



Heavy Duty Protective Coatings

LG-0414

Miracle Glaze

Moisture Cure Urethane Sealer



Technical Data

PRODUCT DESCRIPTION

Miracle Glaze is a single component, oil free, moisture cure polyurethane sealer and glaze coat which provides an extremely durable surface through resin reinforcement of the concrete. It is made to withstand heavy foot traffic and rubber wheeled forklifts.

INTENDED USES

Miracle Glaze is formulated for use on concrete floors. It is not recommended for exterior application or wet areas but is ideal for main aisles, production, assembly and warehousing areas.

Advantages of using Miracle Glaze include: durable protection against dirt, spills and wear; cleans easily saving detergent, labor and wear; eliminates concrete dusting; complies with Federal VOC regulations and has a high gloss finish that increases light reflectivity.

PHYSICAL PROPERTIES

Color	Clear-May be tinted to Silver Gray, Swift Red, Patio Green, Pure White and Light Gray, using moisture cure urethane colorant. Exposure to carbon dioxide and carbon monoxide during the application or curing process may cause discoloration to occur.
Finish/Sheen	Gloss
Resin Type	Moisture Cure Urethane
Clean-up Solvents	Diamond Vogel N-3023 Xylol
Solids By Weight	60%
Solids by Volume	56%
Theoretical Coverage**	898 ft ² /gal @ 1 mil
Dry Film Thickness/ Coat	2 - 3 mils (50 - 75 microns)
Wet Film to Achieve DFT	3.6 - 5.4 mils (90 - 135 microns)
Coverage at DFT**	300 - 450 ft ² /gal @ 2 - 3 mils DFT
Maximum VOC's	3.3 lbs./gal. (400 grams/liter)
Thinning	Do Not Thin
Drying Time* (hours) [ASTM D 1640]	At 75°F (24°C) Recoat Time - Min. - 5 hours Recoat Time - Max. - 48 hours

Allow coating to dry 12 hours at 75° F (24°C), 50% relative humidity before opening to light traffic. Allow more time at lower temperatures, low humidity or for heavier traffic. Full coating properties take 14 days to develop.

Limitations: UV/Light Stability. This product is not UV/Light stable and will yellow/amber over time.

* Dry times vary with surface temperature, air movement, humidity and film thickness.

** Coverage rates are estimates based on the products volume solids and make no allowance for material loss during application. Actual spread rates may vary, dependent on applicator experience, surface porosity and texture.

PERFORMANCE

Performance criteria meet or exceed Master Painters Institute (MPI) # 31 approval standards.

RECOMMENDED PRIMERS

V-Tech 505 Epoxy Concrete Primer
Miracle Glaze

SURFACE PREPARATION

All surfaces must be cured, clean, sound, dry and free of all dirt, dust, efflorescence, oil, grease, chalk, previous paint films, curing compounds, form release agents and any other contamination that would interfere with new coating adhesion. Surfaces must be properly prepared prior to application of this product.

***WARNING!** If you scrape, sand, or remove old paint, you may release lead dust. LEAD IS TOXIC. EXPOSURE TO LEAD DUST CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE. Wear a NIOSH-approved respirator to control lead exposure. Clean up carefully with a HEPA vacuum and wet mop. Before you start, find out how to protect yourself and your family by contacting the national Lead Information Hotline at 1-800-424-LEAD or log on to www.epa.gov/lead.

Masonry Surfaces:

New concrete and mortar should cure for a *minimum* of 30 days at 72°F (22°C) prior to coating application. Level all surface projections and mortar spatters by stoning. Rake mortar joints clean and remove all soluble salts. If oil or grease is present, use of a cleaner/degreaser is required prior to shot-blasting or acid etching. All cleaning residue must be completely rinsed from the surface. It is recommended that bare concrete surfaces be roughened prior to coating application.

Shot blasting:

Shot-blasting equipment should be vacuum equipped to reduce amount of spent shot on the floor. The profile produced should be uniform and the floor should be vacuumed after blasting to remove debris. Shot blasting will also effectively remove previous paint films and curing compounds.

Acid etching:

Prepare a 1:1 solution of muriatic acid and water. Apply the solution to the floor; if the concrete does not react to the acid solution by bubbling vigorously, a curing compound may be present and the floor will need to be mechanically abraded by shot blasting. Scrub the floor with stiff bristle brushes or power floor scrubber and abrasive pad attachment until the bubbling reaction stops. Rinse the floor, preferably with high-pressure water. If a high-pressure rinse is not possible, rinse and remove water a *minimum* of three (3) times. CAUTION! ACID SOLUTION AND/OR UN-NEUTRALIZED RINSE WATER MUST NOT BE ALLOWED TO FLOW INTO GROUND OR SEWER SYSTEM (DRAINS).

Previously Painted Masonry Surfaces:

Restore the surface to bare concrete by chemical stripping or shot blasting and proceed as directed above. If oil or grease is present, use of a cleaner/degreaser is required prior to shot blasting. All cleaning residue must be completely rinsed from the surface. Allow to dry.

Recoat Information:

Miracle Glaze can be coated with other Diamond Vogel urethanes or may be used as a topcoat over an existing Diamond Vogel epoxy or urethane in sound condition. Floor must be sanded prior to recoating with minimum 80 grit paper. We recommend thorough sanding with a swing-type buffer so that multiple scratch marks display an obvious gloss loss on all areas dulled. The ability to see individual scratch marks is an indication that sanding is not adequate. Scrub with detergent and rinse with clean water before coating.

