

## DESCRIPTION

FlakeRez 307, a two component, flake-filled vinyl ester resin coating for primary containment, provides maximum chemical protection for the interiors of chemical process and storage vessels. FlakeRez coatings contain glass and select 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 307 @ 40 mils DFT
• Topcoat	FlakeRez 307 @ 40 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: .....	350°F
..... Wet: ..	Dependant on chemical exposure
VOC .....	0.26 lb/gal; 32 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® 307

## TECHNICAL DATA SHEET

### Concrete & Steel Coating, Flake-Filled, Heavy Duty Acid Resistant

## BENEFITS

- Excellent resistance to aggressive chemicals
- Better resistance to thermal cycling
- Seamless, jointless barrier coating
- Long-term reliability due to extremely low permeation rate of overlapping flake technology
- Easy trowel application in two 40-mil coats
- No baking required
- Withstands high operating temperatures

## RECOMMENDED USES

- Chemical process & storage vessels
- Tank interior lining
- Plating tanks
- Effluent waste clarifiers
- Scrubbers
- Absorbers
- Paper stock chests

## GENERIC DESCRIPTION

Flake-Filled Vinyl Ester Novolac

## STANDARD COLORS

Off-White, Gray

## PACKAGING

4.5-Gallon Unit

## COVERAGE

15 ft<sup>2</sup> / gallon @ 80 mils DFT

(INCLUDES 2 COATS @ 40 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.**

PolySpec, L.P. warrants its products to be free from defects in material and workmanship. PolySpec's sole obligation and Buyer's exclusive remedy in connection with the products shall be limited, at PolySpec's 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 PolySpec 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 PolySpec of such nonconformance as required herein shall bar Buyer from recovery under this warranty.

**PolySpec makes no other warranties concerning this product. No other warranties, either expressed or implied, or statutory, such as warranties of merchantability or fitness for a particular purpose, shall apply. In no event shall PolySpec be liable for consequential or incidental damages.**

Any recommendation or suggestion relating to the use of the products made by PolySpec, whether in its technical literature, or in response to specific inquiry, or otherwise, is based on data believed to be reliable; however, the products and information are intended for use by Buyers having requisite skill and know-how in the industry, and therefore it is for the Buyer to satisfy itself of the suitability of the products for its own particular use, and it shall be deemed that Buyer has done so, at its sole discretion and risk. Variation in environment changes in procedures of use, or extrapolation of data may cause unsatisfactory results. PolySpec cannot guarantee that color will conform to sample, if provided.

## 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 307 to all seam areas.
4. Catalyze FlakeRez 307 by adding 2 ounces of Hardener #2 per gallon to the resin. Mix with a mechanical mixer operated at low speed until coating is uniformly off white-pink in color.

5. Trowel the first coat to a nominal thickness of 40 mils, beginning with detail edges then progressing to the main body coat. Smooth the wet surface with a roller dampened with PolySpec® Smoothing Liquid #1. A paintbrush is recommended for corners and angles.

*NOTE: Do not overuse the PolySpec® Smoothing Liquid #1.*

6. Allow product to cure for 2–4 hours @ 75°F. Apply second coat according to procedure outlined in Step 4.

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

*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: 2 OZ H / DOC FR307-TDS

Rev 06/07

FlakeRez and PolySpec are © Registered Trademarks of PolySpec L.P.

© Copyright 2005 PolySpec L.P. All rights reserved. Published technical data and instructions are subject to change without notice. Please visit the online catalog at [www.polyspec.com](http://www.polyspec.com) for the most current technical data and instructions. Or, you may contact your PolySpec representative for current technical data and instructions.