

# UR-22 EnviroUltra WBU

## WATER BASED URETHANE

### Technical Data Sheet

**DESCRIPTION:**

A non-yellowing, water-based, high solids, two-component urethane with excellent abrasion and adhesion properties and enhanced chemical resistance.

**USES:**

For use as a topcoat material over epoxy (floor) or wall base coats in environments subjected to chemical exposure and abrasive wear. Water based formulation allows for use in areas that conventional solvent based systems cannot be used.

**ADVANTAGES:**

- VOC compliant in all areas
- Water based — low odor
- Creates a durable film on floors and walls, providing
  - superior UV stability
  - superior abrasion resistance
  - excellent chemical resistance
  - excellent graffiti resistance, anti-soiling properties
- High light reflectance
- Attractive glossy, stippled finish

**PACKAGING:**

The UR-22 ENVIROULTRA WBU is packaged in pre-proportioned 0.95-gallon kits and in 3.8-gallon kits for error-free jobsite mixing and application.

Each 0.95-gallon kit consists of a one quart short-filled container of Part "H" Hardener and a one gallon short-filled can of Part "R" Resin, which is oversized to allow for mixing.

Each 3.8-gallon kit consists of a one gallon container of Part "H" Hardener and a five gallon short-filled pail of Part "R" Resin, which is oversized to allow for mixing.

**COVERAGE:**

Approximately 320-533 sq. ft. per gallon, per coat, depending upon smoothness of existing surface. **Note: Do not apply this product greater than 6 wet mils;** preferred application thickness of this product is 3 to 5 wet mils.

**GENERAL DATA:**

Colors:	Clear	
	Other colors available using UR-4 Color Add	
%Solids, by weight:	60% ± 1.0	
VOC:	63 g/l	
Flash Point, T.C.C.:	150°F	
Coverage:	320-533 ft <sup>2</sup> /gal	
Film Thickness:	Wet (mils/coat): 3.0 – 5.0	
	Dry (mils/coat): 1.8 – 3.0	
Suggested # of Coats:	2, over primed surface	
Application Method:	High quality 3/8" or 1/4" nap roller	
Thinner:	NOT RECOMMENDED	
Dry Time @ 75°F:	<b>Clear</b>	<b>w/UR-4</b>
Tack free	4 hours	5 hours
Light Foot Traffic	24 hours	24 hours
Heavy Traffic	>72 hours	>72 hours
Chemical Exposure	5 days	5 days
Recoat Time @ 75°F:	6–24 hours	8–24 hours
Shelf-Life:	6 months <i>in unopened containers</i>	

**TYPICAL PHYSICAL PROPERTIES:**

Test	Description	Clear	w/UR-4
Abrasion Resistance	Taber Abrader: CS-17 wheel, 1000 cycles, 1000 gm load.	22-25 mg loss	25 mg loss
Adhesion	To concrete: Existing MCU coatings with proper preparation	Excellent	Excellent
Flexibility	Bent on 1/8" conical mandrel	No cracking or crazing	No cracking or crazing
UV Light Resistance	Q-U-V Accelerated Weather Tester	Excellent	Excellent

**Above typical values based on cure @ 75°F**

### ASSOCIATED PRODUCTS:

Preparation: PC-40 DYNAMITE  
PC-41 SOLV-KWIK  
PC-42 ACID CONDITIONER  
PC-43 WASH OFF REMOVER  
PC-46 DRY EZE

Priming: PR-14 KWIK PRIME  
PR-7 FLEX PRIME

Thinner & Catalyst Not Recommended

### LIMITATIONS:

This product is not designed for exterior use, immersion, or any use where moisture can reach the underside of the coating. Do not apply to floors less than 60 days old. Do not apply to floors previously treated with curing and parting compounds chemical hardeners or other coatings unless they have been completely removed by chemical or mechanical means. Do not use on vinyl, asphalt, rubber, glazed tile, paving brick, quarry tile, Mexican tile, or similar materials.

Technical Data Sheets are updated periodically. To ensure the most current version is being used, call Marketing at 1-800-637-7793.

Proper material application is the responsibility of the user. Site visits made by Valspar personnel are for making technical recommendations only and not for supervising or providing quality control.

In order for this product to cure per specifications, adequate air ventilation must be provided during and after the application process.

Do not apply at a mil thickness greater than recommended.

Do not apply in damp or wet weather or in air temperatures below 55°F or over 85°F. Do not apply when humidity is higher than 85%.

Do not apply to damp or wet surfaces.

Do not apply over honeycombed or structurally unsound surfaces.

Before applying for protection against specific chemical environments, consult Chemical Resistance Guide or Valspar Technical Service.

Sealed surfaces may discolor under tires due to tire plasticizer migration.

As with all high performance coatings, the cured product may become slippery when wet or if exposed to oily conditions. For a procedure for incorporating aggregate to obtain a non-slip finish, contact Valspar Technical Service.

