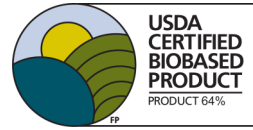




**LIFELAST™**  
Innovation Through Formulation



# DURASHIELD™ 310-61

## TECHNICAL DATA SHEET

EFFECTIVE: 01/03/12

### PRODUCT DESCRIPTION

#### CHEMICAL DESCRIPTION

Solventless Elastomeric Aromatic Polyurethane, Chemical Cure, ASTM Type V

#### 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. DS310-61 is formulated to provide optimal build properties, allowing 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 310-61 is primarily accomplished by spray (using an approved LifeLast spray system), however hand-applicable versions are also available.

#### COLORS

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

#### QUALIFICATIONS

- Meets AWWA C222
- Certified to NSF/ANSI Standard 61 by the NSF for lining potable water tanks, pipes, valves, and fittings.
  - Pipe, Valves, Fittings  $\geq 8"$ ; thickness up to 210 mils
  - Tanks  $\geq 50$  gallons; thickness up to 210 mils
- USDA BioPreferred<sup>SM</sup>: certified biobased product

#### TYPICAL APPLICATIONS

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

#### HEALTH AND SAFETY

Consult the *DuraShield 310-61 Material Safety Data Sheet* (MSDS) for handling and safety information.

### PRODUCT ADVANTAGES

#### HIGHLY IMPERMEABLE

Provides excellent corrosion protection

#### GREAT CHEMICAL RESISTANCE

Withstands most concentrated acids and bases

#### ABRASION & IMPACT RESISTANT

Mitigates damage during handling and installation

#### STRONG ADHESION

Over 1500 psi on abrasive blasted steel

#### GOOD FLEXIBILITY

Expands and contracts with the substrate; great impact resistance

#### HIGH BUILD CHARACTERISTICS

Application thicknesses from 20 mils to 250 mils in one application; completely encapsulates welds, rivets and edges

#### QUICK, INEXPENSIVE MAINTENANCE

Patch holes and wear spots in minutes

#### LONG RECOAT WINDOW

Up to 24-hour recoat window is beneficial for multi-day applications, holiday repair, and addressing low millage areas.

### COATING SYSTEMS

#### PRIMERS

- **Steel:** Self-priming
- **Non-Ferrous Metals & Galvanized Steel:** Self-priming or Primall-160
- **Concrete & Wood:** Self-priming or Primall-160

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### TECHNICAL DATA

#### SOLIDS VOLUME

100 percent

#### MIX RATIO BY VOLUME

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

#### RECOMMENDED DRY FILM THICKNESS

20 mils up to 250 mils; thickness varies with application. Consult a LifeLast technical representative for assistance.

#### COVERAGE

- Theoretical: 80.2 ft<sup>2</sup>/gal; Typical: ≈70 ft<sup>2</sup>/gal @ 20 mils

#### NET WEIGHT PER GALLON (ALMOND)

- Resin: 10.85 ± 0.2 lbs/gallon
- Activator: 10.3 ± 0.15 lbs/gallon
- Mixed: 10.7 ± 0.2 lbs/gallon

### PHYSICAL PROPERTIES

Test	Standard	Result
Adhesion to Steel	ASTM D4541; A.2	> 1500 psi
Adhesion to Steel	ASTM D6677	Rating - 10
Tensile Strength	ASTM D412	2776 psi
Elongation at Break	ASTM D412	41%
Flexibility, 75 mils	ASTM D522	No cracking or delamination – ¾" Mandrel
Cathodic Disbondment	ASTM G95, mtd A	0 mm
Water Vapor Permeability	ASTM E 96 Procedure BW-Inverted Water Method	0.09 inch-pounds @ 53 mils
Water Absorption	ASTM D570	0.49%
Pressure Bomb Aging; 90°C in Synthetic Seawater	ASTM D471	Weight Gain: 11 days – 5.9% 21 days – 5.7%
Hardness, Shore D	ASTM D2240	68±3
Abrasion Resistance	ASTM D4060, CS17	45.1 mg
Impact Resistance	ASTM G14	120 in-lbs
Dielectric Strength	ASTM D149	527 V/mil
Service Temperature	Dry – Continuous: -40°F to 200°F Maximum Surge: 350°F Immersion – Insulated (max): 140°F Non-Insulated: 120°F	
Chemical Resistance	ASTM D543	10% H <sub>2</sub> SO <sub>4</sub> < 1% 30% NaCl < 1% 30% NaOH < 2%

#### CURE TIME\*

Designation	45°F	75°F	105°F
Tack Free	360 min.	120 min.	60 min.
Recoat Time	< 24 hours	< 24 hours	< 24 hours
To Immersion**	72 hours	72 hours	72 hours
To Handling/Traffic	36 hours	12 hours	6 hours

\* Varies by application technique & thickness

\*\* As per NSF Certification

#### TIME TO HOLIDAY TEST

Coating must be tack free before holiday testing

#### SHELF LIFE

12 months at recommended storage temperatures in sealed, unopened containers.

#### STORAGE

- Temperature
  - Resin: 40°F - 120°F, Activator 9000: 40°F - 120°F
- Containers must be kept sealed in a dry environment.

#### SHIPPING INSTRUCTIONS

Unheated trailer, no special requirements. Keep dry.

### APPLICATION

#### SURFACE PREPARATION

Preparation requirements vary with application. Refer to the applicable *DuraShield 310* and *DuraShield 310-61 Application Specification Sheet* or contact LifeLast for assistance.

#### MIXING

Power mix contents of resin containers for a minimum of 30 minutes, making sure to remove all pigment from the bottom and sides of the container. Activator mixing is not needed.

#### POT LIFE

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

#### SPRAY TEMPERATURE\*

Resin: 120°F - 150°F; Activator 9000: 80°F - 150°F

\*Exact temps depend on spray equipment setup

#### SURFACE TEMPERATURE

Min. 40°F, Max 140°F; surface should be clean, dry and more than 5°F above dew point. Ambient air temperature must be no less than 5°F above dew point.

#### AMBIENT CONDITIONS

- Min. 0°F, Max 120°F
- Relative Humidity should be less than 95%

#### SPRAY EQUIPMENT

Refer to the applicable *DuraShield 310* and *DuraShield 310-61 Application Specification Sheet* for recommended spray equipment and setup. **Spray equipment must be approved by LifeLast.**

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