



LIFE LAST™
Innovation Through Formulation



Certified to
NSF/ANSI 61

DURASHIELD™ 210-61

TECHNICAL DATA SHEET

EFFECTIVE: 01/03/12

PRODUCT DESCRIPTION

CHEMICAL DESCRIPTION

Solventless Aromatic Polyurethane, Chemical Cure, ASTM Type V

USAGE

DuraShield 210-61 (DS210-61) is a 100% solids, two-component polyurethane coating that contains no volatile organic compounds (VOC), solvents or extending fillers. Formulated specifically as a potable water tank, pipe, valve and fitting lining product, DS210 is a hard, durable, chemical resistant coating that also provides great flexibility and impact resistance for ferrous and non-ferrous metals, concrete and other surfaces. By employing hydrophobic polyurethane resins, DS210-61 has a very low water absorption rate – lower even than most epoxies – and excellent cathodic disbondment resistance. The hydrophobic properties of DS210-61 also impart improved tolerance to moisture, both in the container and during application. This allows DS210-61 to cure to a hard, flexible, durable film with a very glossy, extremely well-adhered, impermeable finish. DS210-61 is designed specifically to provide very fast cure times, while at the same time demonstrating excellent adhesion. DS210-61 is applied by an approved Life-Last spray system.

COLORS

Almond, gray or black

CURE SPEED

- **Touch-up/Patch:** slowest cure rate for use with mix manifolds/flex guns; offers the longest recoat window
- **Interior:** moderate cure rate allows overspray to wet back into the film on pipe and fitting applications

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 ≥8"; thickness up to 210 mils
 - Tanks ≥50 gallons; thickness up to 210 mils

TYPICAL APPLICATIONS

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

PRODUCT ADVANTAGES

HIGHLY IMPERMEABLE

Provides excellent corrosion protection; highly resistant to cathodic disbondment

EXCELLENT ADHESION

ABRASION & IMPACT RESISTANT

Mitigates damage during handling and installation

GOOD FLEXIBILITY

Expands and contracts with substrate; great impact resistance

HIGH BUILD CHARACTERISTICS

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

LOW COEFFICIENT OF FRICTION

Supports the development of maximum head pressure

NO EXTENDING FILLERS

Solid, unfilled film provides optimal properties – excellent long-term adhesion

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

2 : 1 (Resin : Activator)

HEALTH AND SAFETY

Consult the *DuraShield 210-61 Material Safety Data Sheet* (MSDS) for handling and safety information.

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 ft²/gallon @ 20 mils
- Typical Application: ≈ 70 ft²/gallon @ 20 mils

NET WEIGHT PER GALLON (ALMOND)

- Resin: 8.8 ± 0.2 lbs/gallon
- Activator: 10.3 ± 0.15 lbs/gallon
- Mixed: 9.3 ± 0.2 lbs/gallon

CURE TIME*

75°F	Interior	Patch
Tack Free	8-15 min.	30-45 min.
Recoat Time	< 2 hours	4 hours
To Immersion (per NSF)	72 hours	72 hours
To Handling/Traffic	20-30 min.	1.5-2 hours

* Varies by application technique, thickness, & temperatures

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: Min 40°F, Max 120°F
 - Activator: Min 40°F, Max 120°F
- Containers must be kept sealed in a dry environment.

SHIPPING INSTRUCTIONS

Unheated trailer, no special requirements. Keep dry.

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	3030 psi
Elongation	ASTM D412	10%
Flexibility	ASTM D522	No cracking or delamination - 1" Mandrel
Cathodic Disbondment	ASTM G95, mtd A	0 mm
Water Absorption	ASTM D570	0.464%
Impact Resistance	ASTM G14	180 in-lbs
Hardness, Shore D	ASTM D2240	75±3
Abrasion Resistance	ASTM D4060, CS17	17.5 mg
Water Vapor Permeability	ASTM E 96 Procedure BW-Inverted Water Method	0.049 inch-pounds @ 33 mils
Dielectric Strength	ASTM D149	470 V/mil
Chemical Resistance	ASTM D543	10% H ₂ SO ₄ < 1% 30% NaCl < 1% 30% NaOH < 2% #2 Diesel 2 weight, <2% length/width

APPLICATION

SURFACE PREPARATION

Preparation requirements vary with application. Refer to the *DuraShield 210 and DuraShield 210-61 Application Specification Sheet - Steel Pipe* or contact a LifeLast technical representative 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 not needed.

GEL TIME

Patch: ≈ 120 seconds; Interior: ≈ 50 seconds

SPRAY TEMPERATURE*

Resin: 110°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 *DuraShield 210 and DuraShield 210-61 Application Specification Sheet - Steel Pipe* for recommended spray equipment and setup. **Spray equipment must be approved by LifeLast.**

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