PolySpec THIOKOL

TECHNICAL DATA SHEET – TUFFREZ® 235

Revised: 3/2018

DESCRIPTION

TuffRez 235 is a two-component, high gloss aliphatic polyurethane coating designed for industrial maintenance applications. It is suited for use as a topcoat over an epoxy system or alone over primed floor surfaces.

TYPICAL APPLICATION

PRIMER	PolySpec 100EX @ 5-7 mils
BASECOAT	Epoxy Basecoat from PolySpec @ 15-20 mils (various coatings available)
TOPCOAT	TuffRez 235 @ 4-6 mils WFT
OPTIONS	Non-Skid Grit (0.5 to 1.0 lb/gal)

PERFORMANCE	DATA
COMPRESSIVE STRENGTH (ASTM C- 579)	12,900 psi
TENSILE STRENGTH (ASTM D - 638)	5,300 psi
FLEXURAL STRENGTH (ASTM C - 580)	5,351 psi
HARDNESS, SHORED (ASTM D - 2240)	70-75
BOND STRENGTH (ASTM D - 4541)	300 psi
ABRASION RESISTANCE (ASTM D - 4060)	30 mg
VOC	2.8 lbs/gal; 335 gm/L
VOLUME SOLIDS	65%

BENEFITS

- Non-flammable per D.O.T. classification
- Excellent gloss and color retention
- Non-yellowing, UV stable formula
- Good exterior durability
- Resists attack by most acids, alkali, detergents, lubricating oils, solvents and chemicals
- Good abrasion resistance

RECOMMENDED USES

- Aircraft hangars
- Automotive service bays
- Warehouse floors
- Manufacturing areas
- Automobile dealer showrooms

APPROVALS

- MPI # 212 Floor Coating, Thin Film, for Aircraft, Maintenance Facility

GENERIC DESCRIPTION: Aliphatic Polyurethane

STANDARD COLORS: Clear

PACKAGING: 3-Gallon Unit
Color Packs, Urethane (sold separately)
1-Quart Unit

COVERAGE: 275–300 ft² / gallon @ 4–6 mils WFT

TUFFREZ® 235

POLYURETHANE COATING, HIGH GLOSS

ITW Polymers Sealants North America

STORAGE & INSTALLATION

STORAGE ENVIRONMENT	Dry area, 65-80ºF
APPLICATION TEMPERATURE, AMBIENT	55-90ºF
APPLICATION TEMPERATURE, SUBSTRATE	Minimum 5º above dew point
SHELF LIFE	6 months
POT LIFE, @ 77ºF	30 minutes
FOOT TRAFFIC, @ 77ºF	12 hours
FULL SERVICE, @ 77ºF	24 hours

Material cures more slowly at cooler temperatures, and working time will be substantially reduced at higher temperatures. In hot weather, material should be cooled to 65ºF to 80ºF prior to mixing and application to improve workability and avoid shortened pot life. The data shown above reflects typical results based on laboratory testing under controlled conditions. Reasonable variations from the data shown above may result.

CONSIDERATIONS & LIMITATIONS

1. This product produces a smooth surface and will be slippery when wet. Nonskid grit may be added for slip resistance.
2. Vehicles with rubber tires should not be parked on coating within 72 hours of installation.
3. Floors should be sloped to drain to prevent standing water or chemicals. As with any surface, all spills should be removed as soon as possible to prevent a slipping hazard.
4. Do not thin with solvents unless advised to do so by ITW Polymers Sealants North America, Inc..
5. Confirm product performance in specific chemical environment prior to use.
6. Prepare substrate according to "Surface Preparation" portion of this document.
7. Always use protective clothing, gloves and goggles during use. Avoid eye and skin contact. Do not ingest or inhale. Refer to Material Safety Data Sheet for detailed safety precautions.
8. For industrial/commercial use. Installation by trained personnel only.

SURFACE PREPARATION

CONCRETE: Apply only to clean, dry and sound concrete substrates that are free of all coatings, sealers, curing compounds, oils, greases or any other contaminants.

- New concrete should be cured a minimum of 28 days.
- Concrete that has been contaminated with chemicals or other foreign matter must be neutralized or removed.
- Remove any laitance or weak surface layers.
- Concrete should have a minimum surface tensile strength of at least 300 PSI per ASTM D-4541.
- Surface profile shall be CSP-3 to CSP-5 meeting ICRI (International Concrete Repair Institute) standard guideline #03732 for coating concrete, producing a profile equal to 60-grit sandpaper or coarser. Prepare surface by mechanical means to achieve this desired profile.
- Moisture vapor transmission should be 3 pounds or less per 1,000 square feet over a 24 hour time period, as confirmed through a calcium chloride test, as per ASTM E-1907. Quantitative relative humidity (RH) testing, ASTM F-2170, should confirm concrete RH results <75%.
- All surface irregularities, cracks, expansion joints and control joints should be properly addressed prior to application.
- Outgassing may occur due to the porosity of some concrete surfaces. To reduce the effect of outgassing, the primer and coating should be applied when the temperature of the concrete substrate is dropping. This usually occurs in the evening; however, the concrete substrate temperature should be measured with a surface thermometer for verification. Double priming will greatly reduce the effects of outgassing b additionally filling the pores in the concrete.

Refer to PolySpec Surface Preparation Guidelines for more details.

INSTALLATION STEPS

1. TuffRez 235 is normally applied over a PolySpec Epoxy Primer or as a finish coat over a TuffRez epoxy floor coating system. See applicable data sheets for detailed installation instructions of these products.

   NOTE: *For use as a topcoat for TuffRez epoxy coatings, apply within 24 hours of epoxy installation. If 24 hours has passed, sand the coating and wipe with xylene or toluene. Once solvent has flashed, proceed with application of TuffRez 235.*
2. Component A should be premixed prior to using due to possible additive separation that may occur during transportation and storage.
3. **OPTIONAL STEP:** For color versions, premix the color pack(s) for 1–2 minutes. Then, mix the color pack(s) into Component A until uniform color is attained.

COLORS & MIX RATIOS COLOR PACK, URETHANE	Qty of Color Packs per 3-Gallon Unit
600 WHITE	2
610 LIGHT GRAY	1
670 SAND	2

   NOTE: *Containers are filled by weight, not by volume. Amount of pigment in 1-quart container will vary according to color.*

   NOTE: *Use only PolySpec color packs labeled for use with Urethane.*
4. Pour Component B Hardener into the Component A Resin pail and mix well with a mechanical jiffy-type mixer operated at low speed. Scrape the side of the pail to ensure the entire product has been properly mixed; any unmixed material left on the side of the pail will not cure.

   NOTE: *Do not turn the pail upside down and allow to drain onto substrate.*
5. **OPTIONAL STEP:** Add 0.5 to 1.0 pound of non-skid grit to catalyzed coating for increased wear resistance. Mix well. ***NOTE:*** *The addition of non-skid grit will reduce gloss level.*
6. Apply by dip and roll method, using a short-nap roller or squeegee (short-nap roller recommended if non-skid grit has been added to the coating mixture) and back-roll. To prevent lap lines in finish coat, immediately cross roll material (uniform 90º angle to initial coat).
7. For best results, clean tools and equipment with MEK and xylene. Always wear gloves when using this product.

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