UniCoat 7: Glass Flake Epoxy Coating

UNION COMPOUND

Selection & Specification Data

Generic Type:	Glass Filled Epoxy
Description:	High performance, glass flake filled, cold-cure epoxy that has excellent film strength and resistance to water, salt water, and wastewater exposures. This coating exhibits outstanding moisture tolerance during application, low temperature cure capability, and very fast cure response for quick return to service. Glass flake reinforcement enhances film strength, impact resistance, and barrier properties. Can be used on a variety of surfaces including structural steel, piping, pilings, ships, offshore structures and other equipment exposed to industrial or marine environments. It can also be used in immersion service for salt water (marine environments), process water (non-potable) and waste water treatment projects.
Features	. High solids, low VOC . High build (20+ mils) . Low temperature cure (20°F) . Excellent moisture tolerance during application . Fast cure response . Excellent physical and barrier properties
Gloss	Semi-gloss
Color:	Refer to Union Compound Color Chart
Primers:	Self-priming or epoxies
Topcoats:	Acrylics, Alkyds, Epoxies, Polyurethanes
Dry Film Thickness:	For most applications: 10-15 mils (125-200 microns) per coat. Can be applied up to 20 mils (400 microns) in a single coat. (See Limitations)
Solids Content:	Theoretical solids of mixed material by volume: SBV: 80 +/- 2%
Theoretical Coverage	1283 mil ft^2 (32 m^2/l at 25 microns) 128 ft^2 at 10 mils (3.2 sq. m/l @ 250 microns) NOTE: Material losses during mixing and applications will vary and must be taken into consideration when estimating job requirements.
Dry Temp. Resistance:	Continuous: 200°F (93°C) Non-Continuous: 250°F (121°C)
VOC Values (calculated)	As supplied: 1.42 lbs/gal (170 g/l) mixed Thinned: 16 * oz/gal w/ #2: 2.06 lbs/gal (248 g/l) These are nominal values and may vary with color.
Limitations	Epoxies lose gloss, discolor and eventually chalk in sunlight exposure. Discoloration is more pronounced with this product. It has the ability to be applied over damp substrates. Remove excess water by blowing down the surface. Brush or roller application is preferred over wet substrates.

Substrates & Surface Preparation

General	Remove any oil or grease from surface to be coated with clean rags soaked in Union Compound Thinner11.
Substrates	Steel: Immersion: SSPC-SP10; Surface Profile: 2.0-4.0 mils (50-100 microns) Non-Immersion: SSPC-SP6; Surface Profile: 1.5- 3.0 mils (38-75 microns) In certain situations SSPC-SP3 is acceptable for thicknesses up to 10 mils (150 microns) Concrete: Do not apply coating unless concrete has cured at least 28 days @ 70°F (21°C) and 50% RH or quivalent. Clean and dry. Remove all loose, unsound concrete. Consult Union Compound Technical Service for ore specific recommendations.

Application Equipment

Listed below are the general equipment guidelines for the application of this product. Job site conditions may require modifications to these guidelines to achieve the desired results:

Spray Application	Hold gun 12-14 inches from the surface and at a right angle to the surface.
Airless Spray	Pump Ratio: 45:1 (min.) Volume Output: 11.5 l/min min. (2.5gpm min.) Material Hose: 12.5mm min. (3/8" I.D. recommended) Tip Size: 0.87-1.0mm (0.035-0.041") Output Pressure: 140-175kg/cm² (2000-2500 psi) *Teflon packings are recommended and available from pump manufacturer.
Conventional Spray	Pressure pot equipped with dual regulators, 3/8" I.D. minimum material hose, .110" I.D. fluid tip and appropriate air cap.
Brush or Roller	Not recommended for tank lining applications except when striping welds. For non-immersion applications over damp surfaces, brush and roller is the preferred method. Multiple coats may be equired to obtain desired appearance, recommended dry film thickness and adequate hiding. Avoid excessive re-brushing or re-rolling. For best results, tie-in within 10 minutes at 75°F (24°C). Thin up to 12.5% by volume per gallon with thinner 11. Use a short-nap synthetic roller cover with phenolic core

Mixing & Thinning

Mixing	This is a 3-component kit. Mix liquid components separately, then combine and mix in the following proportions (4:1 ratio). Slowly add Glass Flake additive while mixing. 1 Gal. Kit / 5 Gal. Kit Part A 0.8 gallon / 4 gallon Part B 0.2 gallon / 1 gallon GF Additive 1.8 lbs (bag) / 9 lbs Thin up to 12.5% by volume with Thinner 11.
Pot Life	1.5 hours at 75°F (24°C) and less at higher temperatures. Pot life ends when coating becomes too viscous to use.

