TNEMEC

PRODUCT DATA SHEET

ULTRA-TREAD MVT SERIES N241

PRODUCT PROFILE

GENERIC DESCRIPTION
Polyurethane Modified Concrete

COMMON USAGE
Ultra-Tread MVT is a low odor, slurry applied, high performance moisture control base layer designed to reduce moisture vapor emissions prior to the application of non-breathing, polymer floor topping finishes. Ultra-Tread MVT is a self-priming base coat that can be applied to 10 day old concrete. It can withstand moisture vapor transmission up to 20 lbs (per ASTM F 1869) and relative humidity up to 99% (per ASTM F 2170). **Note:** Series N241 **must** be broadcast to refusal with aggregate, color quartz or decorative flake within 15 to 20 minutes of application. Color quartz and/or decorative flake systems will require an additional broadcast layer using non-pigmented Series N222, N224, 237, 238, 256, 257 or 286 to obtain a uniform appearance and texture before applying the desired clear finish coats. This will typically result in a total system thickness of approximately 1/8".

COLORS
Gray, Red, and Neutral. **Note:** Additional lead times may apply when ordering Beige, Black, Blue, Green, Off White, and Yellow. Aromatic urethanes chalk and yellow with age, extended exposure to UV, and artificial lighting. **Note:** Colored quartz or decorative flake may be broadcast to refusal into the system, creating a multi-colored or tweed look. A variance in color may be noticeable and require a second broadcast layer of colored quartz or decorative flake. A sample is recommended for color selection.

SPECIAL QUALIFICATIONS
Series N241 is formulated using a Phthalate and Phenol Free Bio-Based Environmentally Friendly Polyol. It meets requirements for use in USDA and FDA-regulated facilities. Formulated with antimicrobial properties. Does not support bacteria or fungal growth. Contact your Tnemec representative for specific test results.

Series N241 was tested in accordance with, and passed, the California Dept. of Public Health (CDPH) Standard Method v1.2 and meets the requirements of LEED v4.1 Low-Emitting Materials, Collaborative for High Performance Schools-Paints & Coatings, Living Building Challenge Materials Petal 10, and WELL Building Standard v2 X06 VOC Restrictions.

COATING SYSTEM

SURFACER/FILLER/PATCHER
Series N241 (extended with aggregate) or Series N243, N244. Patching should be broadcasted to refusal with aggregate or re-prepared after being allowed to cure a minimum of six hours prior to placement of Series N241 to avoid blistering or doming. Series 215, 217, N218, or 201 or 208 mixed with fumed silica, may be used for small patches or crack repairs. Certain high-early strength, cementious repair mortars are also acceptable. Contact Tnemec for further qualifications.

PRIMERS
Self-priming

INTERMEDIATE
Series N222, N223, N224, 233, 237, 237SC, 238, 239, 239SC, 252SC, 256, 257, 280, 280FC, 281, 282, 286. **Note:** Series N241 must be broadcast to refusal with aggregate, colored quartz, or decorative flake before topcoating. Broadcast aggregate or colored quartz at an approximate rate of 0.8 lb per sq ft and decorative flake at an approximate rate of 0.25 lb per sq ft or 4 to 5 sq ft per pound. The Series N241 base coat will account for approximately 1/8" of the desired system thickness.

TOPCOATS
Series N222, 230ESD, 233, 237, 238, 239, N246, 247, 248, 249ESD, 252SC, 256, 257, 280, 280FC, 281, 282, N284, N285, 286, V290, V291, 296, 297. **Note:** These topcoats may only be used when recommended aggregate, colored quartz, or decorative flake has been broadcast to refusal into the wet Series N241. **Note:** If Series 247, 248, 249ESD, V290, V291 or 297 is selected for the finish coat over a broadcast system, a grout coat of Series N222, 233, 237, 238, 256, 257, 280, 281, or N284 is required.

SURFACE PREPARATION

Prepare surfaces by method suitable for exposure and service.

CONCRETE
Allow new poured-in-place concrete to cure a minimum of 10 days at 75°F (24°C). Ultra-Tread MVT may be installed in areas where high rates of moisture vapor transmission would prevent the use of non-breathing flooring systems. Verify concrete dryness in accordance with ASTM F 1869 “Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride” (moisture vapor transmission should not exceed 20 pounds per 1,000 square feet in a 24 hour period), F 2170 “Standard Test Method for Determining Relative Humidity in Concrete using in situ Probes” (relative humidity should not exceed 99%), or D 4263 “Standard Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method” (no moisture present). **Note:** The testing listed above cannot guarantee avoidance of future moisture related problems particularly with existing concrete slabs. This is especially true if the use of an under slab moisture vapor barrier cannot be confirmed or concrete contamination from oils, chemical spills, unreacted silicates, chlorides or Alkali Silica Reaction (ASR) is suspected.

