

## DESCRIPTION

FlakeRez 304, a two component, graphite flake-filled vinyl ester novolac resin coating for primary and secondary containment, resists higher concentrations of acids and solvents where most other coatings fail. FlakeRez coatings contain 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 310 (steel) / 320 (concrete) @ 2–3 mils DFT
• Detail Preparation	PolySpec 731
• Basecoat	FlakeRez 304 @ 15–20 mils DFT
• Topcoat	FlakeRez 304 @ 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: .....	300–350°F
..... Wet:.. Dependant on chemical exposure	
VOC .....	1.23 lb/gal; 148 gm/L

## STORAGE & INSTALLATION

Storage Environment.....	Dry enclosed 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.....	30 minutes
Full Service, @ 77°F .....	3–5 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. For best results, work area should be humidity and temperature controlled.
2. Work area must be well ventilated. Fresh air fed respirators are recommended when working with this product.
3. Do not thin with solvents unless advised to do so by PolySpec.
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.

# FlakeRez® 304

## TECHNICAL DATA SHEET

### Concrete & Steel Coating, Graphite Flake-Filled, Fluoride Resistant

## BENEFITS

- Excellent resistance to fluorides such as hydrofluoric and hydrofluosilicic acids
- Seamless, jointless barrier coating
- Long-term reliability due to extremely low permeation rate of overlapping flake technology
- Easy application in two 20-mil coats
- No baking required
- Withstands high operating temperatures

## RECOMMENDED USES

- Tank interior lining
- Process vessels
- Process floors
- Tank and effluent sump dikes

## GENERIC DESCRIPTION

Graphite Flake-Filled Vinyl Ester Novolac

## STANDARD COLORS

Charcoal Gray

## PACKAGING

4.5-Gallon Unit

## COVERAGE

25–30 ft<sup>2</sup> / gallon @ 35–40 mils DFT

(INCLUDES 2 COATS @ 15–20 MILS DFT EACH)

## 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.

*NOTE: For enclosed steel structures, if dehumidification equipment is utilized, the coating may be applied directly to the prepared substrate without the use of primer.*

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. Weld seams should be ground smooth prior to coating application. It may be necessary to apply a precoat of FlakeRez 304 to all seam areas.
4. Catalyze FlakeRez 304 by adding 3 ounces of Hardener #1 per gallon to the resin and mixing well with a mechanical mixer operated at low speed.
5. Apply first coating at 15–20 dry mils:

a. **Spray Application: Conventional or Airless Spray**

Detail all edges prior to spray application.

When applying by spray, apply in a criss-cross pattern, taking care to avoid excessive build-up of coating.

b. **Brush or Roller Application**

Brush or roll onto substrate.

6. Allow product to cure for 2–4 hours @ 75°F. Apply second coat.

*NOTE: Maximum recoat window is 48 hours.*

*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.*

7. 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.
8. Before placing into service, pinhole test the entire surface using 2,500 to 3,000 volts. All pinhole areas should be recoated and retested.
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: 3 OZ H / DOC FR304-TDS

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