If there is any question as to whether or not the product will adhere to an existing coating, a test patch application should be applied and evaluated for compatibility and adhesion.

This product is not intended to be sprayed.

The mixing and application instructions must be followed carefully to insure proper cure as well as to achieve the best physical properties attainable.

Always be alert to any possible airborne or surface contaminants, which may contribute to problems such as fisheyes, crawling, cratering, etc.

### SURFACE PREPARATION:

All oil, grease, wax, laitance, curing compounds, water-soluble concrete hardeners and other surface contaminants must first be removed. PC-43 WASH OFF REMOVER or PC-46 DRY EZE should be used for removal of sealers, finishes, and paints. Inspect the concrete and remove loose or soft concrete by scarifying, sand blasting or high pressure water blasting.

If there is uncertainty as to whether or not a curing compound or any coating is present on the floor, the following two tests may be performed in order to find out:

1. Pour a cup of water on three or four areas of the floor. If the water puddles out, then there probably is no curing compound or any coating on the floor, and the preparation process may begin. However, if the water beads up like on a waxed car, this may indicate the presence of a curing compound or any coating that must be removed by chemical or mechanical means.
2. Place a drop of PC-42 ACID CONDITIONER on the floor. If the acid bubbles, a curing compound or any coating is not present.

The concrete floor should be examined for the presence of moisture. This can be accomplished by the following means:

1. Calcium Chloride Test
2. Delmhorst Moisture Meter
3. Polyethylene Sheet Method

Calcium Chloride Test: This test method works by a change in weight of moisture absorbing anhydrous calcium chloride and indicates the amount of moisture transmitting out of a large concrete surface area. Pounds is the equivalent weight of the water that is emitted from a 1,000 square foot concrete slab surface area in a 24 hour period of time (standard test duration is 60 hours). Concrete must not show moisture content greater than three pounds per 1,000 square feet in 24 hour time frame. Follow instructions as outlined by the supplier of the test kits. Make sure the concrete surface to be tested is completely clean of any residue and any debris. All seals, including curing compounds must be removed prior to performing tests. Sources: Roofing Equipment Inc., Denver, CO 303-371-7667; Sealflex Industries Inc., Costa Mesa, CA 714-708-0850; Vinyl Plastics Inc., Sheboygan, WI 920-458-4664; and Floor Seal Technology, San Jose, CA 408-436-8181

### STANDARD TESTS:

Refer to the standard test methods below for further information.

ASTM D 4258-83	Standard Practice for Surface Cleaning Concrete for Coating
ASTM D 4259-83	Standard Practice for Abrading Concrete
ASTM D 4260-83	Standard Practice for Acid Etching Concrete
ASTM D 4262-83	Standard Test Method for pH of Chemically Cleaned or Etched Concrete Surfaces

### CHEMICAL PREPARATION:

PC-40 DYNAMITE should be used as directed to remove all traces of grease, oil, and dirt followed by a thorough rinsing to remove all cleaning residues. Remove excess water by with a good wet vacuum. To remove laitance and to give a slight texture to area to be surfaced, acid-etch using PC-42 ACID CONDITIONER. Using a 1:1 dilution ratio with water, apply evenly as possible to the surface and vigorously scrub into the surface with a stiff bristle brush or automatic scrubber. Thoroughly rinse with copious quantities of water and use wet vacuum to remove any residues. Repeat this process until concrete surface is the texture of a medium grit sandpaper.

### MECHANICAL PREPARATION:

Mechanically abrade the concrete by grinding, scarification or "shot-blasting" the surface to the texture of medium grade sandpaper. Next, sweep and vacuum any remaining dirt and dust with a wet/dry vacuum. Removing residual dust will help insure a tenacious bond fro the primer.

Whenever "shot-blasting" is utilized, be careful to leave concrete with a uniform texture. Over "blasting" will result in reduced coverage rates of the primer and/or subsequent topcoats. It's also possible that the texture of the "shot-blast" pattern may show through the last coat. This is known as "tracking". In most cases, multiple coats of urethane will be required in order to cover the profile created by an improperly "shot-blasted" floor.

**NOTE:** Although, chemical preparation may be required on some surfaces, mechanical preparation is highly recommended and in most cases more efficient. It is not uncommon that a combination of the two is required.

### OPTION:

After the primer has cured, a coat of epoxy could be applied to build mil thickness prior to the urethane topcoat.

### PREVIOUSLY COATED SURFACES:

Before recoating a floor previously coated with an unknown finish, a test patch is recommended in order to determine compatibility.

1. Clean the floor using PC-40 Dynamite to remove grease, oil and dirt followed by a thorough rinsing to remove all cleaning residues. Allow the floor to dry thoroughly.
2. Screen the floor with a #80 grit screen (250 sq. ft. per side) until all gloss is removed.
3. Vacuum, and then tack rag to remove all dust from screening. Water can be used as a tacking liquid. The tacking process should be repeated until there is no dust present on the tack rag. After this tacking process is completed, the floor should appear dull, without areas of gloss present. The floor is now ready to be coated.

