

UR-13 DURACURE HS/VOC

Technical Data Sheet

DESCRIPTION:

An oil-free, VOC compliant, clear moisture cure urethane coating for concrete floors. Can be used as a clear or in combination with UR-4 Color Add to provide a variety of different colored floors.

ADVANTAGES:

- VOC compliant in 400 g/l regulated districts
- Wears up to 5 times longer than ordinary coatings and sealers
- Provides the ultimate in durability and cleanability
- Resists oil and grease and many other chemical spills
- Exhibits light reflectivity properties
- Maintains a glossy finish and extends useful life of floors

PACKAGING:

Product is available in 1, 5 and 55 gallon containers.

COVERAGE:

Initial Coat: 275-300 sq. ft. per gallon.
Second Coat: 300-350 sq. ft. per gallon.

ASSOCIATED PRODUCTS:

Preparation: PC-40 DYNOMITE
PC-41 SOLV-KWIK
PC-42 ACID CONDITIONER

Priming: PR-14 WB KWIK PRIME
PR-7 FLEX PRIME
UR-14 URABOND

Thinner: UR-9 MCU THINNER

Catalyst: UR-7 MCU CATALYST

GENERAL DATA:

Colors: Clear and other colors available with use of UR-4 Color Add

Viscosity: E-G (Gardner Holdt)

Percent Solids By Weight: 60.5% ± 1.0%

VOC: 398 g/l (Clear)

Flash Point, T.T.C.: 81°F

Gloss @ 60°: 90

Recommended Film Thickness at 275-350 sq. ft. per gallon: Clear
Wet: 5.8 - 4.6 mils/coat
Dry: 3.1 - 2.4 mils/coat

Suggested Number of Coats: One coat over primed surface.

Application Method: Lamb's wool applicator or high quality 3/8" nap solvent resistant roller.

Thinner: If necessary use UR-9 MCU Thinner

Dry Time @ 75°F: Tack free in 5-7 hours

Recoat Time @ 75°F: From 8 to 10 hours.
After 20 hours, screen before recoating.

Shelf-Life: 1 year in unopened container

TYPICAL PHYSICAL PROPERTIES:

Test	Description	Values
Abrasion Resistance	Taber Abraser: CS-17 wheel, 1000 cycles, 1,000 gm load.	24 mg loss
Adhesion	To concrete: Existing MCU coatings with proper preparation	Excellent
Flexibility	Bent on 1/8" conical mandrel	No cracking or crazing
UV Light Resistance	Q-U-V Accelerated Weather Tester	Fair
Slip Resistance	Equivalent to ASTM D-2047	Passes

Above typical values based on cure @ 75°F

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 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, visit Technical Resources on www.valsparflooring.com.

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. Too thick of an application may result in solvent entrapment and improper curing.

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

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.

If the product is to be applied in or near areas containing foodstuffs, they should be removed before the application and until the coating has fully cured and all vapors have dissipated.

Vapors from this product can be objectionable to people unaccustomed to the odor; do not apply in or around buildings occupied by nonconstruction personnel without consulting building management.

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.

PRELIMINARY FLOOR INSPECTIONS:

In general, the area to be surfaced must be clean, sound, dry and above 55°F to assure a successful installation. Concrete must be at least 60 days old.

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 which 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.

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

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. A pound 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

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.

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 DYNOMITE 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 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 from 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 prime and/or subsequent topcoats. It's also possible that the texture of the "shot-blast" pattern may show through the last coat. In most cases, multiple coats of urethane will be required in order to cover the profile created by a improperly "shot-blasted" floor. This is known as "tracking".

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.

PRIMING: PR-14, PR-7

PR-14 WB KWIK PRIME should be applied at 400-500 sq. ft. per gallon over a damp or dry floor. For rough 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.

UR-14 URABOND additive can be used to increase the bond strength of the initial coat of oil free urethanes on the bare concrete when a primer can not be used.

Only use UR-14 in the first coat over bare concrete, not on subsequent coats. Consult the data sheet for the amount of additive required in clear and pigmented material.

MIXING:

The clear product can be used as is, and does not require any mixing.

Color Additives: If color is desired, the appropriate UR-4 Color Add is added to the clear urethane at the specified rate. Refer to the UR-4 Data Sheet for specific ratio.

Mix with a very low speed jiffy mixer, until completely blended. This will take a minimum of 2 to 3 minutes. Be careful not to introduce any air bubbles while mixing.

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 should be applied from a roller tray and not by pouring directly onto the concrete surface. A high quality, 3/8" nap roller or lambs wool applicator should be used.
2. Apply as evenly as possible. To lessen bubbling of the coating, avoid excessive agitation of the liquids with the roller or applicator.

POT LIFE:

Useful working time is approximately 4-6 hours at normal application temperatures and conditions of 75°F and 50% R.H.

DRYING TIME:

	<u>Clear</u>	<u>+ UR-4 Color Add</u>
Tack Free	4-6 hrs.	5-7 hrs.
Recoat	8-12 hrs.	8-12 hrs.
Light Traffic	30-48 hrs.	30-48 hrs.
Heavy Duty Traffic	- 3 days	
Maximum Abrasion & Chemical Resistance	- 7 days	

Above dry times are based on relative humidity of 50% and temperature of 75°F. Above dry times will vary depending on atmospheric conditions at time of application.

NOTE: The increase in either temperature or humidity will shorten dry time.

CLEAN-UP:

Equipment should be cleaned immediately after use with soap and water or UR-9 MCU THINNER.

CRITICAL RECOAT TIME:

It is important to apply subsequent coats of this and other products within 10 to 20 hours (under normal curing conditions). If this coating is allowed to cure longer than the 20 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:

<u>PROBLEM OBSERVED</u>	<u>POSSIBLE CAUSES</u>
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.
Poor Gloss; Dull Finish	Solvent entrapment due to inadequate ventilation during application and cure.
Roller Marks in Finish;	High floor and ambient temperatures;
Bubbles in Finish;	Humidity during application;
Product Curing Fast	Extra Catalyst added to product; Product applied too thin.
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.

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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