Polyurethane HD

Aliphatic Polyurethane 2K

TECHNICAL DATA SHEET

Zero VOC Water-Based Aliphatic Polyurethane Coating

1 Gallon Kit	Clear Matte	PU-0401
	Clear Satin	PU-0402
	Clear Gloss	PU-0403
	White Matte	PU-0404
	White Satin	PU-0405
	White Gloss	PU-0406
	Neutral Matte	PU-0407
	Neutral Satin	PU-0408
	Neutral Gloss	PU-0409

Description

RainguardPro® Polyurethane HD Aliphatic Poly Urethane 2K is a two-component, high performance, zero-VOC, odorless, water-based, aliphatic polyurethane paint/coating. Polyurethane HD provides years of excellent protection against harsh weather conditions, UV exposure, corrosion, physical damage, and has elastomeric properties. Polyurethane HD acts as a breatheable elastomeric waterproofer.

Part A consists of: Polyester Polyol, Water, Polyacrylate

Part B consists of: Solvent Free Aliphatic Polyisocyanate with IsoFree™ Technology

What is IsoFree™ Technology?
When Part B is mixed with Part A the crosslink reaction makes the combined product free of any isocyanates. Thereby the product is safe to apply for both the applicator and the environment.

This product may be sprayed, brushed, or roller applied. Polyurethane HD is unique in that it has no VOC's due to its total water-based formulation. When fully cured, this product has good chemical acid resistance, UV protection, excellent water resistance, abrasion resistance, flexibility, and is totally environmentally safe.

Coverage Rates (Theoretical)

Substrates	Sq Ft / Gallon
Textured Surfaces	Approx. 250 - 300
All Masonry Surfaces	Approx. 300
Painted Surfaces	Approx. 400
Wood Surfaces	Approx. 300
Metal	Approx. 400
Tile	Approx. 350

Recommended Uses

- Warehouses
- Food and Beverage Facilities
- USDA Inspected Facilities*
- Commericial Vehicles
- Airports
- Stadiums
- Sound Walls
- Direct-To-Metal
- Warehouse Floors
- Garage Floors
- Tile Floors and Walls (Glazed and Unglazed)

** Suitable for USDA inspected facilities*

Highlights

- Scratch Resistant
- Chemical and Petrochemical
- Non-yellowing & UV resistant topcoat
- Apply Direct-to-metal* and concrete
- Chemical and acid resistant
- Excellent as a protective floor coating, or topcoat applied over a primer epoxy, as a high-gloss, chemical/acid resistant topcoat for industrial concrete flooring applications
- Breatheable elastomeric waterproofer

**Do not use on bare ferrous metal. Only apply to ferrous metal that is properly prepped and primed to receive a water based coating.*

Test Panel

Always apply material to a mock wall or test panel. Test wall or actual surface area to determine acceptable color, surface porosity, application rates and methods before starting general application.

RainguardPro® Polyurethane HD

Personal Protection

RainguardPro® Polyurethane HD is a zero-VOC coating. The volatile to evaporate will be water. No special clothing or respirators are required. Due to its total water-based formulation, the hazard of flammability is removed.

PLEASE NOTE: FOR HORIZONTAL APPLICATIONS IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO USE RAINGUARDPRO® SLIP RESIST OR APPROPRIATE NON-SLIP ADDITIVE DEPENDING ON THE PROJECT CONDITIONS.

Mixing Ratio (Part A & B Only)

Clear // 2.25:1
White // 3:1

Reduction (Optional)

REDUCTION // CLEAR

Pour the contents of Part B into Part A. After mixing the components well (as described below) for approximately two (2) minutes, it may be reduced with water up to twenty percent (20%).

Typical spray applications require a 5% to 10% reduction. Do not exceed 20%.

REDUCTION // WHITE

Pour the contents of Part B into Part A. After mixing the components well (as described below) for approximately two (2) minutes, it may be reduced with water up to eight percent (8%).

Typical spray applications require a 5% to 8% reduction. Do not exceed 8%.

