PolySpec® TUF

TECHNICAL DATA SHEET

Polymer Modified Flooring with High Gloss Epoxy Topcoat

DESCRIPTION

PolySpec® TUF is a trowel applied mastic underlayment composed of a poly-acrylic resin, dry components, and properly graded aggregates. PolySpec® TUF is typically applied at 1/8" to 1/2" thickness and can be finished with a variety of PolySpec topcoats, which provide different chemical resistant attributes, aesthetics, and non-slip properties. PolySpec® TUF is on the Federal Government's Qualified Products List under MIL-D-3134, Type II.

TYPICAL APPLICATION

• Primer	410 Liquid / PC Grout / Primer
• Body Coat	410 Liquid / PC Powder
• Grout Coat	PC Grout/Primer/ 410 Liquid
• Top Coat	PolySpec® 400/ 401 Color Topcoat

PERFORMANCE DATA

Compressive Strength (ASTM C-579) ..... 6,600 psi
Tensile Strength (ASTM C-190) ..... 925 psi
Flexural Strength (ASTM D-790)..... 800 psi
Impact Resistance (MIL-D-3134) ..... 0.025: No evidence of chipping cracking or detachment
Indentation (MIL-D-3134) .....Initial: 0.002" (0.8%)
Residual: 0.002" There was no evidence of chipping, cracking or detachment
Non-Slip Properties ..... Results vary with finish and texture. Min. 0.60
Abrasion Resistance (ASTM D-4060)..... Results vary with finish selected

Fire Resistance (MIL-D-3134) ..... Fire retardant
Surface Flammability (ASTM E 162)..... Flame Spread Index: Test 3.55
Smoke deposits: 0 NBS
Classification: 1

STORAGE & INSTALLATION

Storage Environment ..... Dry area, 65–80ºF
Application Temperature, ambient..... 50–85ºF
Application Temperature, substrate..... Minimum 5ºF above dew point
Service Temperature .....Maximum 150ºF
Shelf Life ..... 12 months
Pot Life, @ 77ºF..... 30 minutes
Foot Traffic, @ 77ºF.....12-16 hours
Full Service, @ 77ºF .....24-36 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. 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.
2. Do not thin with solvents unless advised to do so by PolySpec.
3. Confirm product performance in specific chemical environment prior to use.
4. Prepare substrate according to "Surface Preparation" portion of this document.
5. Refer to PolySpec® TUF Application Instructions Document for official Application Procedures.
6. Always use protective clothing, gloves and goggles consistent with OSHA regulations during use. Avoid eye and skin contact. Do not ingest or inhale. Refer to Material Safety Data Sheet for detailed safety precautions.
7. For industrial/commercial use. Installation by trained personnel only.

BENEFITS

- *Good chemical and abrasion resistance (varies with topcoat selected)*
- *Excellent compressive strength*
- *Excellent for thermal shock conditions*
- *Can handle high temperatures*
- *Excellent impact resistance*
- *Fire retardant*

RECOMMENDED USES

- *Galleys*
- *Locker rooms*
- *Toilet areas*
- *Coolers and freezers*

GENERIC DESCRIPTION

Latex Mastic Floor System

STANDARD COLORS

Gray, Tile Red, Tan

PACKAGING/COVERAGE

Primer:

410 Liquid	5 - Gallon unit / 1000 sq. ft.
PC Grout/ Primer	50 - Pound bag / 300 sq. ft.

Body Coat @ ¼ inch:

410 Liquid	5 - Gallon unit / 180 sq. ft.
PC Powder	40 - Pound bag / 17 sq. ft.

Grout Coat:

PC Grout/Primer	50 - Pound bag / 250 sq. ft.
410 Liquid	5 – Gallon unit / 400 sq. ft.

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SURFACE PREPARATION

Steel: For steel surfaces, a "Near White Metal" ultra high-pressure wash or abrasive blast with anchor profile of 2–4 mils in accordance with Steel Structures Painting Council Specification SP-10 or NACE No. 2 is required.

Refer to PolySpec Surface Preparation Guidelines for more details.

