PolySpec THIOKOL

TECHNICAL DATA SHEET – THIOKOL® FEC® 2233

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DESCRIPTION

FEC 2233 is a 100% solids, two-component flexible epoxy coating for concrete and steel surfaces. Its unique formulation incorporates a polysulfide polymer into the backbone of the epoxy chain that prevents the "age hardening" of conventional epoxy coatings.

TYPICAL APPLICATION

PRIMER	PolySpec 100EX @ 5–7 mils (concrete) or American Safety MS-11CZ LT Primer @ 4–6 mils (steel)
BASE COAT	FEC 2233 @ 16–20 mils (horizontal); @ 7–8 mils (vertical)
TOP COAT	FEC 2233 @ 16–20 mils (horizontal); @ 7–8 mils (vertical)

PERFORMANCE DATA

COMPRESSIVE STRENGTH (ASTM C - 579)	18,000 psi
TENSILE STRENGTH (ASTM D - 638)	2,500 psi
FLEXURAL STRENGTH (ASTM C - 580)	4,300 psi
HARDNESS, SHORE D (ASTM D - 2240)	65-75
BOND STRENGTH (ASTM D - 4541)	425 psi
OPERATING TEMPERATURE , MAXIMUM, DRY: WET:	 180°F Dependent on chemical exposure
ABRASION RESISTANCE (ASTM D - 4060)	70 mg
ELONGATION, % AT BREAK	30-40
C - TEAR, LBS/IN (ASTM D - 1004)	305+
IMPACT STRENGTH , IN/LBS (ASTM D - 4226)	20+
VOC	0.00 lb/gal; 0.0 gm/L
VOLUME SOLIDS	100%

BENEFITS

- Maintains toughness over time
- Excellent resistance to chipping
- Excellent penetration and bond strength
- Chemical resistance to dilute acids, caustics and petroleum solvents
- Low odor, 100% solids epoxy
- Increased thermal shock resistance
- High abrasion resistance

RECOMMENDED USES

- Secondary containment
- Drum storage
- Vehicle service bays
- Truck unloading areas
- Covered parking decks
- Chemical processing areas
- Manufacturing facilities
- Warehouse floors
- Aisles
- Mechanical rooms

GENERIC DESCRIPTION: Polysulfide-Modified Epoxy

STANDARD COLORS: Medium Gray

MIX RATIO: 2R : 1H

PACKAGING: 3-Gallon Unit

COVERAGE:
100 ft^2 / gallon @ 16 mils

THIOKOL® FEC® 2233

CONCRETE & STEEL COATING, FLEXIBLE EPOXY

ITW Polymers Sealants North America

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	20 minutes
FOOT TRAFFIC, @ 77ºF	16 hours
FULL SERVICE, @ 77ºF	48 hours

SURFACE TEMPERATURE

	65ºF	75ºF	90ºF
RECOAT (MIN)	18 hours	8 hours	3 hours
RECOAT (MAX)	72 hours	60 hours	24 hours

CONSIDERATIONS & LIMITATIONS

1. Due to viscosity, some roller lines may appear when applying to horizontal surfaces.
2. ITW Polymers Sealants North America, Inc. recommends the use of a slip resistant grit with this product.
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 PolySpec.
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 personal equipment (PPE) when handling this product. Protective clothing, gloves, and goggles are always recommended, see the product SDS documents for further PPE recommendations.
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 emission 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 appropriate primer. See data sheets 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.*
4. 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.
5. 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 primer.*
6. 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 4.
   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.*
7. Always wear gloves when using this product.

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