



# ULTRA-TREAD M SERIES N244

## PRODUCT PROFILE

**GENERIC DESCRIPTION** Polyurethane Modified Concrete

**COMMON USAGE** Ultra-Tread M is a low odor, mortar applied floor topping designed for monolithic applications in abusive service areas. It provides superior performance to other flooring systems such as acid brick, quarry tile and most polymer flooring systems. Designed for use in food and beverage facilities, pharmaceutical and processing areas, commercial and restaurant kitchens or anywhere a durable floor topping is required. Provides excellent chemical resistance and withstands thermal shock due to hot liquids and aggressive cleaning procedures. Areas may be quickly returned to service within hours of installation, depending on temperature and humidity. Ultra-Tread M is a self-priming mortar 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).

**COLORS** Gray and Red. **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.

**FINISH** Matte

**SPECIAL QUALIFICATIONS** Series N244 is formulated using a Phthalate and Phenol Free Bio-Based Environmentally Friendly Polyol. It meets requirements for use in USDA and FDA-regulated facilities. The factory treated coating contains an antimicrobial agent to prevent microorganisms from degrading the coating film and guards against the growth of bacteria and their odors. The product does not protect users or others against food borne or airborne bacteria. Contact your Tnemec representative for specific test results.

Series N244 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 N243, N244. Patching should be broadcast to refusal with aggregate or re-prepared after being allowed to cure a minimum of six hours prior to placement of Series N244 to avoid blistering or doming. Series 215, 217, N218, or 201 (S201-0001-TK) or 208 mixed with fumed silica, may be used for small patches or crack repairs. Certain high-early strength, cementitious repair mortars are also acceptable. Contact Tnemec for further qualifications.

**PRIMERS** Self-priming

**TOPCOATS** Series N244 is typically left as a stand-alone mortar without topcoating. If needed, use Series N222, N222FC, 233, 239, N246, 252SC, 256, 257, 280, 280FC, 282. **Note:** These topcoats may only be used when recommended aggregate has been broadcast to refusal into the wet Series N244.

## SURFACE PREPARATION

**CONCRETE** Prepare surfaces by method suitable for exposure and service.

Allow new poured-in-place concrete to cure a minimum of 10 days at 75°F (24°C). 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 5 or greater 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. **Note:** Substrate conditions which can adversely affect the adhesion of Series N244 Ultra-Tread M 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

**SOLIDS CONTENT** 100% (mixed)

**RECOMMENDED DFT** Suggested 1/4" to 3/8" (6mm to 9 mm).

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 steam cleaning, 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** Parts A & B: 0.11 lbs/gallon (13.2 grams/litre)  
Parts A, B & C: 0.03 lbs/gallon (4 grams/litre)

**THEORETICAL COVERAGE** 42.0- 28.0 sq ft per small kit

**NUMBER OF COMPONENTS** Three—Liquids: Part A & Part B, Aggregate: Part C

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**PACKAGING**

	Part A	Part B	Part C (Aggregate)	Mixed Yield	Small Kit Equivalent
Large Kit	1-5 gallon pail	1-5 gallon pail	10-50 lb. bag	32.4 gallons (122.6 L)	5
Small Kit	1-1 gallon pail	1- 1 gallon pail	2-50 lb. bag	6.47 gallons (24.49 L)	1

**NET WEIGHT PER GALLON**

18.39 ± 0.25 lbs (8.34 ± 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.

**TEMPERATURE RESISTANCE**

(Dry) Continuous 235°F (112°C). At thicknesses of ¼" or greater, resistant to aggressive chemical cleaning, thermal shock from steam or hot water, and occasional high temperature liquid spills or discharge at temperatures from -40°F (-40°C) to 250°F (121°C).

**FLASH POINT - SETA**

N/A

**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.

**Keep out of the reach of children.**

**APPLICATION**

**COVERAGE RATES**

Before commencing, obtain and thoroughly read the *StrataShield Application Guide for Polyurethane Modified Concrete*.

**GUIDE:**

	Small Kit Coverage
At 1/4" (6.4 mm)	42 sq ft (3.9 m <sup>2</sup> )
At 3/8" (9.5 mm)	28 sq ft (2.6 m <sup>2</sup> )

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.

**MIXING**

Premix components A and B separately, making sure all solids, including pigments, are uniformly distributed.

Mix **Small Kit** using a rotary mortar mixer or variable speed 850-RPM drill and four-inch (4") dispersion blade or "H" paddle, 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 two bags 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.

**Small Kits** can be divided in half for smaller batches. Mix 0.5 gallon Part A component with 0.5 gallon Part B component and one 50-lb bag of Part C.

**Large Kits** can be divided into user-friendly batches. 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 two 50-lb. bags 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 **Large Kits** break down to equal five (5) Small Kits or units. Single batch mixes equal to one (1) Small Kit or unit are frequently mixed in mortar mixers or buckets. Multiple batch mixes can be mixed in an appropriate size mortar mixer or bucket.

**Accelerator:** For accelerated cure on low temperature applications add Series 44-714 Ultra-Tread Accelerator to the Series N244 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: 15 minutes at 75°F (24°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) 10 minutes at 70°F (21°C)

**APPLICATION**

This unique mortar system is often applied as a stand-alone mortar. It is typically spread using a trowel, screed rake, cam rake or screed box followed by closing and finishing with a trowel. A loop roller or short nap roller cover if often used to help eliminate trowel marks and draw resin to the surface and seal. Aggregate can be broadcast into the wet surface within 10 to 15 minutes of application if additional non-skid texture is desired. If topcoating the mortar, aggregate must be broadcast to refusal into the wet mortar within 10 to 15 minutes of application.

**APPLICATION EQUIPMENT**

**Mortar:** Screed rake, cam rake, screed box or trowel.

**Finish:** Trowel, loop or short 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.

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