

PE-LC Polyethylene Pipe Coating

Service: Pipeline Weld Joint Protection System for Polyethylene Coated Line Pipe
 Operating service temperatures: Ambient to 65°C (150°F)
 Surface application temperatures: 15°C (60°F) to 65°C (150°F)
 New or operating pipelines and as a repair for damaged plant applied coating

System: Single component UV Light catalyzed thermo-epoxy basecoat
 Intermediate polyethylene flock coat
 Thermal applied engineered polyethylene topcoat

Advantages: Maneuverable and Lightweight Installation Equipment • Superior Performance Properties
 Operating Temperature to 65°C – Excellent Moisture and Chemical Resistance

System Description:

Basecoat: A 100% solids single component UV light catalyzed thermo-epoxy. Cured in minutes, the Polythermic PP-LC Basecoat provides superior surface wet-out and bond properties, demonstrates excellent permeation and chemical resistance, and serves as an advanced adhesive bonding site for the thermoplastic topcoats.

Flock Coat : Hybrid polypropylene thermoplastic powder that is dry sprayed into the wet epoxy basecoat. Applied as an intermediate layer, the flock assures the creation of a monolithic bond between the basecoat and topcoat.

Topcoat: An engineered polyethylene hybrid thermoplastic pipeline coating. Thermal spray applied using light weight and mobile application equipment, the Polythermic PE-LC Topcoat forms a seamless outer wear layer that is fully bond compatible with the plant applied polyethylene line coating.

Typical Applied Properties:

Cathodic Disbondment 28 days @ 65°C	CAN/CSA-Z245.20	<8 mm radial
Adhesion after hot water immersion 28 days @ 60°C	CAN/CSA-Z245.20	Class 1
Permeation: DI Water 60° C 6 months	ASTM C-868	No Effect <0.5 μ A
Taber Abrasion topcoat (wet)	ASTM D-4060	29 mg avg.
Taber Abrasion topcoat (dry)	ASTM D-4060	43 mg avg.
Hardness @ 25°C	ASTM D-2240 Shore D	55
Topcoat Flexibility (Mandrel Bend)	ASTM D 522	1/8", No Cracks
Tensile Bond Strength of basecoat to steel @ 25°C	ASTM D-1002	> 1320 psi
Elongation of Topcoat	ASTM D-638	280%
Dielectric strength	ASTM D-149	890 ± 160 volts/mils
Impact Resistance	ASTM D-2794	>380 in./lbs.
Applied thickness for system	Minimum recommended	80 mils

Specification: Polythermic PE-LC Polyethylene Weld Joint Protection System for Polyethylene Coated Line Pipe

Basecoat: POLYTHERMIC LC 1 – Single Component UV Light Catalyzed Thermo-Epoxy for new or operating pipe where surface application temperatures are between 15°C and 85°C. Consult with Polythermics for applications below 15°C and above 65°C.

Topcoat: POLYTHERMIC PE 1 – Polyethylene Thermoplastic Coating for new or existing pipe where the line temperature operates at ambient to 65°C.

Application: The below procedures are presented as a general installation guideline. Refer to the POLYTHERMIC PE-LC **System Application Instructions** for complete surface preparation and application procedures.

Surface Preparation: All weld seams shall be ground to remove sharp edges, weld spatter, etc. Prepare all bare steel surfaces by grit blasting to a near white metal condition as specified per the Steel Structures Painting Council SSPC-SP-10 (SA 2½ Preparation Standard) with a surface profile of 50 to 100 microns. Pitted surfaces may require additional preparation procedures to ensure acceptance. Clean and visually abrade existing factory coating.

Basecoat Application: Protect and/or shade the general working area from exposure to direct sunlight during the basecoat and flock coat application. Preheat the surface to 60°C (140°F) Apply a minimum of 6 mils and a maximum of 10 mils of POLYTHERMIC LC BASECOAT to steel surface only. Apply by brush, roller, or applicator pad.

Flock Coat: Immediately flock a uniform dry layer of POLYTHERMIC PE- LC FLOCKING POWDER onto the applied basecoat using the thermal flame spray applicator with air only.

Basecoat Activation: The basecoat activator is placed around the pipe joint, which sets the basecoat in approximately 4 minutes.

Topcoat: The POLYTHERMIC PE1 Topcoat is applied to the specified thickness in a single, multiple film build application onto the activated basecoat and overlapping the linecoating by 50mm. Upon solidifying and/or cooling, the system is ready for service. No cure time is required.

Application Equipment: All thermal spray equipment shall be supplied by Polythermics, LLC Refer to the Polythermics “General Equipment Operation – Start-up and Settings” for instruction on operation and general operational practices of the thermal spray unit.

Contractor Qualification: Instruction and certification by Polythermics, LLC or its agents is required.

Safety: The contractor is solely responsible for the safety of their personnel. Proper safety equipment such as face shields, gloves, protective clothing, fire extinguishers, etc. are required. The contractor will establish and instruct all personnel in the proper safety procedures including those that address the use of propane gas burning equipment and to the hazards of molten plastic. Product MSDS shall be supplied with the materials.

Liability and Warranty: For extent of liability and standard product warranty statements, refer to the Polythermics, LLC Standard Terms and Conditions of Sale.

US Sales Office:

Polythermics, LLC
11628 73rd Place NE,
Kirkland WA. USA 98034

ph: 425-823-5568
fax: 425-821-6769
email: neukirchen@attglobal.net

Important: It is the ultimate responsibility of the Buyer to determine suitability of the material for its intended use. The extent of any liability arising from the sale or use from this or any product or system represented or manufactured by Polythermics, LLC shall be determined solely by Polythermics, LLC • The information contained in this bulletin is believed to be accurate and reliable but is not to be construed as implying any warranty or guarantee of performance. Polythermics, LLC reserves the right to modify or make changes to the represented product data or statements and material or process without notification to the Buyer. • Refer to the Polythermics, LLC “Standard terms and Condition of Sale” for a complete explanation and/or clarification.