

PRODUCT DESCRIPTION

CHEMICAL DESCRIPTION

Solventless Elastomeric Aromatic Polyurethane, Chemical Cure, ASTM Type V

PRODUCT USAGE

DuraShield 310-61 (DS310-61) is a 100% solids, two-component polyurethane coating that contains no volatile organic compounds (VOC) or solvents. Formulated as a hard, durable, chemical resistant coating, DS310-61 also provides good flexibility and impact resistance for ferrous and non-ferrous metals, concrete and other surfaces. DS310-61 provides the low permeability and chemical resistance of an epoxy, with the durability, flexibility and fast cure times of polyurethanes. This blend of properties allows for excellent application characteristics, while at the same time making it ideal for long-term immersion protection. While DS310-61 has fast cure times, the nature of its chemistry allows for long recoat windows relative to comparative 100% solid urethanes. This helps to mitigate layering and recoat adhesion problems. DS310-61 is also formulated to provide optimal build properties. The application viscosity, or build properties, of DS310-61 allow for the required coating thickness to be applied in one coat – even on seams, welds and rivets – while at the same time providing good overcoat properties and aesthetics. Application of DuraShield 310 is primarily accomplished by spray (using a certified LifeLast spray system), however hand-applicable versions are also available.



Certified to
NSF/ANSI 61

COLORS

Standard color is almond. Gray and Black are also available.

PRODUCT CERTIFICATIONS

Certified to NSF/ANSI Standard 61 by the NSF for lining potable water tanks, pipes, valves, and fittings in ambient temperature applications.

- Pipe, Valves, Fittings >= 8"; thickness up to 210 mils
- Tanks >= 50 gallons; thickness up to 210 mils

Meets AWWA C222 Requirements

PRODUCT ADVANTAGES

- Highly impermeable - eliminates rust or corrosion; provides long-term protection
- Great chemical resistance - withstands most concentrated acids and bases
- Abrasion and impact resistant – minimizes damage during handling, inspection
- High adhesion – over 1500 psi on abrasive blasted steel
- Good flexibility - expands and contracts with substrate
- High build characteristics - application thicknesses from 20 mils to 210 in one application; completely encapsulates welds, rivets and edges
- Quick, inexpensive maintenance - patch holes and wear spots in minutes

TYPICAL APPLICATIONS

- Potable Water Pipe Linings
- Potable Water Tank Linings
- Lining for Potable Water Valves and Fittings

SURFACE PREPARATION

Preparation requirements vary with application. Refer to a LifeLast Application Specification Guide or contact your LifeLast technical representative for assistance.

PRIMERS

STEEL
NON-FERROUS METALS AND
GALVANIZED STEEL
CONCRETE AND WOOD

Self-priming
Self-priming or *LifeLast* Primall-160 epoxy primer
LifeLast Primall-160 epoxy primer

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TECHNICAL DATA

SOLIDS VOLUME 100 percent

MIX RATIO By Volume – 3 : 1 (Resin : Activator); By Weight – 3.17 : 1 (Resin : Activator)

RECOMMENDED DRY FILM THICKNESS 20-210 mils; Thickness varies with application. Please consult your designated technical representative for assistance.

CURE TIME	<i>Temperature</i>	<i>Dry To Touch</i>	<i>Recoat Time</i>	<i>To Immersion</i>	<i>To Normal Use</i>
	45 °F	360 min.	< 24 hrs.	72 hrs.	18 hrs.
	75 °F	120 min.	< 24 hrs.	72 hrs.	6 hrs.
	105 °F	60 min.	< 24 hrs.	72 hrs.	3 hrs.

TIME TO HOLIDAY TEST Coating must be dry to the touch before holiday testing is performed.

COVERAGE *Theoretical:* 80.2 ft²/gallon @ 20 mils
Typical Application: 70 ft²/gallon @ 20 mils

NET WEIGHT PER GALLON *Resin:* 10.85 lbs/gallon, *Activator:* 10.3 lbs/gallon; *Mixed:* 10.7 ± 0.20 lbs/gallon

SHIPPING INSTRUCTIONS Unheated, no special requirements. Keep dry.

STORAGE TEMPERATURE *Temperature - Resin:* Min 40 °F, Max 120 °F; *Activator 9000:* Min 40 °F, Max 120 °F
Containers must be kept sealed in a dry environment.

SHELF LIFE 12 months at recommended storage temperatures.

HEALTH AND SAFETY Consult Material Safety Data Sheet for descriptive handling and safety information.

PHYSICAL PROPERTIES		
Adhesion to Steel, Abrasive Blasted (D4541)		>1500 psi
Adhesion to Steel, Power Tooled (D4541)		>1500 psi
Adhesion to Steel, Abrasive Blasted (D6677)		10
Adhesion to Steel, Power Tooled (D6677)		10
Tensile Strength (D412)		2776 psi
Elongation at Break (D412)		41%
Flexibility, 75 mils (D522)	No cracking or delaminating – ³ / ₄ " Mandrel	
Water Absorption (D570)		0.49%
Abrasion Resistance (ASTM D4060, CS17)		45.1 mg
Cathodic Disbondment (G95, method A)		0 mm
Impact Resistance (ASTM G14)		120 in-lbs
Dielectric Strength (ASTM D149)		527 V/mil
Hardness, Shore D (ASTM 2240),		68±3
Chemical Resistance (ASTM D543)		10% H ₂ SO ₄ < 1% 30% NaCl < 1% 30% NaOH < 2%

APPLICATION

MIXING Mix resin container prior to use to remove pigments from container bottom.

POT LIFE 12-15 minutes @ 75 °F (varies with batch size); ≈ 4 minutes @ spray temperatures

SPRAY TEMPERATURE *Resin:* 120 °F – 160 °F; *Activator 9000:* 80 °F – 160 °F

SURFACE TEMPERATURE Minimum 40 °F, Maximum 120 °F; Surface should be clean, dry and more than 5 °F above the dew point. Ambient air temperature must be no less than 5 °F above dew point.

APPLICATION EQUIPMENT See Application Specification for DuraShield 310/DuraShield 310-61 for recommended spray equipment and setup.

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