



Innovation through Formulation

## DURASHIELD™ 215

### TECHNICAL DATA SHEET

EFFECTIVE: 7/21/20

#### PRODUCT DESCRIPTION

##### CHEMICAL DESCRIPTION

Solventless Aromatic Polyurethane, Chemical Cure, ASTM D16 Type V

##### USAGE

DuraShield 215 (DS215) is a 100% solids, two-component polyurethane that contains no volatile organic compounds (VOC), solvents or extending fillers. DS215 is a hard, durable, chemical resistant coating that also provides flexibility and impact resistance for ferrous and non-ferrous metals, concrete and other surfaces. By employing hydrophobic polyurethane resins, DS215 has a very low water absorption rate – lower even than most epoxies – and excellent cathodic disbondment resistance. The hydrophobic properties of DS215 also impart improved tolerance to moisture, in the container, during application and in service. This allows DS215 to cure to a hard, flexible, durable film with a glossy, well-adhered, finish. DS 215 is better suited for elevated temperatures and is more chemical resistant than DuraShield 210 and DuraShield 310. DS215 is designed specifically to provide very fast cure times, while at the same time demonstrating excellent adhesion. DS215 is applied using an approved LifeLast spray system.

##### COLORS

Standard color is almond. Call regarding other colors.

##### QUALIFICATIONS

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

##### TYPICAL APPLICATIONS

- **Water Transmission and Storage**
- **Wastewater Treatment:** municipal & industrial
- **Pipes:** interior linings & exterior coatings
- **Tanks:** interior linings & exterior corrosion protection
- **Penstocks:** interior linings & exterior coatings
- **Paper Roll Covers:** wet end and reel spools
- **Man-Hole Restoration**

#### PRODUCT ADVANTAGES

##### HIGHLY IMPERMEABLE

Provides excellent corrosion protection; highly resistant to cathodic disbondment

##### EXCELLENT ADHESION

##### ABRASION & IMPACT RESISTANT

Mitigates damage

##### GOOD FLEXIBILITY

Expands and contracts with substrate; great impact resistance

##### HIGH BUILD CHARACTERISTICS

Application thicknesses from 20 mils to 500+ mils in one application; completely encapsulates fills welds, rivets, pits, bug-holes and edges

##### HIGH STRENGTH

Increases structural integrity of coated systems

##### GOOD HIGH TEMPERATURE RESISTANCE

Can be used in the wet end of paper machines near the dryer section

#### COATING SYSTEMS

##### PRIMERS

- **Steel:** Self-priming
- **Non-Ferrous Metals & Galvanized Steel:** Self-priming, Primall-125 or Primall-160
- **Concrete & Wood:** Self-priming, Primall-125 or Primall-160

##### TOPCOATS

- Approved aliphatic urethanes. Consult a LifeLast representative

# DURASHIELD 215 TECHNICAL DATA SHEET

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## TECHNICAL DATA

### SOLIDS

100% by volume

### MIX RATIO BY VOLUME

2 : 1 [DS215 (POLYOL) : Activator 9000 (ISO)]

### RECOMMENDED DRY FILM THICKNESS

20 mils to 500+ mils (no max); thickness varies with application. Consult a LifeLast technical representative for assistance.

### COVERAGE

- Theoretical: 80.2 ft<sup>2</sup>/gallon @ 20 mils
- Spray: ≈ 70-75 ft<sup>2</sup>/gallon @ 20 mils

### NET WEIGHT PER GALLON (ALMOND)

- POLYOL: 10.5 ± 0.2 lbs/gallon
- ISO: 10.3 ± 0.2 lbs/gallon
- Mixed: 10.4 ± 0.2 lbs/gallon

### CURE TIME @ 70°F (21°C) - 75°F (24°C)\*

Designation	Standard Speed	Fast Set
Tack Free	8-15 min.	2-3 min.
Recoat Time	< 2 hours	< 1 hour
To Immersion	6 hours	4 hours
To Handling/Traffic	20-30 min	5-10 min.

\*Varies by application technique, thickness, & temperatures

### TIME TO HOLIDAY TEST

Coating must be cured to handle before holiday testing.

### SHELF LIFE

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

### STORAGE

- Temperature
  - ◊ POLYOL: Min 40°F (4°C), Max 120°F (49°C)
  - ◊ ISO: Min 40°F (4°C), Max 120°F (40°C)
- Containers must be kept sealed in a dry environment.
- Contact LifeLast for continuous storage above 90°F (32°C)

### SHIPPING INSTRUCTIONS

Unheated trailer, no special requirements. Keep dry.

## PHYSICAL PROPERTIES

49°Test	Standard	Result
Adhesion to Steel	ASTM D4541; A.4	> 1500 psi
Tensile Strength	ASTM D412	4953 psi
Elongation	ASTM D412	7.7%
Flexibility	ASTM D522	No cracking or delamination – 3" Mandrel
Water Absorption	ASTM D570	0.744%
Impact Resistance	ASTM G14	>144 in-lbs
Hardness, Shore D	ASTM D2240	79±3
Abrasion Resistance	ASTM D4060, CS17	71.9 mg
Water Vapor Permeability	ASTM E96 Procedure BW-Inverted Water Method	0.031 inch-pounds
Service Temperature	Dry – Continuous: -40°F (-40°C) to 200°F (4°C) Maximum Surge: 350°F (177°C) Immersion – Insulated (max): 140°F (60°C) Non-Insulated: 120°F (49°C)	

## APPLICATION

### SURFACE PREPARATION

Preparation requirements vary with application. Refer to the *DuraShield 215 Application Specification Sheet* or contact a LifeLast technical representative for assistance.

### MIXING

Power mix contents of POLYOL containers, making sure to remove all pigment from the bottom of the container. Mixing of ISO is not required.

### GEL TIME

Standard Speed: ≈ 50 seconds; Fast Set: ≈ 20 seconds at 75°F (24°C) material temperature

### SPRAY TEMPERATURE\*

POLYOL: 110°F (43°C) - 150°F (66°C); ISO: 80°F (27°C) - 150°F (66°C)

\*Exact temperatures depend on spray equipment setup

### SURFACE TEMPERATURE

Min. 40°F (4°C), Max 140°F (60°C); surface should be clean, dry and more than 5°F (3°C) above dew point.

### AMBIENT CONDITIONS

- Min. 0°F (-18°C), Max 120°F (49°C)
- Relative humidity should be less than 85%. Ambient air temperature must be no less than 5°F (3°C) above the dew point.

### SPRAY EQUIPMENT

Refer to *DuraShield 215 Application Specification Sheet* for recommended spray equipment and setup. **Spray applicators and equipment must be certified by LifeLast.**

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