

# Polyurethane HD

## Aliphatic Polyurethane 2K

### TECHNICAL DATA SHEET



Zero VOC Water-Based Aliphatic Polyurethane Coating.

## Polyurethane HD CSI Reference

03 35 00 Concrete Finishing
04 2 00 Unit Masonry
04 40 00 Unit Masonry
05 05 13 Metal
09 61/96 Finishes
09 96 26 Finishes
09 96 33 Finishes
09 96 35 Finishes
09 90 00 Finishes
09 24/25 Finishes

\*standard warranty period is 5 years

## Description

RainguardPro® Polyurethane HD Aliphatic Polyurethane 2K is a two-component, high performance, zero-VOC, odorless, water-based, aliphatic 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 breathable waterproofer.

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 environmentally safe.

### Recommended Uses

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

\* Suitable for USDA inspected facilities

## Features & Benefits

- Scratch Resistant
- Non-yellowing & UV resistant topcoat
- Anti-Carbonation Protection
- 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
  - Breathable 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.

## Coverage Rate by Substrate (theoretical)

The coverage depends on the surface. Test the product on a small area of the substrate to estimate coverage. Extremely porous surfaces may require multiple coats.

Substrate	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

The use of fluted, scored block, raked joints, sandblasted or etched surfaces will result in greater absorption and lower coverage rates, by up to 40%. Test these areas for the expected coverage rate before general application. Allow for this increased surface area when determining material requirements.

## Surface Preparation

Prior to application, all surface shall be clean and dry with no oils, dirt, debris, or minerals such as efflorescence, lime and calcium. These stains, along with others, will prevent proper penetration of Polyurethane HD to sufficiently seal for the warranty period.

The use of Rainguard's Restore-N-Prep™ Concrete and Masonry Cleaner system is recommended as a pre-treatment to clean masonry surfaces. Once clean, allow the surface to fully dry before sealing or applying a topcoat (See the Restore-N-Prep™ TDS for details).

### Restore-N-Prep™ CSI Reference

03 01 40 Concrete Finishes
03 10 30 Concrete Finishes
03 10 50 Concrete Finishes
04 01 20 Unit Masonry
04 01 40 Unit Masonry



## 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 container 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.

IMPORTANT: Mark time to establish pot life. Pot life is 3-4 hours at 75°F. Product should not be mixed with other products or other containers of RainguardPro® Polyurethane HD.

## Application Instructions

### 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.

### POROUS SURFACES

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

1. Apply one coat of RainguardPro® Polyurethane HD (3 – 4 mils wet per coat). Allow 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 should be 1.5-2 mils\*

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

Dry Time: 1-2 hours at 75°F

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 48-hours for proper adhesion. If the first coat has dried longer than 48-hours, abrade the surface to promote adhesion of the second coat.

## Precautions

For horizontal applications it is the responsibility of the contractor to use Rainguard's slip resist or appropriate non-slip additive depending on the project conditions.

Use material in a well-ventilated area. Protect the work of other trades. Protect shrubbery and other plants with drop cloths. Protect automobiles and all other areas not to be coated from overspray. Remove overspray from any windows, automobiles, metal, etc. as soon as possible should it occur. To prevent permanent staining, clean spills or leaks in a timely manner.

All surfaces to be coated should be clean of any dirt and grime, efflorescence, lime run, form oils and release agents, grease, mud, excess mortar, and mold and mildew, etc. All cracks should be pointed or caulked. All voids, beeholes, masonry surface defects and openings such as conduits, pipes, drains, door frames, vents, air conditioner openings, electrical openings, control joints, or any dissimilar materials should be repaired using urethane or other approved patching.

Do not apply to surfaces if moisture content is greater than 25% as measured with an electronic moisture meter. Do not apply materials in climates where freezing temperatures have existed prior to application. Allow adequate time for surfaces to thaw. Establish that air, surface, and material temperatures are above 40°F (4.4°C) and at least 5°F above the dew point prior to painting. Do not apply at temperatures below 40°F when temperatures are expected to drop below 40°F within 48 hours of application. Do not apply if rain, snow, or lower temperatures are expected within 48 hours. Do not apply if relative humidity is greater than 90%.

Store materials in a well-protected area at 45°- 90°F. Avoid freezing temperatures, direct sunlight, & moisture. Keep away from heat sources.

## Test Panel

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

## Safe Handling

Use product only with adequate ventilation and/or an appropriate cartridge type respirator. Avoid contact with skin and wear protective gloves. Read the Safety Data Sheet before using.



## Technical Data

Solid by Weight (%)	Clear/Matte 52 (±2%)/58% Pigmented 58 (±2%)/64%
Solid by Volume (%)	50%
Dry Time	1 – 2 hours
Cure Time	3 – 7 days
Pounds Per Gallon	Part A 9.2 lbs/gallon Part B Clear/Matte 8.7 lbs/gallon Part B Pigmented 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
Surface Burning	Flame spread 0 Smoke development 0	ASTM E84
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 Alcohol	Trichlorethylene	-
Methyl Alcohol	Perchlorethylene	-



## Warranties

Rainguard Brands, LLC guarantees that this product is free from manufacturing defects and complies with our published specifications. In the event that the buyer proves that the goods received do not conform to these specifications or were defectively manufactured, the buyer's remedies shall be limited to either the return of the goods and repayment of the purchase price or replacement of the defective material at the option of the seller. Rainguard Brands, LLC makes no other warranty, expressed or implied, and all warranties of merchantability and fitness for a particular purpose are hereby disclaimed. Manufacturer or seller shall not be liable for prospective profits or consequential damages resulting from the use of this product. Manufacturer shall not be liable for material used outside of its shelf life. For product dating, please refer to the batch number on the product or contact Rainguard Brands, LLC.

Surface conditions and application variables are out of the control of Rainguard Brands, LLC. As such, the applicator agrees to: Follow recommended application instructions, acknowledge limitations outlined in this technical data sheet, contact the manufacturer in the event there any uncertainties, perform a test panel to confirm fit and finish before any general application. The data on this sheet represent typical values. Since application variables are a major factor in product performance, this information should serve only as a general guide. Rainguard Brands assumes no obligation or liability for use of this information. Contact manufacturer at 888-765-7070 before bidding to confirm warranty provisions and procedures.

**SELLER'S LIABILITY UNDER THE SALE OF THIS PRODUCT IS LIMITED TO REPLACING DEFECTIVE PRODUCT. HOWEVER, IF SELLERS FAILS IN ITS ATTEMPT TO REPLACE THE DEFECTIVE PRODUCT, BUYER WILL BE ENTITLED TO A REFUND OF MONIES PAID TO SELLER UNDER THIS PRODUCT WARRANTY. SELLER IS NOT LIABLE FOR BUYER'S LOSS OF PROFITS, BUSINESS GOODWILL, OR OTHER CONSEQUENTIAL DAMAGES, DESPITE ANY FAILURE TO REPLACE THE PRODUCT. BUYER HAS ACCEPTED THIS RESTRICTION ON ITS RIGHT TO RECOVER CONSEQUENTIAL DAMAGES AS PART OF ITS BARGAIN WITH SELLER. BUYER REALIZES AND ACKNOWLEDGES THAT THE PRICE OF THE PRODUCT WOULD BE HIGHER IF SELLER WERE REQUIRED TO BE RESPONSIBLE FOR BUYER'S CONSEQUENTIAL DAMAGES."**

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