

DESCRIPTION

PermaRez 338, a 100 mil heavy-duty lining system for concrete and steel substrates, combines vinyl ester novolac resin, inert mineral fillers and fiberglass or synthetic reinforcement to produce a dimensionally stable liner ideally suited for immersion and splash/spillage exposure of concentrated acids and aggressive solvents. A FlakeRez coating, selected according to chemical exposure, completes the system; the flakes within its chemical resistant resin matrix provide an extremely low permeation rate, which greatly reduces passage of ions through the coating.

TYPICAL APPLICATION

• Primer	PolySpec 310 (steel) / 320 (concrete) @ 2–3 mils DFT
• Detail Preparation	PolySpec 731
• Basecoat	PermaRez 338 w/F-4 Powder @ 50–60 mils
• Fabric	Type M (1.5 oz. mat)
• Saturant	PermaRez 338 @ 15–20 mils
• Topcoat(s)	FlakeRez 302, 303 or 304 @ 15–20 mils p/coat

PERFORMANCE DATA

Compressive Strength (ASTM C-579)	12,000 psi
Tensile Strength (ASTM C-307)	3,000 psi
Flexural Strength (ASTM C-580)	12,500 psi
Hardness, Shore D (ASTM D-2240)	85–90
Bond Strength (ASTM D-4541)	425 psi
Abrasion Resistance (ASTM D-4060)	100 mg
Operating Temperature, maximum	Wet: 200–220°F / Dry: 350–400°F
VOC	1.58 lb/gal; 190 gm/L

STORAGE & INSTALLATION

Storage Environment	Dry area, 65–80°F
Application Temperature, ambient	50–95°F
Application Temperature, substrate	Minimum 5°F above dew point
Shelf Life, PROVIDED STORAGE ENVIRONMENT GUIDELINES ARE FOLLOWED	60 days
Pot Life, @ 77°F	35 minutes
Full Service, @ 77°F	7 days

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

1. Work area must be well ventilated. Fresh air fed respirators are recommended when working with this product.
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. Do not apply to slabs on grade unless a heavy unruptured vapor barrier has been installed under the slab.
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.

PermaRez[®] 338

TECHNICAL DATA SHEET

Reinforced Lining for Concrete & Steel, Chemical Resistant, Flake Filled System

BENEFITS

- Excellent resistance to broad range of acids, alkalis and solvents
- Various chemical resistant flake-filled topcoats enhance impermeability and surface finish
- Seamless, high tensile strength composite
- Extremely low permeation rate; superior performance to acid-proof brick
- Excellent dimensional stability; withstands wide temperature range
- Temperature resistant: Wet 220°F / Dry 400°F
- Superior compatibility with concrete and steel when compared with conventional coatings

RECOMMENDED USES

- Process area floors
- Steel process and storage tanks
- Scrubbers in FGD systems
- Concrete waste treatment sumps
- Trenches, pedestals, curbs
- Secondary containment
- Truck loading/unloading areas
- Chemical pump pads
- Drum storage areas

GENERIC DESCRIPTION

Vinyl Ester Novolac / See FlakeRez topcoats

STANDARD COLORS

Gray
(Amber liquid, before addition of Powder)

PACKAGING

5-Gallon Unit

Filler Powder sold separately; per 5-Gallon Unit:
– 125 pounds F-4 Powder, sold in 50 lb bags
– 30 pounds F-5 Powder, sold in 30 lb pails

Fabric sold separately:
– Type W (10 oz cloth) sold in 2,231 ft² rolls
– Type V (Nexus Veil) sold in 6,000 ft² rolls

COVERAGE

25 ft² / gallon @ 80 mils
(Includes one 55 mil coat and saturant)

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 310 (steel) or PolySpec 320 (concrete) Primer. See data sheet for application details.
2. Use PolySpec 731 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.
3. Pour Hardener #3 into PermaRez 338 Resin pail. Mix thoroughly using a jiffy-type mixer operated at low speed until a proper blend is attained. Scrape the sides of the pail to ensure the product has been properly mixed; any unmixed material left on the side of the pail will not cure.
NOTE: Mix ratio is 2.5 ounces Hardener #3 to one gallon PermaRez 338 Resin.
4. Stir in F-4 Powder filler and mix well until all particles are wetted out.
NOTE: Mix ratio is approximately 25 pounds filler per mixed gallon of binder.
5. Spread basecoat mixture onto surface by trowel to a thickness of 1/16". Immediately lay the reinforcement fabric into the basecoat and press out all air pockets with a dry paint roller.
6. Saturate the reinforcement with a coat of catalyzed PermaRez 338 Resin (without powder). Roll out saturant coat until the whiteness of the reinforcement disappears.
7. After the saturated basecoat has dried, grind down any burrs that have appeared on the surface.
8. Roll or spray 1 to 2 coats of a FlakeRez® topcoat, selected according to chemical exposure. See data sheet for application details.
NOTE: Recoat time over saturant coat is normally 24 hours.
NOTE: Finished lining is a minimum of 95 mils total dry film thickness.
9. For best results, clean tools and equipment with PolySpec® All Purpose Cleaner, a nonflammable and non-evaporating cleaner. Always wear gloves when using this product.

1 gal R: 2.5 oz H / DOC PR338-TDS

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