PolySpec® THIOKOL®

TECHNICAL DATA SHEET – FEC® 2234

Revised: 2/2017

DESCRIPTION

FEC 2234 is a multi-functional, 100% solids, two-component, polysulfide enhanced epoxy coating and membrane sealant suited for use on concrete and steel in primary and secondary containment applications. Its flexibility and ease of application also make it ideal for use as a crack-sealing coating.

TYPICAL APPLICATION

PRIMER	PolySpec 100EX @ 5-7 mils (concrete) or American Safety MS11CZLT Primer @ 4–6 mils (steel)
BASE COAT	FEC 2234 @ 12-16 mils
TOPCOAT	FEC 2234 @ 12-16 mils
OPTIONS	Non-Skid Grit Engineering Fabric

PERFORMANCE DATA

COMPRESSIVE STRENGTH (ASTM C - 579)	30,000 psi
TENSILE STRENGTH (ASTM D - 638)	+600 psi
FLEXURAL STRENGTH (ASTM C - 580)	4,300 psi
HARDNESS, SHORE D (ASTM D - 2240)	35-45
BOND STRENGTH (ASTM D - 4541)	425 psi
ABRASION RESISTANCE (ASTM D - 4060)	70 mg
OPERATING TEMPERATURE , MAXIMUM, DRY: WET:	 150°F Dependent on chemical exposure
ELONGATION, % AT BREAK (ASTM D - 639)	45-55
C - TEAR, LBS/IN (ASTM D - 1004)	200+
IMPACT STRENGTH , IN/LBS (ASTM D - 4226)	60+
VOC	0.00 lb/gal; 0.0 gm/L
VOLUME SOLIDS	100%

BENEFITS

- Maintains flexible nature over long term
- Excellent resistance to chipping
- Excellent penetration and bond strength
- Resistant to dilute acids, caustics and petroleum solvents
- Low odor, 100% solids epoxy
- Increased thermal shock resistance
- High abrasion resistance
- Versatile uses — concrete repair to finish coating

RECOMMENDED USES

- Primary containment tanks
- Secondary containment dikes
- Loading dock areas
- Manufacturing floors
- Warehouse floors
- Drum storage areas
- Vehicle service bays
- Mechanical equipment rooms
- Water park & recreational floors
- Covered parking decks
- Crack-bridging membrane sealant

GENERIC DESCRIPTION: Polysulfide-Modified Epoxy

STANDARD COLORS: Light Gray

PACKAGING: 2-Gallon Unit

MIX RATIO: 1R : 1H

COVERAGE:
100 ft^2 / gallon @ 16 mils

FEC® 2234

CONCRETE & STEEL COATING/MEMBRANE, FLEXIBLE EPOXY

ITW Engineered Polymers

PolySpec THIOKOL

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STORAGE & INSTALLATION

STORAGE ENVIRONMENT	Dry area, 65-80ºF
APPLICATION TEMPERATURE, AMBIENT	50-95ºF
APPLICATION TEMPERATURE, SUBSTRATE	Minimum 5º above dew point
SHELF LIFE	1 year
POT LIFE, @ 77ºF	30 minutes
FOOT TRAFFIC, @ 77ºF	16 hours
FULL SERVICE, @ 77ºF	72 hours

SURFACE TEMPERATURE

	60 - 69ºF	70 - 89ºF	90ºF
RECOAT (MIN)	36 -16 hours	20 -12 hours	6 - 8 hours
RECOAT (MAX)	days	72 hours	48 hours

CONSIDERATIONS & LIMITATIONS

1. ITW Engineered Polymers recommends the use of a slip resistant grit with this product.
2. 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.
3. Do not thin with solvents unless advised to do so by ITW Engineered Polymers.
4. Confirm product performance in specific chemical environment prior to use.
5. Prepare substrate according to “Surface Preparation” portion of this document.
6. Do not apply to slabs on grade unless a heavy unruptured vapor barrier has been installed under the slab.
7. 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.
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 by additionally filling the pores in the concrete.

STEEL: For immersion service, “White Metal” abrasive blast with an anchor profile of 2–4 mils in accordance with Steel Structures Painting Council Specification SP-5-63 or NACE No. 1 is required. For splash and spillage exposure, “Near White” SP-10-63 or NACE No. 2 is required.

Refer to PolySpec Surface Preparation Guidelines for more details.

INSTALLATION STEPS

1. Prime surface with PolySpec 100EX or American Safety MS11CZLT Primer @ 4–6 mils. See data sheet for application details.
2. Component A Resin should be premixed prior to using due to possible pigment settling that may occur during transportation and storage.
3. 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.*

   For use as a crack-bridging membrane, perform the following steps:
   A. Pour a “ribbon” of material along the length of the crack area. Spread the material using a short napped roller to cover the crack a minimum of 2 inches on each side and achieve a film build of 8–10 mils along the crack.
   B. Immediately after spreading the material along the crack, embed PolySpec Engineering Fabric into the wet material. Press the fabric into the material using the roller and gentle pressure to avoid having the fabric roll back on the roller.
   C. Pour an additional 10–15 mils of material over the engineering fabric and spread via roller and gentle pressure to fully encapsulate the fabric.
   D. Allow material to cure for 12 hours at 70ºF. Sand any rough edges or areas where engineering fabric has wrinkled. Feather edge sand all edges of the crack repair area to provide a smooth and uniform transition for subsequent coatings applications.

   For use as a coating, perform the following steps:
   A. Apply by roller or squeegee and back-roll. Move quickly and empty contents of pail onto surface as soon as possible to provide maximum working time. Material left in the pail will generate heat and have a reduced pot life.
   B. **OPTIONAL STEP:** When applied as a non-skid coating, broadcast clean, dry 20/40-mesh sand or aluminum oxide aggregate into wet resin. Allow to dry. A full broadcast to refusal will produce the most consistent and durable system. Brush off excess grit before applying second coat.
   NOTE: *Do not broadcast aggregate into the prime coat.*
   C. After the first coat has become slightly tack free (within approximately 10 hours of cure @70ºF), apply an additional coat of resin/hardener mixture according to Step A.
   NOTE: *If the coating has not been recoated within 48 hours, a light sanding followed by a wipe with a 50:50 mixture of water and isopropanol may be necessary. Allow the solvent to flash before applying coating.*

4. Always wear gloves when using this product.

1R:1H / DOC FEC2234-TDS

ITW ENGINEERED POLYMERS
130 Commerce Drive | Montgomeryville, PA 18936
Phone: 215-855-8450 | Fax: 215-855-4688 | www.polyspec.com

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