Prepare concrete surfaces in accordance with NACE No. 6/SSPC-SP13 Joint Surface Preparation Standards and ICRI Technical Guidelines. Abrasive blast, shot-blast, water jet or mechanically abrade concrete surfaces to remove laitance, curing compounds, hardeners, sealers and other contaminants and to provide a minimum ICRI-CSP 4-5 surface profile. Large cracks, voids and other surface imperfections should be filled with a recommended filler or surfacer.

ALL SURFACES
Must be clean, dry and free of oil, grease and other contaminants. Do not apply over existing coatings. **Note:** Substrate conditions which can adversely affect the adhesion of Series N241 Ultra-Tread MVT include: concrete that is structurally unsound, wet, damp, contaminated, or inadequately profiled at the time of application, absent or inadequate under slab moisture vapor barrier, hydrostatic pressure, Alkali Silica Reaction (ASR), and migration of oils, chemicals, and other contaminants.

TECHNICAL DATA

VOLUME SOLIDS
100% (mixed)

RECOMMENDED DFT
46.0 to 52.0 mils (1168 to 1320 microns) applied neat. Film thickness, after broadcasting with aggregate, is approximately 1/8" (3mm). Refer to coverage rates table for more information. **Note:** Exceeding the recommended coating thickness may result in blistering of the product. Avoid excessive coating thickness by thoroughly filling voids, depressions and cracks with recommended filler or surfacer prior to Series N241 application.

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CURING TIME

Temperature	Min. Recoat	Light Traffic	Place in Service
75°F (24°C)	6 hours	8 hours	12 hours

For full resistance to chemicals and heavy traffic, 24 hour cure is needed. Curing time varies with surface temperature, air movement, humidity and film thickness. **Note:** For faster curing and low temperature applications, add No. 44-714 Ultra-Tread Accelerator, see separate product data sheet for cure information.

VOLATILE ORGANIC COMPOUNDS

A & B: 0.11 lb/gal (13.2 g/L)
Parts A, B, & C: 0.05 lb/gal (6.38 g/L)

THEORETICAL COVERAGE

89-100 sq ft (6.50-7.43 m²) per small kit

NUMBER OF COMPONENTS

Three—Liquids: Part A & Part B, Aggregate: Part C

PACKAGING

	Part A (Partially Filled)	Part B (Partially Filled)	Part C (Aggregate)	Mixed Yield	Small Kit Equivalent
Extra Large Kit	1 - 245 gallon tote	1 - 245 gallon tote	245 - 20 lb bags	700.9 gallons (2653.2 L)	245
Large Kit	1 - 5 gallon pail	1 - 5 gallon pail	5 - 20 lb bags	14.3 gallons (54.2 L)	5
Medium Kit	1 - 3.5 gallon pail	1 - 3.5 gallon pail	3 - 20 lb bags	8.6 gallons (32.5 L)	3
Small Kit	1 - 1 gallon pail	1 - 1 gallon pail	1 - 20 lb bag	2.9 gallons (10.8 L)	1

NET WEIGHT PER GALLON

15.69 ± 0.25 lbs (7.12 ± 0.11 kg) (mixed)

STORAGE TEMPERATURE

Minimum 35°F (2°C) Maximum 110°F (43°C)
Material should be stored at temperatures between 70°F and 90°F (21°C and 32°C) for at least 48 hours prior to use.

SHELF LIFE

Part A: 12 months Part B: 12 months Part C: 12 months

HEALTH & SAFETY

This product contains chemical ingredients which are considered hazardous. Read container label warning and Material Safety Data Sheet for important health and safety information prior to the use of this product.

APPLICATION

COVERAGE RATES

Before commencing, obtain and thoroughly read the Series N241 Installation and Application Guide.

