

PRODUCT DESCRIPTION

CHEMICAL DESCRIPTION

Solventless Aromatic Polyurethane, Chemical Cure, ASTM Type V

PRODUCT USAGE

DuraShield 210 (DS210) is a 100% solids, two-component polyurethane coating that contains **no** volatile organic compounds (VOC), solvents or **extending fillers**. Formulated specifically as a pipe coating and 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 has a very low water absorption rate – lower even than most epoxies – and the best cathodic disbondment protection possible. The hydrophobic properties of DS210 also impart improved tolerance to moisture, both in the container and during application. This allows DS210 to cure to a hard, flexible, durable film with a very glossy, extremely well-adhered, impermeable finish. DS210 is designed specifically to provide very fast cure times, while at the same time demonstrating excellent adhesion. Application of DS210 is accomplished by spray (using a certified LifeLast spray system).

COLORS

Standard color is almond. Others colors available upon request.

CURE SPEED

Interior: slower cure rate allows overspray to wet back into the film on interior pipe and fitting applications.

Exterior: fast cure rate allows quick handling and processing

PRODUCT CERTIFICATIONS

Meets AWWA C222. FDA approved for dry bulk applications.

PRODUCT ADVANTAGES

- Highly impermeable – provides *the best* cathodic disbondment protection; tolerant application properties; very good moisture resistance
- Excellent adhesion
- Abrasion and impact resistant – mitigates damage during handling
- Customizable formulation – optimizes spray characteristics; use up to 15% less coating to meet specifications
- 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
- No extending fillers – solid, unfilled film provides optimal properties – excellent long-term adhesion

TYPICAL APPLICATIONS

- Water Transmission and Storage
- Wastewater Treatment – Municipal and Industrial
- Pipes – interior linings and exterior coatings
- Tanks – interior linings and exterior corrosion protection

SURFACE PREPARATION

Preparation requirements vary with application. Refer to “Application Specification for Steel Pipe – *DuraShield 210 & DuraShield 210-61 Polyurethane Coatings*” or contact LifeLast technical representative for assistance.

COATING SYSTEMS

PRIMERS

Steel: Self-priming

Non-Ferrous Metals & Galvanized Steel: Self Priming or Primall-160

Concrete & Wood: Self-priming or Primall-160 epoxy primers

TOPCOATS

Compatible aliphatic urethane

TECHNICAL DATA

SOLIDS VOLUME 100 percent

MIX RATIO BY VOLUME 2 : 1 (Resin : Activator)

RECOMMENDED DRY FILM THICKNESS 20 mils up to 250 mils; Thickness varies with application. Please consult your designated technical representative for assistance.

CURE TIME	Designation	Dry To Touch	Recoat Time	To Immersion	To Handling
	Interior	8-15 min.	< 2 hours	6 hours	20-30 min
	Exterior	2-3 min.	< 1 hour	4 hours	5-10 min.

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:* 8.6 ± 0.2 lbs/gallon, *Activator:* 10.3 lbs/gallon; *Mixed:* 9.2 ± 0.20 lbs/gallon

SHIPPING INSTRUCTIONS Unheated trailer, 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 in sealed, unopened containers.

HEALTH AND SAFETY Consult MSDS for handling and safety information.

PHYSICAL PROPERTIES		
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 delam – 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)		74±3
Abrasion Resistance (ASTM D4060, CS17)		69.4 mg
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

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.

GEL TIME *Interior:* ≈ 50 seconds; *Exterior:* ≈ 20 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 See "Application Specification for Steel Pipe – DuraShield 210 & DuraShield 210-61 Polyurethane Coatings" for recommended spray equipment and setup. **Spray equipment must be approved by LifeLast, Inc.**