

DESCRIPTION

Thiokol LPE 5100 is a high solids, two-component, fast setting polysulfide modified epoxy novolac coating used for corrosion protection of structures immersed in tidal zones. Developed as part of the Federal Government's Small Business Innovative Research (SBIR) Program, Thiokol LPE 5100's unique chemistry combines the durability and toughness of an epoxy resin with the adhesion and flexibility benefits of liquid polysulfide.

TYPICAL APPLICATION

| | |
|------------|------------------------------------------------------------------|
| • One Coat | Thiokol LPE 5100 @ 40–60 mils (Can be applied up to 100 mils) |
|------------|------------------------------------------------------------------|

PERFORMANCE DATA

| | |
|----------------------------------------------------|---------------------------------------------|
| Compressive Strength (ASTM C-579) | 9,000 psi |
| Tensile Strength (ASTM D-412) | 400–600 psi |
| Elongation (ASTM D-412) | 50–70% |
| Hardness (ASTM D-2240) | SHORE A: 90–95 / SHORE D: 45–50 |
| Bond Strength, to carbon steel (ASTM D-4541) | 1,700 psi |
| Abrasion Resistance (ASTM D-4060) | 30 mg |
| VOC | 0.57 lb/gal; 68 gm/L |
| Volume Solids | @ 220°F (EPA Method 24): 94% / @ 95°F: 100% |

STORAGE & INSTALLATION

| | |
|------------------------------------------|----------------------------------------------------|
| Storage Environment | Dry area, 65–85°F |
| Application Temperature, ambient | 50–95°F |
| Application Temperature, substrate | Minimum 5°F above dew point |
| Shelf Life | 6 months |
| Pot Life, @ 77°F | applied with plural component airless sprayer; n/a |
| Full Service, @ 77°F | 15–25 minutes |

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. Do not thin with solvents unless advised to do so by PolySpec.
2. Confirm product performance in specific chemical environment prior to use.
3. Prepare substrate according to "Surface Preparation" portion of this document.
4. Do not apply to slabs on grade unless a heavy unruptured vapor barrier has been installed under the slab.
5. 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.
6. For industrial/commercial use. Installation by trained personnel only.

THIOKOL[®] LPE[™] 5100

TECHNICAL DATA SHEET

Concrete & Steel Coating, Flexible Epoxy Novolac, Splash Zone

BENEFITS

- Excellent corrosion, impact, abrasion resistance
- Very fast set time and cure
- Easy mix, one-coat application
- Blister-resistant coverage
- Installation up to 100 mil thickness; encapsulates pile joints and deep corrosion pits
- 100% solids at application temperatures

RECOMMENDED USES

- Bulkheads
- Pipe piles
- H-piles
- Cranes
- In-shore & offshore petrochemical structures
- Ballast tanks
- Bridges
- Water & wastewater structures
- Industrial facilities
- Marine equipment

GENERIC DESCRIPTION

Polysulfide-Modified Epoxy Novolac

STANDARD COLORS

Black, Gray

PACKAGING

10-Gallon Unit

100-Gallon Unit

COVERAGE

40 ft² / gallon @ 40 mils

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 steel surfaces, a “Near White Metal” ultra high-pressure wash or abrasive blast with anchor profile of 2–4 mils in accordance with Steel Structures Painting Council Specification SP-10 or NACE No. 2 is required.

Refer to PolySpec Surface Preparation Guidelines for more details.

INSTALLATION STEPS

1. Apply coating using plural component airless spray equipment that is capable of heating both Thiokol LPE 5100 components at the temperatures recommended below:

| Component | Temperature |
|-----------|-------------|
| A | 130–150°F |
| B | 100–120°F |

NOTE: Plural component equipment will vary by manufacturer. Please contact your PolySpec representative to confirm the suitability of your equipment.

NOTE: For information on field test installation procedures, contact your PolySpec representative.

2. 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.

1R:2H / DOC LPE5100-TDS

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