Mixing Instructions

1. Stir Part A for 2 minutes with jiffy blade at slow speed (500 RPM) to fully disperse the product.
2. To catalyze product pour Part B into Part A and mix for 2 – 3 minutes.
3. Pour a portion of Part A back into Part B can until full, mix well for 30 seconds, pour back into Part A. Mix for another 2-3 minutes. Allow product to stand for 5 minutes before applying. Loosely cover mixed product. **Do not re-seal mixed product!**
4. Product may be reduced with clean water to achieve desired viscosity (Please see instructions above). We recommend using distilled water.
5. If you decide to reduce catalyzed product, do not reduce after 30 minutes.
6. IMPORTANT: Mark time to establish pot life. Pot life is 0.75 - 1 hour at 75°F.
7. Product should not be mixed with other products or other containers of RainguardPro® Polyurethane HD

Application

SMOOTH SURFACES

RainguardPro® Polyurethane HD may be applied directly over most surfaces without primer. Apply a light coat at a thickness of 3 to 4 wet mils. Do not exceed 5 mils. Reduction may create optimal flow. Dry mils thickness is 1.5-2*.

POROUS SURFACES

Most porous surfaces should have a sealer or filler to adequately eliminate potential pinholes prior to applying RainguardPro® Polyurethane HD.

1. Apply one coat of RainguardPro® Polyurethane HD (3 – 4 mils wet per coat) allowing 4 hours between coats or when coating is tack free.
2. Any runs should be brushed or rolled out immediately before drying.
3. When dry, thickness is 1.5-2 mils*

**For heavy duty applications such as warehouse floors with heavy forklift traffic, DFT thickness should be 3-4 mils.*

IMPORTANT: Proper methods to protect from over spraying should be implemented. Atomized particles will adhere to most surfaces and are extremely difficult to remove.

Temperature and humidity directly affect pot life and dry time. Conditions should be between

40 – 95 °F (5 – 35 °C) and humidity should not exceed 80%.

Re-Application

Apply a second coat within 24-hours for proper adhesion. If the first coat has dried longer than 24-hours, abrade the surface to promote adhesion for the second coat.

Clean Up & Disposal

Clean up promptly with mild soap and water before product cures. Dispose of according to local, state and federal regulations.

Limitations

- RainguardPro® Polyurethane HD should be tested on all substrates before complete application
- RainguardPro® Polyurethane HD should not be applied in humidity above 80% or rain
- Horizontal surfaces coated with RainguardPro® Polyurethane HD become slippery when wet
- RainguardPro® Polyurethane HD should not be applied in high wind, rain, or when the

RainguardPro® Polyurethane HD

Technical Data

Solid by Weight (%)		Clear/Matte 60 (±2%)/58%) Pigmented 66 (±2%)/64%
Solid by Volume (%)		50%
Dry Time		4 – 8 hours
Cure Time		3 – 7 days
Pounds Per Gallon	Part A Part B Clear/Matte Part B Pigmented	9.2 lbs/gallon 8.7 lbs/gallon 10.8 lbs/gallon

Test Data

TEST	RESULTS	TEST METHOD
Flash Point	>118°C (245 °F)	Tag closed cup
pH	Part A - N/A Part B - 9.2	--
Specific Gravity	1.05	--
Gloss	> 90 @ 16 °C (60°F)	Gloss meter
Gloss Loss	< 10%	ASTM D523
Color Loss	< 1.1%	ASTM D2244
Salt Spray	1500+ hours	ASTM B117
Humidity	1500+ hours	ASTM D2244
Abrasion	< 40mg	ASTM D4060
Hardness	> 2H	ASTM D3363
Adhesion	Pass	ASTM D2197
Flexibility	Pass	ASTM D2794
Odor	None	--
VOC (g/L, less water)	0	--
MEK Double Rub @ 50% solids	Passed 2,000 cycles	--

Chemical Resistance

RainguardPro® Polyurethane HD provides excellent resistance to a wide range of chemicals and acids, including:

Ammonium Hydroxide	Hyjet #3	Toluene & Xylene
Potassium Hydroxide	Skydrol 500 A & B	Jet Fuel - Butyl Cellusolve
Sodium Hydroxide	Hydrochloric Acid 10%	Acetone - Cellusolve Acetate
Sodium Chloride	Phosporic Acid 35%	Methyl Ethyl Ketone
Trisodium Phosphate	Sulfuric Acid 20%	Beer - Cola - Milk
Ethyl Alcohol	Acetic Acid 24%	Mustard - Bleach
Isopropyl Alchohol	Trichlorethylene	-
Methyl Alcohol	Perchlorethylene	-

RainguardPro® Polyurethane HD