### PRIMING: PR-14, PR-7

**PR-14 WB KWIK PRIME** can be applied at 400-500 sq. ft. per gallon over a damp or dry floor. For rougher areas or floors that have been "shot-blasted", coverage will be reduced to 300-400 sq. ft. per gallon. Allow to dry thoroughly (varies with temperature and humidity) until tack free and clear in appearance before coating.

**PR-7 FLEX PRIME** should be applied at 275-300 sq. ft. per gallon, over damp or dry concrete. Rough concrete surfaces will result in reduced coverage.

### MIXING:

#### FOLLOW THESE MIXING INSTRUCTIONS CAREFULLY:

**Make sure everything is in order since this product has a limited potlife.**

Color Additives: If color is desired, the appropriate UR-4 COLOR ADD must be added to the Part "R" Resin at the specified rate:

- 0.95-gallon kit: UR-4 additive - ½ pint
- 3.8-gallon kit: UR-4 additive - 1 quart

Mix at the appropriate rate at low speed for a minimum of 2 minutes.

1. **The Part "H" Hardener must be added to the Part "R" Resin under agitation. Slowly, empty the contents of the Part "H" Hardener entirely into the can of Part "R" Resin. The Part "R" container is oversized to allow for easy mixing.**
2. Mix with a very low speed jiffy mixer, until completely blended. This will take about 2-3 minutes. Be careful not to introduce any air bubbles while mixing.
3. Due to the difference in viscosity between the Part "H" Hardener and Part "R" Resin, care must be taken to ensure that both components are thoroughly mixed in order to avoid weak or partially cured spots in the coating.

### VALSPAR FLOORING

**APPLICATION:**

Avoid application if the floor temperature is below 55°F or above 85°F. Atmospheric, floor and product liquid temperatures should always be considered before applying this product.

1. This product can be applied from a roller tray and by pouring directly onto the surface to be coated. A high quality, 1/4" or 3/8" nap roller should be used.
2. Apply as evenly as possible. To lessen bubbling of the coating, avoid excessive agitation of the liquids with the roller.

**POT LIFE:**

For clear and pigmented systems, the useful working time is approximately 60-80 minutes at normal application temperatures and conditions of 75°F and 50% R.H.

**CAUTION:**

Containers with mixed product must not be resealed. Mixed product will increase in size 3-4 times due to reaction. Sealed containers with mixed liquids may become pressurized.

**DRYING TIME:**

1. Under normal cure conditions, the "clear" product will be tack free in approximately 3 hours while the pigmented product will be tack free in 4 hours. If a second coat is desired, allow a minimum of 6 hours for the clear and 8 hours for the pigmented prior to application.
2. Allow approximately 24 hours cure after the last coat for light foot traffic. When heavy traffic is involved, it is best to wait a minimum of 72 hours. Allow 5 days cure to obtain maximum abrasion and chemical resistance.

All dry times will vary depending on atmospheric conditions at the time of application.

**CLEAN UP:**

Applicators should be discarded after use. Other application equipment can be cleaned using soap and water.

**CRITICAL RECOAT TIME:**

It is important to apply subsequent coats of this and other products within 6 (or 8 for pigmented coatings) to 24 hours, under normal curing conditions. If this coating is allowed to cure longer than the 24 hours before subsequent recoats, screening will be necessary. The floor surface should be screened to

the effect that a uniform dullness is achieved. There should be no gloss present on the floor before applying the next coat.

**TROUBLE SHOOTING:**

PROBLEM OBSERVED	POSSIBLE CAUSES
Orange Peel / Wrinkling	Product applied too heavily; Product applied over an incompatible existing coating; Recoating too soon.
Slow Cure	Low floor and ambient temperature; Improper mixing of components; Inadequate ventilation during application and cure; Product applied too thick.
Roller Marks in Finish;	High floor and ambient temperatures; Product applied too thick.
Bubbles in Finish	Working product past pot life.
Fisheyes / Crawling	Improper substrate cleaning; Surface contamination of oil, grease, silicone, or mold release agents, etc.
Peeling Between Coats	Past the critical recoat time; Contamination between coats; Recoating too late.
Grainy/Lumpy Product After Mixing	Did not follow proper mixing instructions.

**REFER TO MATERIAL SAFETY DATA SHEET FOR FURTHER SAFETY AND HANDLING INFORMATION.**

**See individual labels for more caution statements. KEEP OUT OF THE REACH OF CHILDREN.**

**DISPOSAL:**

Dispose in accordance with federal, state, and local regulations. Use licensed hazardous waste company.

Empty containers may contain product residue, including flammable or explosive vapors. Do not cut, puncture or weld on or near container. All label warnings must be observed until the container has been commercially cleaned or reconditioned.

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