

PRODUCT DESCRIPTION

CHEMICAL DESCRIPTION

Solventless Elastomeric Aromatic Polyurethane, Chemical Cure, ASTM Type V

PRODUCT USAGE

DuraShield 310 (DS310) is a 100% solids, solvent and VOC-free, two-component polyurethane coating. Formulated as a hard, durable, chemical resistant coating, DS310 also provides good flexibility and impact resistance for ferrous and non-ferrous metals, concrete and other surfaces. DS310 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 a wide range of applications, including long-term immersion protection. DS310 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 DS310 is accomplished by spray (certified LifeLast spray system), roller, squeegee, or trowel.

COLORS

See LifeLast Color Chart. Standard color is almond.

PRODUCT CERTIFICATIONS

FDA approved for dry bulk applications. Meets USDA requirement for incidental contact. Meets AWWA C222.

PRODUCT ADVANTAGES

- Highly impermeable - eliminates rust or corrosion
- Great chemical resistance - withstands most concentrated acids and bases
- Abrasion and impact resistant - protects expensive equipment
- 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 inches in one application; completely encapsulates welds, rivets and edges
- Quick, inexpensive maintenance - patch holes and wear spots in minutes

TYPICAL APPLICATIONS

- Wastewater Industry
- Pulp & Paper Industry
- AgriBusiness
- Primary and Secondary Containment
- Water Market - Tanks
- Concrete Restoration & Protection
- Fish Hatcheries

SURFACE PREPARATION

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

PRIMERS

STEEL

Self-priming

NON-FERROUS METALS AND

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

GALVANIZED STEEL

LifeLast Primall-160 epoxy primer

CONCRETE AND WOOD

TOPCOATS

Compatible aliphatic urethanes

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TECHNICAL DATA**MIX RATIO**

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

RECOMMENDED DRY FILM THICKNESS

20 mils up to inches; Thickness varies with application. Please consult your designated technical representative for assistance.

CURE TIME

Temperature	Dry To Touch	Recoat Time	To Immersion	To Normal Use
45 °F	360 min.	< 24 hrs.	18 hrs.	18 hrs.
75 °F	120 min.	< 24 hrs.	6 hrs.	6 hrs.
105 °F	60 min.	< 24 hrs.	3 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 - 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
Tensile Strength (D412)	2776 psi
Elongation at Break (D412)	41%
Flexibility, 75 mils (D522)	No cracking or delaminating – ³ / ₄ " Mandrel
Cathodic Disbondment (G95, method A)	0 mm
Moisture Vapor Transmission (F1249-90)	35-40 mils: 0.012 grams/100 in ²
Water Absorption (D570)	0.49%
Pressure Bomb Aging (ASTM D471-97), 90 °C in Synthetic Seawater	Wt Gain: 11 days – 5.9% 21 days – 5.7%
Hardness, Shore D (ASTM 2240),	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	<u>Dry</u> – Continuous: -40 °F to 200 °F Maximum Surge: 350 °F <u>Immersion</u> – Insulated (max): 140 °F Non-Insulated: 120 °F
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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