Applied Neat	Broadcast to Refusal	Small Kit Coverage
46 mils (1168 microns)	1/8" (3.0 mm)	100 sq ft (9.3 m²)
52 mils (1321 microns)	1/8" (3.0 mm)	89 sq ft (8.2 m²)

Application below minimum or above maximum recommended thicknesses may adversely affect performance. Above rates are based on theoretical coverage. Actual coverage will vary based on condition of substrate.
Broadcast (1/8" System): Series N241 **must** be broadcast to refusal with aggregate, colored quartz or decorative flake. This is typically completed within 10-15 minutes of application. **Note:** To reduce the potential for pinholes in the grout or lock coat, a lower viscosity product such as Series N222, 233, 237, 238, 239, 252SC, 256, 257 or 281 should be used over the seeded Series N241 when building a 1/8" thick system. **Important:** When broadcasting into Series N241 at 1/8" thickness, it is critical that a rounded, less angular, uniform size silica sand or colored quartz be used. This will reduce the potential for pinholes in the grout or lock coat.
Broadcast (3/16" System): Colored quartz and/or decorative flake systems will require an additional broadcast layer using Series N222, N224, 233, 237, 238, 256 or 257 clear to obtain a uniform appearance and texture before applying the desired clear finish coats. This will typically result in a total system thickness closer to 3/16".

MIXING

Use a variable speed 850-RPM drill and four-inch (4") dispersion blade to slowly mix 1.0 gallon of Part A component with 1.0 gallon of Part B component. Slowly mix the measured amount of both the part A and B components for a minimum of one minute. Continue agitation and slowly add one bag Part C aggregate and mix until material is uniform and no dry aggregate is present. The entire mixing procedure should take approximately three minutes. Note: Part B is moisture sensitive. Do not open until ready to mix.

The Medium Kits break down to equal three (3) Small Kits or units, the Large Kits break down to equal five (5) Small Kits or units, and the Extra-Large Kits break down to equal 245 Small Kits or units. Single batch mixes equal to one (1) Small Kit or unit are frequently mixed in five-gallon pails. Multiple batch mixes are frequently mixed in larger portable, Hippo style mixers and used for larger pours.

Accelerator: For accelerated cure on low temperature applications, add Series 44-714 Ultra-Tread Accelerator to the Series N241 Part A prior to mixing. The proper amount of Series 44-714 is based upon ambient temperature: At 70°F

(21°C) with 50% relative humidity 1 oz per small kit will result in a 9 hour maximum cure time, 2 oz per small kit will result in a 7.5 hour maximum cure time, 3 oz per small kit will result in a 6.5 hour maximum cure time. Note: Material will set up quickly if not applied immediately after mixing.

THINNING

DO NOT THIN.

POT LIFE

Without 44-714: 10 minutes at 75°F (24°C) 10 minutes at 70°F (21°C)
Higher material temperatures will significantly reduce the pot life and working time.

With 44-714 when using maximum amount (3 oz): 15 minutes at 60°F (16°C)

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APPLICATION

This unique, self-leveling slurry system is typically applied by V-notch trowel or squeegee, backrolled with a loop roller and broadcast to refusal with 30/50 mesh aggregate, colored quartz or decorative flake yielding an approximate 1/8" thick base layer. Spread using a 3/8" to 1/2" V-notch squeegee or trowel. Immediately backroll with a loop roller to level and work out any trowel marks or waves. Immediately follow by broadcasting to refusal with 30/50 mesh aggregate colored quartz or decorative flake. **Note:** Series N241 **must** be broadcast to refusal with aggregate, colored quartz or decorative flake. Broadcast 30/50 aggregate or colored quartz at a rate of 0.8 lbs per sq ft and decorative flake at a rate of 0.25 lbs or 4-5 sq ft per lb.

APPLICATION EQUIPMENT

Apply: 3/8" to 1/2" V-notch squeegee or trowel.
Finish: Porcupine roller, loop roller, or 3/8" nap roller.
Note: For detailed instructions, refer to the StrataShield Application Guide for Polyurethane Modified Concrete.

SURFACE TEMPERATURE

Minimum of 40°F (4°C), optimum 65°F to 80°F (18°C to 27°C), maximum of 85°F (29°C). The substrate temperature should be at least 5°F (3°C) above the dew point. Coating will not cure below minimum surface temperature.

MATERIAL TEMPERATURE

For optimum application, handling and performance, the material temperature during application should be between 60°F and 80°F (16°C and 27°C). Temperature will affect the workability. Cool temperatures increase viscosity and decrease workability. Warm temperatures will decrease viscosity and significantly shorten pot life and working time.

AMBIENT HUMIDITY

Humidity must be below 85%.

CLEANUP

Flush and clean all equipment immediately after use with xylene or MEK.