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Cleanup & Safety

Cleanup	Use Thinner 11 or Acetone. In case of spillage, absorb and dispose of in accordance with local applicable regulations.
Safety	Read and follow all caution statements on this product data sheet and on the MSDS for this product. Employ normal workmanlike safety precautions. Hypersensitive persons should wear protective clothing, gloves and use protective cream on face, hands and all exposed areas.
Ventilation	When used as a tank lining or in enclosed areas, thorough air circulation must be used during and after application until the coating is cured. The ventilation system should be capable of preventing the solvent vapor concentration from reaching the lower explosion limit for the solvents used. User should test and monitor exposure levels to insure all personnel are below guidelines. If not sure or if not able to monitor levels, use MSHA/NIOSH approved supplied air respirator.
Caution	This product contains flammable solvents. Keep away from sparks and open flames. All electrical equipment and installations should be made and grounded in accordance with the National Electric Code. In areas where explosion hazards exist, workmen should be required to use nonferrous tools and wear conductive and non-sparking shoes.

Application Conditions

Condition	Material	Substrate	Ambient	RH
Optimum	60°F– 75°F (16°C–24°C)	60°F-75°F (16°C-24°C)	60°F-75°F (16°C-24°C)	30-70%
Minimum	45°F (7°C)	20°F (-7°C)	20°F (-7°C)	0%
Maximum	90°F (32°C)	120°F (50°C)	100°F (35°C)	90%

Industry standards are for substrate temperatures to be above the dew point. For immersion conditions it is recommended to follow this procedure. For non-immersion conditions This product can tolerate damp substrates. See Brush or Roller above. Special thinning and application techniques may be required above or below normal conditions.

Curing Schedule

For nominal film thicknesses (10-15 mils)

Surface Temp @ 50% RH	Dry to handle	Recoat minimum	Minimum cure for immersion	Maximum recoat time
20°F (-7°C)	72 hrs	72 hrs	45 days	60 days
35°F (2°C)	36 hrs	17 hrs	30 Days	45 Days
60°F (14°C)	12 hrs	6 hrs	14 days	30 days
75°F (24°C)	5 hrs	2 hrs	7 days	15 days
90°F (32°C)	3 hrs	2 hrs	6 days*	7 days

These times are based on a 10-15 mil (250-375 micron) dry film thickness per coat. Higher film thickness, insufficient ventilation or cooler temperatures will require longer cure times and could result in solvent entrapment and premature failure. Excessive humidity or condensation on the surface during curing can interfere with the cure, can cause discoloration and may result in a surface haze. Any haze or blush must be removed by water washing before recoating. If the maximum recoat times have been exceeded, the surface must be abraded by sweep blasting or sanding prior to the application of additional coats. For force curing, contact

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Union Compound Technical Service for specific requirements. For application and cure conditions below 35°F, dehumidify before, during, and after application to prevent ice formation on the surface.
For high film thicknesses (above 15 mils)

Temperature	To Handle	To Recoat
35°F (10°C)	48 hrs	2 days
60°F (16°C)	24 hrs	40 hours
75°F (24°C)	8 hrs	24 hours
90°F (32°C)	6 hrs	24 hours

*UniCoat 7 that has been applied at thicknesses greater than 15 mils will require longer cure times, especially if applied thinned.

Packaging, Handling & Storage

Approx. Shipping Weight	1-Gal Kit 17 lbs (7.7 kg)	5-Gal Kit 84 lbs (38 kg)
Flash Point (Setaflash)	Part A: Part B: Thinner 11 GF Additive	91°F (33°C) 80 °F (27°C) 23°F (-5°C) N/A
Storage (General)	Store Indoors. KEEP DRY	
Storage	40 -100°F (4°C-38°C)	
Temperature & Humidity	0-95% Relative Humidity	
Shelf Life	Part A Part B GF Additive	24 months at 75°F (24°C) 12 months at 75°F (24°C) 60 months at 75°F (24°C)

*Shelf Life: (actual stated shelf life) when kept at recommended storage conditions and in original unopened containers.