



PRODUCT PROFILE

GENERIC DESCRIPTION	Polyurethane Modified Concrete
COMMON USAGE	Ultra-Tread S is a low odor, slurry applied, flowable mortar 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 S 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).
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. 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.
FINISH	Matte
SPECIAL QUALIFICATIONS	Formulated with antimicrobial properties. Does not support bacteria or fungal growth. Contact your Tnemec representative for specific test results. Series 242 meets the requirements of LEED-Low-Emitting Materials, Collaborative for High-Performance Schools-Paints & Coatings, WELL Building Standard-VOC Restrictions, and Living Building Challenge-Healthy Interior Performance. Contact your Tnemec representative for more information.

COATING SYSTEM

SURFACER/FILLER/PATCHER	Series 242 (extended with aggregate) or Series 243, 244. Patching should be allowed to cure a minimum of six hours prior to placement of the Series 242 to avoid blistering or doming of the Series 242. Series 215, or 201 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
INTERMEDIATE	Series N222, 233, 237, 238, 239, 252SC, 256, 257. Note: Series 242 must be broadcast to refusal with aggregate, colored quartz or decorative flake if topcoating. Broadcast aggregate or colored quartz at an approximate rate of 0.5 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 242 base coat will account for approximately 1/8"-3/16" of the desired system thickness.
TOPCOATS	Series N222, 230ESD, 233, 237, 238, 239, 246, 247, 248, 249ESD, 252SC, 256, 257, 280, 280FC, 281, 282, N284, N285, 286, V290, 296, 297. Note: These topcoats may only be used when recommended aggregate has been broadcast to refusal into the wet Series 242 or the cured surface of the Series 242 has been cleaned and thoroughly abraded by grinding prior to topcoating. Note: If Series 247 (tinted), 248 (tinted), V290, or 297 is selected for the finish coat over a broadcast system, a grout coat of Series N222, 233, 237 or 238 (tinted), 256 (tinted), 257 (tinted), 280, 281 or N284 is required. If Series 247 (clear), 248 (clear), N285, or 296 is selected for the finish coat over a broadcast system, a grout coat of 237 or 238 (clear), 256 (clear), 257 (clear) or N284 is required.

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.
ALL SURFACES	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. 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 242 Ultra-Tread S 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	1/8" to 3/16" (3 mm to 5 mm). Series 242 can be applied as a stand alone mortar (neat) at 1/8" to 3/16" (3 mm to 5 mm). Broadcasting with aggregate to refusal at 1/8" neat will yield a total thickness 3/16" (5 mm), at 3/16" (5 mm) neat will yield a total thickness 1/4" (6 mm). Important: Series 242 should not exceed 1/2" (13 mm) thickness when applied neat. 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 242 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 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: 0.16 lbs/gallon (19 grams/litre)
Parts A, B & C: 0.07 lbs/gallon (8 grams/litre)

THEORETICAL COVERAGE

47 sq ft per small kit at 1/8" 31 sq ft per small kit at 3/16"

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-tote	1-tote	300-41 lb. bags	1103.26 gallons (4176.29 L)	300
Medium Kit	1-5 gallon pail	1-5 gallon pail	5-41 lb. bags	18.27 gallons (69.15 L)	5
Small Kit	1-1 gallon jug	1-1 gallon can	1-41 lb. bag	3.65 gallons (13.8 L)	1

Note: Empty measuring pails are available. Reference F100-H189-UT for the 2-gallon Part A pail and F100-H190-UT for the 2-gallon Part B pail. Empty measuring pails are only needed for breaking down Series 241, 242 and 245 part A & B components when mixing Medium and X-Large Kits. The measuring pails are not needed for Small Kits as the part A & B components are already prefilled at the correct fill amounts.

NET WEIGHT PER GALLON

16.40 ± 0.25 lbs (7.44 ± 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 1/4" 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).

SHELF LIFE

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

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*.

Applied Neat	Broadcast To Refusal	Small Kit Coverage
1/8" (3.0 mm)	3/16" (5.0 mm)	47 sq ft (4.3 m ²)
3/16" (5.0 mm)	1/4" (6.0 mm)	31 sq ft (3.0 m ²)

Important: Series 242 should not exceed 1/2" (13 mm) thickness when applied neat. **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. 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

When mixing Small Kits use a variable speed 850-RPM drill and four-inch (4") dispersion blade, slowly mix the entire contents of both the A and B components for a minimum of one minute. Continue agitation and slowly add the 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.

When mixing Medium and Extra-Large kits, mix 0.9117 gallons of Part A component with 0.7993 gallons of Part B component. **Note:** Empty mixing pails are available for measuring these kit sizes. Reference F100-H189-UT for the 2-gallon Part A pail and F100-H190-UT for Part B pail. 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 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 five (5) Small Kits or units and the Extra-Large Kits break down to equal three hundred (300) 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 242 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)

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APPLICATION	This unique self-leveling mortar system is typically applied by trowel, screed rake or cam rake, backrolled with a loop roller and broadcast to refusal with 30/50 mesh aggregate, colored quartz or decorative flake. Note: Series 242 can be applied as a stand-alone mortar. If topcoating, the mortar, while still wet, must be broadcast to refusal with aggregate, color quartz or decorative flake typically completed within 10 to 15 minutes of application. Broadcast 30/50 aggregate or colored quartz at a rate of 0.5 lbs per sq ft and decorative flake at a rate of 0.25 lbs or 4-5 sq ft per lb. Color quartz and/or decorative flake systems will require an additional broadcast layer using Series 222, 224, 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 of 3/16"-3/8".
APPLICATION EQUIPMENT	Apply: Trowel, screed rake or cam rake. Finish: Porcupine roller or loop 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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