Characteristics

Test Method	Test Results
Diffusion of chloride ions – UNI 7928	Penetration: 0 mm

ADDITIONAL INFORMATION

Refer to the Safety Data Sheet (SDS) for specific data related to health and safety as well as product handling.

For information on MAPEI's commitment to sustainability and transparency, as well as how MAPEI products may contribute to green building standards and certification systems, contact sustainability_USA@mapei.com (USA) or sustainability-durabilite@mapei.com (Canada).

WARNING

The test results shown in the TECHNICAL DATA table were obtained in compliance with test methods and curing cycles, if applicable, defined in the industry standards referenced on the Technical Data Sheet. Please note that the use of test procedures or methods other than those indicated in the table could lead to different values and that, in such cases, any liability of our company is excluded.

LEGAL NOTICE

The contents of this Technical Data Sheet ("TDS") may be copied into another project-related document, but the resulting document shall not supplement nor replace requirements per the TDS in effect at the time of the MAPEI product installation. For the most up-to-date TDS and warranty information, please visit our website at www.mapei.com. **ANY ALTERATIONS TO THE WORDING OR REQUIREMENTS CONTAINED IN OR DERIVED FROM THIS TDS SHALL VOID ALL RELATED MAPEI WARRANTIES.**

Before using, the user must determine the suitability of our products for the intended use, and the user alone assumes all risks and liability. **ANY CLAIM SHALL BE DEEMED WAIVED UNLESS MADE IN WRITING TO US WITHIN FIFTEEN (15) DAYS FROM DATE IT WAS, OR REASONABLY SHOULD HAVE BEEN, DISCOVERED.**

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For the most current product data and BEST-BACKEDSM warranty information,
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