



TECHNICAL DATA SHEET – FLAKEREZ® PE-8109

Revised: 2/2017

DESCRIPTION

FlakeRez PE-8109 is a two component, flake-filled polyester resin coating that provides corrosion resistance to petroleum products and mild chemicals. FlakeRez PE-8109 Coating contains inert flake reinforcement for dependability in maintaining their overlapping structure. The flakes within the chemical resistant resin matrix provide an extremely low permeation rate, which greatly reduces passage of ions through the coating.

TYPICAL APPLICATION

PRIMER	PolySpec-Futura PE-310
DETAIL PREPARATION	Putty mortar made of PE-310 Primer and F-4 Powder
BASECOAT	FlakeRez PE-8109 @ 15-20 mils DFT
TOPCOAT	FlakeRez PE-8109 @ 15-20 mils DFT

PERFORMANCE DATA

TENSILE STRENGTH (ASTM C - 307)	3,500 psi
FLEXURAL STRENGTH (ASTM C - 580)	8,500 psi
HARDNESS, BARCOL (ASTM D - 2583)	35-40
ABRASION RESISTANCE (ASTM D - 4060)	25 mg
MOISTURE PERMEABILITY, PERM. IN. (ASTM E - 96)	0.002
OPERATING TEMPERATURE, MAXIMUM, DRY:	225°F
WET:	Dependent on chemical exposure
VOC	1.78 lb/gal; 214 gm/L

BENEFITS

- Excellent resistance to petroleum products, salt water and mild chemicals; specially formulated to protect tank substrates exposed to crude oil with high hydrogen sulfide contents
- Superior weathering and heat aging properties when compared to coal tar epoxies
- Seamless, jointless barrier coating
- Long-term reliability due to extremely low permeation rate of overlapping flake technology
- Easy application in two 20-mil coats
- Ambient temperature cure

RECOMMENDED USES

- Petroleum storage tanks
- Heater treaters
- Sand filters
- Production tanks
- Produced water tanks
- Salt brine tanks
- Offshore equipment exposed to seawater
 - Pipe risers
 - Drilling & production platform decks
 - Exterior of hot discharge pipe
 - Downcomer sea water supply pipe

GENERIC DESCRIPTION Flake-Filled Isophthalic Polyester

STANDARD COLORS Off White

PACKAGING 30-Gallon Unit (HARDENER SOLD SEPARATELY)

MIX RATIO: 1 GAL R: 2 OZ H

COVERAGE: 25–30 ft² / gallon @ 35–40 mils DFT (INCLUDES 2 COATS @ 15–20 MILS DFT EACH)

FLAKEREZ® PE-8109

CONCRETE & STEEL COATING, FLAKE-FILLED, PETROLEUM RESISTANT

STORAGE & INSTALLATION

Storage Environment	Dry enclosed area , 65 - 80°F
Application Temperature, ambient	50 - 95°F
Application Temperature, substrate	Minimum 5°F above dewpoint
Shelf Life	120 days
Pot Life, @ 77°F	8 - 10 minutes
Full Service, @ 77°F	3 - 5 days

CONSIDERATIONS & LIMITATIONS

- For best results, work area should be humidity and temperature controlled.
- Work area must be well ventilated. Fresh air fed respirators are recommended when working with this product.
- Do not thin with solvents unless advised to do so by ITW Engineered Polymers.
- Confirm product performance in specific chemical environments with ITW Engineered Polymers 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

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.

ITW Engineered Polymers warrants its products to be free from defects in material and workmanship. ITW Engineered Polymers' sole obligation and Buyer's exclusive remedy in connection with the products shall be limited, at ITW Engineered Polymers' option, to either replacement of products not conforming to this warranty or credit to Buyer's account in the invoiced amount of the nonconforming products. Any claim under this Warranty must be made by Buyer to ITW Engineered Polymers in writing within five days of Buyer's discovery of the claimed defect, but in no event later than the expiration of the applicable shelf life, or one year from the delivery date, whichever is earlier. Buyer's failure to notify ITW Engineered Polymers of such nonconformance as required herein shall bar Buyer from recovery under this warranty.

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Refer to PolySpec Surface Preparation Guidelines for more details.

INSTALLATION STEPS

- Prime surface with PolySpec-Futura PE-310 Primer. See data sheet for application details.
- Use a mortar/mud mixture of PolySpec-Futura PE-310 Primer mixed with F-4 Powder, (approximately 4-parts powder to 1-part mixed resin), to round the corner radius of vertical to horizontal transitions, to smooth weld seams, and to patch holes and irregularities. See data sheet for application details.
- Weld seams should be ground smooth prior to coating application. It may be necessary to apply a precoat of FlakeRez PE-8109 to all seam areas. Internal surfaces should be in accordance with NACE RP 0178 with all welds equal to or superior to a NACE RP 0178 designation "C".
- All edges should be detailed prior to spray application of body coat. To batch mix FlakeRez PE-8109, add 2 ounces of Hardener #1 (MEKP) per gallon to the resin. Mix well with a mechanical mixer operated at low speed. Immediately apply edge details by brush.

NOTE: Move quickly. This product has a short pot life.
- FlakeRez PE-8109 body coat is applied by catalyst injection spray equipment with a mix ratio of 2 ounces Hardener #1 (MEKP) per 1 gallon to the resin. When applying by spray, apply in a cross hatch pattern, taking care to avoid excessive build-up of coating.

NOTE: Add 3 oz of wax solution per gallon to the topcoat to minimize surface tack.

NOTE: Two 15–20 dry mil coats are adequate for most jobs.

NOTE: If coating is allowed to cure for over 12 hours prior to recoating, check bond by rubbing surface with PolySpec® Smoothing Liquid #1. If coating becomes slightly tacky, then surface is ready for second coat. If surface is unaffected, sand lightly before recoating.
- After coating is completed, allow 3–5 days for curing. Random sample checks using a Barcol Hardness gauge should indicate a minimum reading of 30.
- Before placing into service, pinhole test the entire surface using 100 volts/mil. All pinhole areas should be recoated and retested.
- Always wear gloves when using this product.

MIX CHART FOR FLAKEREZ VE 8109 COATING, SPRAY /PLURAL

TEMPERATURE	45°F	55°F	65°F	75°F	85°F
HARDENER #1 (MEKP)	2.8%	2.1%	1.4%	1.0%	1.0%

1 GAL R: 2 OZ H / DOC FRPE-8109-TDS

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