INSTALLATION STEPS

1. **Priming:** After subfloor preparation, apply a slurry of 410 Liquid and PC Grout/Primer. Into a clean 5-gallon container, pour approximately 1-1/2 gallons of 410 Liquid. To this add ½ bag (25 lbs.) of PC Grout/Primer and thoroughly mix with a 375-rpm mechanical mixer. Mix until a uniform consistency is obtained.

   Use a calcimine brush to apply the mix, making certain to prime only that area that will be immediately covered with the overlay material. The primed area must remain wet during the body coat application.

2. **Body Coat:** Into a clean, 10 gallon container, pour one gallon of 410 Liquid and two 40 lbs. bags of PC Powder. Mix well with a 375-rpm mechanical paddle mixer. A smooth composition of workable consistency should result. Heat and humidity affect this material, so it may be necessary to add a little more liquid in order to make the mix workable. It is recommended that if additional liquid is needed, no more than a total of 1-1/4 gallons should be used with two 40 lbs. bags of PC Powder.
   After it has been properly mixed as described, the body coat is then applied by trowel over the prime coat while it is still wet. Sufficient pressure should be applied on the trowel to close the surface and produce a compact mass. For each specified thickness, the size of the aggregate will generally control the thickness to which the body coat is applied.
   This mix is fast setting, therefore, mix no more than can be troweled immediately. The surface should be troweled to a smooth finish. A power trowel may be used if desired. Allow to dry overnight before proceeding to the next operation.

3. **First Sanding:** The morning following the installation of the body coat, abrade the surface, using an electric sanding machine. We recommend that a 3M #3-1/2 grit, open face sanding disc should be used to remove all high spots. When sanding has been completed, the floor should be thoroughly vacuumed to remove all loose material and dust before application of the grout coat. One technique which has been found satisfactory to insure that all dust has been removed is to damp mop the surface after it has been vacuumed.

4. **Grout Coat:** PolySpec TUF usually requires two grout coats, unless the troweling of the body coat has closed the surface sufficiently. This is a judgment decision that must be made by the applicator for each job.

   Mix 1-1/4 to 1-1/2 gallons of 410 Liquid to ½ bag (25 lbs.) of the PC Grout/Primer. A soupy mix results, and this is tightly scraped over the surface with a steel trowel and allowed to dry to the touch. When dry, sand using an Advance or similarr sanding machine with l-E Grit Paper or equivalent product. Remove the sanding dust with a dry vacuum.

   When a second grout coat is necessary, use the same mix and application techniques as for the first grout coat. When dry, sand as previously suggested, using an l-E Grit Paper. Remove the sanding dust with a dry vacuum as previously recommended.

   NOTE: The fast drying characteristics of the grout mix will permit both grouts to be applied the same day.

   It is important to point out that the grout coats are thin applications and their purpose is to fill in the open areas of the body coat. THEY ARE NOT INTENDED TO BE THICKNESS BUILDING COATS AND WHEN THE INSTALLATION IS PROPERLY MADE AND PROPERLY SANDED, THE BODY COAT IS QUITE VISIBLE. A build-up of grout coat produces a soft surface, which will show indentation marks and can lead to other problems. After the final grout coat has been sanded and vacuumed, the first application of the selected topcoat can be made.

5. **Topcoat:** Consult your PolySpec technical representative for the proper application of the specified topcoat.

APPLICATION ON OTHER SURFACES

a) Cove Base

If the base is installed BEFORE the floor, a temporary wood or metal screed strip of the thickness specified for the floor should be set at the toe of the base. After the body coat of the base has been installed, the screed strip is removed and the body coat of the floor is tied into the body coat of the base. The grout and topcoats of floor and base are installed at the same time.

If the base is installed AFTER the floor is installed, the body coat of the floor is carried up to the wall. The body coat of the base is then installed so it meets the floor. The radius of the base is formed from the grout coat mix, and the floor and base are grouted and top coated together. In applying the body coat to the base, the mix should be stiffer than the mix for the floor.

b) Stair Treads and Risers

PolySpec TUF is an excellent material for use on stairway treads and risers. Be certain the General Contractor allows sufficient depth, approximately 1/4" is recommended, to allow for the finished height of TUF.

It is suggested that a metal nosing be used rather than trying to form the nosing out of the material. TUF is installed on the risers using the same mixes and techniques as for cove base systems. Be certain the mix is a little stiffer than for the floor mix.

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