



TECHNICAL DATA SHEET – POLYSPEC® FLEX FR

Revised: 3/2017

DESCRIPTION

PolySpec® FLEX FR is a decorative multilayer resinous flooring system. The system incorporates a flexible epoxy basecoat, color coat, and two clear epoxy seal coats in which decorative color chips are adhered. This tough system is finished with a scratch resistant clear polyurethane topcoat. PolySpec® FLEX FR is on the Federal Government’s Qualified Products List for interior decks on ships under MIL-D-24613, Type I, Class 2 and Type II, Class 2.

TYPICAL APPLICATION

BASE COAT	Flex FR @ 1/8" thickness
COLOR COAT	765/735 @ 20 mils
CLEAR RECEIVING COAT	860/835 @ 16 mils
BROADCAST	Vinyl Chips
CLEAR SEAL COAT	860/835 @ 12 mils
TOP COAT	TuffRez® 236 @ 4-5 mils

PERFORMANCE DATA

TENSILE STRENGTH (ASTM D-638)	1,500 psi
TENSILE ELONGATION (ASTM-D-638)	90%
FIRE RESISTANCE (MIL-D-24613)	Fire Retardant
FLEXURAL STRENGTH (2" MANDREL)	No cracking

BENEFITS

- Very light weight
- Zero VOC’s, almost no odor
- Good wear qualities and chemical resistance
- Fire retardant properties
- Decorative, seamless appearance
- Easy of maintain

RECOMMENDED USES

- Corridors
- Mess areas and kitchens
- Staterooms
- Infirmarys
- Passageways

GENERIC DESCRIPTION: Epoxy Deck Coating

STANDARD COLORS:

Light Blue, Medium Blue, Navy Blue, Terrace Green, Light Gray, Sand, Tan

PACKAGING/COVERAGE:

Base Coat @ 1/8"
Flex FR Base Coat 4 - Gallon / 52 sq. ft.
Color Coat @ 20 mils
765/735 - 1 Gallon / 80 sq. ft.
Clear Receiving Coat @ 16 mils
860/835 - 1 Gallon / 100 sq. ft.
Vinyl Chips
10 lbs. Box / 60 sq. ft.
55 lbs. Box / 330 sq. ft.
Clear Seal Coat @ 4-5 mils
TuffRez® 236 1 Gallon / 350 sq. ft.

POLYSPEC® FLEX FR
FLEXIBLE VINYL CHIP SEAMLESS FLOOR

STORAGE & INSTALLATION

STORAGE ENVIRONMENT	Dry area, 65-80°F
APPLICATION TEMPERATURE, AMBIENT	50-85°F
APPLICATION TEMPERATURE, SUBSTRATE	Minimum 5°F above dew point
SERVICE TEMPERATURE	Maximum 150°F
SHELF LIFE	12 months
FOOT TRAFFIC, @ 77°F	8 hours
FULL SERVICE, @ 77°F	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 65°F to 80°F 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

- 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.
- Do not thin with solvents unless advised to do so by ITW Engineered Polymers.
- Confirm product performance in specific chemical environment prior to use.
- Prepare substrate according to "Surface Preparation" portion of this document.
- Do not apply to slabs on grade unless a heavy unruptured vapor barrier has been installed under the slab.
- 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.
- For industrial/commercial use. Installation by trained personnel only.

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

- PRIMING (OPTIONAL):** When installing over bare steel, a primer (such as PolySpec® TITE M-50) will be required. PolySpec® TITE M-50: Using a Jiffy mixer blade and a 1/4" variable speed drill, thoroughly mix Parts A and Part B together for 1-2 minutes. Scrape the sides and bottom of the can to be sure that all material is thoroughly mixed together. Apply to the deck at 4-5 mils using a short nap roller. Do not allow primer to puddle. Coverage will be 300-350 square feet per gallon. Allow to cure for 10-12 hours at 75° F (25°C).
- UNDERLAYMENT – FLEX FR BASE COAT (OPTIONAL):** FLEX FR Basecoat is a self-leveling epoxy underlayment. Always mix complete units, and do not attempt to mix partial units, unless instructed by a PolySpec representative. Always pre-mix Part A component. Add Part B to Part A. Using a Jiffy mixer blade and a 1/4" variable speed drill, thoroughly mix Part A and Part B together for 2 minutes. Do not whip bubbles into the mixture. Stop and scrape the sides and bottom of the can to be sure that all the material is mixed together. Blend for an additional 30 seconds. It is important that this product be thoroughly mixed to insure color uniformity throughout. Apply by pouring the Base Coat onto the deck quickly (pot life is short). Using a 1/4" notched trowel; spread the material to the deck evenly. Back rolling with a spiked roller may be necessary if air bubbles have been introduced into the mixed material. Additionally, using a spray bottle, you can mist the applied surface of the material with Isopropyl alcohol to release surface bubbles. Use sparingly, and do not saturate surface with alcohol. **IMPORTANT:** Always pour part B into part A to insure uniform consistency of mix. Take care when troweling that all marks and other imperfections are corrected to achieve a smooth, even finish. This is important when applying a thin film coating over underlayment. Allow the FLEX FR Base Coat to cure for 12-16 hours, or until surface is tack free, before applying the FLEX FR System. Sanding may be required if trowel marks are visible in the underlayment. If sanding is required, wipe surface with Isopropyl Alcohol prior to next operation.