Mildew:

Remove by using a solution of one part household bleach and three parts water. Apply to mildewed area and scrub. Allow solution to remain on the surface for 3 to 5 minutes and then rinse completely and allow to dry before coating application.

APPLICATION

Premix for 3 minutes using a Jiffy Mixer blade with a low speed drill. The material will not stay suspended, occasional stirring is recommended. Intermix tinted containers to insure color uniformity. Five (5) gallon containers may be tinted. The tint ratio is two (2) quarts colorant to a five (5) gallon container. **Pot life;** mix only enough material which can be used in a two-hour period. **Note:** After the colorant is added, Miracle Glaze will not store over night. Colorant should be added at the job site. On ground level floors use V-Tech 505 as a primer and apply Miracle Glaze unthinned, as topcoat. Apply when air and surface temperatures are between 65° and 95°F (18° to 35°C) and the relative humidity is above 40%. Provide good ventilation by forced air movement and extinguish all pilot lights. Lower temperatures and humidity will inhibit proper film formation. Do not apply to surfaces that are damp. Do Not Thin.

Brush or Roller:

Apply product in full even coats. Maintain a wet edge. Allow the product to dry until tack free before recoating. Must be recoated within 48 hours to insure intercoat adhesion. A lamb's wool pad applicator is recommended.

Airless Spray:

Spray application of this material is not recommended.

DRY FILM PROPERTIES

<u>Property</u>	<u>Test Method</u>	<u>Results</u>
Abrasion Resistance, mg loss, Taber Abraser	ASTM D4060*	30 - 40
Coefficient of Friction COF James Friction Tester	ASTM D2047	0.52 - 0.55
Dry Film Thickness (mils)		2.2 (1 coat)
Tensile Strength psi (kPA)	ASTM D2370	5,000 (34,000)
Percent Elongation	ASTM D2370	120
Flexibility	ASTM D522	Passes highest rating 1/8"
Sward Hardness (1 mil film)	ASTM D2134	32 - 36

CHEMICAL RESISTANCE

Chemical Resistance for Splash and Spillage

The information included in this chart reflects Miracle Glaze's resistance to these chemical in environments where the coating may periodically come in contact with such materials. Cleaning and general maintenance will prolong the integrity of all coatings. For more detailed information, contact your local Diamond Vogel sales representative.

<u>Acids: (Inorganic)</u>	1 Day	7 Days	<u>Solvents: (Aliphatic)</u>	1 Day	7 Days
10% Hydrochloric Acid	E	G	d-Limonene	G	F
30% Hydrochloric Acid (Muriatic)	F	P	Jet Fuel - JP-4	E	E
10% Nitric Acid	F	P	Gasoline	G	F
50% Phosphoric Acid	E	G	Mineral Spirits	E	E
37% Sulfuric Acid (Battery Acid)	G	F	<u>Solvents: (Chlorinated)</u>		
<u>Acids: (Organic)</u>			Methylene Chloride	P	P
10% Acetic Acid	G	F	<u>Solvents: (Aromatic)</u>		
10% Citric Acid	E	E	Xylene	G	F
Oleic Acid	G	F	<u>Solvents: (Keytones & Esters)</u>		
<u>Alkalis</u>			Methyl Ethyl Ketone (MEK)	P	P
10% Ammonium Hydroxide	E	E	Propylene Glycol Methyl		
50% Sodium Hydroxide	E	E	Ether Acetate (PMA)	F	P
<u>Solvents: (Alcohols)</u>			<u>Miscellaneous Chemicals:</u>		
Ethylene Glycol (Antifreeze)	E	G	20% Ammonium Nitrate	E	E
Isopropyl Alcohol	G	F	Brake Fluid	P	P
Methanol	P	P	Bleach	E	E
Based on 1-day and 7-day spot testing on concrete.			Motor Oil (SAE 30)	E	E
Coating cured 2 weeks prior to testing.			Skydrol® 500B	P	P
			Skydrol® LD4	P	P
			20% Sodium Chloride	E	E
			1% Laundry Soap	E	E
			10% Trisodium Phosphate	E	E

Legend:

E - Excellent (No adverse effect) - Recommended

G - Good (Limited adverse effect) - Use for short term exposure only.

F - Fair (Moderate adverse effect) - Not recommended

P - Poor (Unsatisfactory) - Little or no resistance to chemical.

Note: Reduced chemical resistance and increased staining is possible in pigmented versions of this system.

Skydrol® is a registered trademark of Monsanto.

SAFETY PRECAUTIONS

Paint Products contain chemical ingredients, which are considered hazardous. Prior to use, read container label warnings and the current Material Safety Data Sheet for important health and safety information. Insure these instructions are practiced during product application and cure. **Keep out of the reach of children.**

LIMITED WARRANTY

The technical data and suggestions for use contained in this document are true and correct to the best of our knowledge at the date of issuance. The statements of this document do not constitute a warranty, expressed or implied, as to the performance of these products. Since Diamond Vogel Paints does not control the application of its products, or the condition of the surfaces to which they are applied, Diamond Vogel Paint's liability will under no circumstances exceed replacement of the product. **All technical information is subject to change without notice.**

Diamond Vogel Paint
 1110 Albany Place SE Orange City, IA 51041
 Phone 712.737.8880 Fax 712.737.4998
 marketing@diamondvogel.com www.diamondvogel.com