- Color Coat – A-765 and B-735:** Mix Part B and Part A separately with a mechanical mixer prior to combining. This is very important. This is a pre-measured kit. Do not use a partial kit.

IMPORTANT: Always pour part B into part A to insure uniform color and consistency of mix.

Using a Jiffy mixer blade and a 1/4" variable speed drill, thoroughly mix Part A-765 and Part B-735 together for one minute. Stir slowly at low speed. Do not whip bubbles into the mixture. Stop and scrape the sides and bottom of the can to be sure that all the material is mixed together. Blend for an additional 30 seconds. It is important that this product be thoroughly mixed to insure color uniformity throughout. Use a rubber squeegee, spring trowel, or short nap roller and apply at 20 mils. Backrolling may be necessary to eliminate trowel marks, ridges, or roller lines.

POUR THE ENTIRE CONTENTS OF THE PAIL ONTO THE SURFACE AT ONE TIME - DO NOT WORK FROM PAIL. DO NOT SCRAPE SIDES OF PAIL TO REMOVE MATERIAL WHEN POURING ONTO FLOOR. DO NOT TIP CANS UPSIDE DOWN TO DRAIN ON DECK.

Use immediately after mixing. Work very quickly - pot life is short, especially at higher temperatures. Working time can be extended by pouring material onto the surface and spreading out to the desired thickness. If the can begins to heat up, do not use the product, as it will be difficult to spread and may result in an uneven texture. One gallon will cover approximately 80 square feet. Allow to cure for 12-16 hours at 75°F (24°C).

- Receiving Coat – A-860 and B-835:** It is important at this stage of the application to keep the deck clean and free from dirt and dust. If you are going to use more than one color of flake, pre-mix the decorative flakes together in the color combination selected.

Note: DO NOT WALK ON THIS SURFACE WITH DIRTY SHOES. COVER YOUR SHOES WITH PLASTIC OR OTHER PROTECTIVE MATERIALS.

Using a Jiffy mixer blade and a 1/4" variable speed drill, thoroughly mix Part A-860 and Part B-835 together for one minute. This is a pre-measured kit. Do not use a partial kit. Stir slowly at a very low speed. Do not whip bubbles into the mixture. Stop and scrape the sides and bottom of the can to be sure that all the material is mixed together. Blend for an additional 30 seconds. Use a rubber squeegee or short nap roller to apply at 16 mils. At this thickness, one gallon should yield approximately 100 square feet. Backrolling may be necessary to eliminate trowel marks or ridges. **POUR THE ENTIRE CONTENTS OF THE PAIL ONTO THE SURFACE AT ONE TIME - DO NOT WORK FROM PAIL. DO NOT SCRAPE SIDES OF PAIL TO REMOVE MATERIAL WHEN POURING ONTO FLOOR. DO NOT TIP CANS UPSIDE DOWN TO DRAIN ON DECK.**

While the clear epoxy is wet, broadcast the flakes evenly into the coating by lofting small amounts of flakes into the air, allowing them to settle naturally. It is important to obtain even distribution of the flakes. The receiving coat must be wet for the flakes to adhere completely. Back roll the flakes lightly with a short nap roller primed with 860/835 to evenly encapsulate the flakes in the clear coat. Allow to cure for 10-12 hours at 75°F (24°C), or until tack free.

- Seal Coat – A-860 and B-835:** Prior to application of seal coat, inspect deck for exposed color chips. Sand smooth if necessary. Solvent wipe with IPA after sanding. Multiple seal coats of 860/835 can be installed using the same instructions as above (without the addition of flakes) to achieve desired finish.

6. Top Coat: FLEX FR Top Coat (TuffRez 236) is a threecomponent material. Pre-mix Component A prior to mixing. Using a Jiffy mixer blade and a 1/4-inch variable speed drill, mix Component A with Component B. Mix for two minutes at high speed. Then add Component C and mix for one minute. Spread FLEX FR Topcoat evenly onto the deck at a rate of 350 square feet per gallon using a short nap roller. It is important to remove any loose hair from the roller before the installation. Make sure to roll the material evenly and DO NOT go back over an area that has been down for more than a couple of minutes. (This may reduce the gloss level in that area.)

Do not install the FLEX FR Top Coat at more than 5 mils, the material will become cloudy and physical properties, as well as cure time, will be effected. Material will go down milky white but will become clear as it cures. It is acceptable to dip and roll this product.

IMPORTANT: Allow 16-24 hours cure time at 75°F (24°C) before opening to light foot traffic. Open to full service in 48 hours. Ultimate cure is 72 hours. Cure times are based on 75° F (24°C) and 50% relative humidity.

Additional deck protection can be provided through the final cure by covering the deck surface with fire-rated kraft paper. This will prevent premature scratching of the deck surface.

MAINTENANCE

Clean the deck surface regularly with mild detergent and water. Dirt and abrasive materials left on the surface can abrade the finish and dull the shine. Do not use mechanical cleaners or abrasive powders. Waxing of the surface is not necessary and is not recommended.

RESEALING

The deck surface can be re-sealed using FLEX FR Top Coat if the final clear topcoat shows excess wear. This can be done by thoroughly cleaning and degreasing the deck and lightly sanding the topcoat. This step is extremely important to insure adhesion of the re-seal coat Then re-apply a thin coat of FLEX FR Top Coat to renew the deck surface.

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