UniCoat 6: Clear Epoxy Coat

UNION COMPOUND

Selection & Specification Data

Generic Type	Solventless, two-component, cross-linked epoxy.
Description	UniCoat 6 is a solventless, clear, epoxy lining that can be applied using reinforced mat specifically designed for thick-film tank bottom lining repairs. It is suitable for exposures in water, crude oil, aromatic distillates, and unblended gasolines. It can be applied by standard or plural-component airless spray equipment.
Features	. Solventless, high performance protection. . Low-to-no odor. . Easy to apply by standard equipment. . Excellent chemical resistance. . Fast cure. . Tough abrasion resistant film . Excellent flexibility . Excellent corrosion protection. . Impact resistant. . Hi-build application . Internal film reinforcement (chopped strand mat) . Low temperature cure (35°F)
Color	Clear only
Finish	High Gloss (Epoxies lose gloss, discolor and eventually chalk in sunlight exposure).
Primers	Self-priming, or UniFloor 1 as a holding primer
Dry Film Thickness	45-50 mils in two coats
Solids Content	By Volume: 99% ± 1%
Theoretical Coverage Rate	1572 mil ft2 (38.6 m2/l at 25 microns) 31.4 ft2 at 50 mils (0.77 m2/l at 1250 microns) Allow for loss in mixing and application.
VOC Values	As supplied: 0.06 lbs./gal (7 g/l) Thinning is not required or recommended.
Dry Temp. Resistance	Continuous: 250°F (121°C) Non-Continuous: 300°F (149°C) Discoloration and loss of gloss is observed above 200°F (93°C).
Physical Properties	**System** — **Flexural Strength** — ASTM D790 UniCoat 6 / Mat* / UniCoat 6 * ¾ oz mat — 4500 psi UniCoat 6 / Mat* / UniCoat 6 * 1 oz mat — 5500 psi UniCoat 6 / Mat* / UniCoat 6 / Pigmented Gel Coat * 1 oz mat — 10,000 psi UniCoat 6 / Mat* / UniCoat 6 * 1.5 oz mat — 12,000 psi

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Substrates & Surface Preparation

General	Remove all oil or grease from the surface to be coated with clean rags soaked in Thinner 11. For girth weld areas, all burrs, weld slag and other matter shall be removed to achieve a smoother surface prior to blasting.
Steel	This material is used to repair steel bottom storage tanks which are typically pitted and may have severe loss of steel. Heavy pits need to be filled in with a suitable putty or resin while other areas may need steel plate over-layment or replacement. Abrasive blast to a Near White Metal Finish in accordance with SSPC-SP 10 and obtain a 3.0 mil (75 micron) blast profile. If the blasted steel cannot be coated before it begins to flash rust, a holding primer UniFloor 1 should be used.
Rivets, Coving, Lap Seams, Chine Areas	Even-out these abrupt transitions using a suitable epoxy putty or transition-material. UniCoat 6 can be "bodied" to produce a suitable putty material. Consult Technical Service.
Concrete	Clean and dry. Remove all loose, unsound concrete. Do not apply coating unless concrete has cured at least 28 days @ 70°F (21°C) and 50% RH or equivalent. Prepare surfaces in accordance with ASTM D4258 Surface Cleaning of Concrete and ASTM D4259 Abrading Concrete. Voids in concrete may require filling/surfacing.

Performance Data

Exposure	Splash & Spillage
Acids	Very Good
Alkalies	Excellent
Solvents	Very Good
Salt	Excellent
Water	Excellent

Application Equipment

This product may be applied using brush, roller and spray. Listed below are general equipment guidelines for the spray application of this product. Job site conditions may require modifications to these guidelines to achieve the desired results.

Spray Application (General):
The following spray equipment has been found suitable and is available from manufacturers such as Binks, DeVilbiss and Graco, and WIWA.

Airless Spray :
Airless spray equipment capable of 6000 psi (minimum 64:1 airless pump) is required for the application of this material. Recommended tip size is 0.021-0.025". Contact Union Compound Technical Service for additional information. Plural component equipment may also be used if the material can not be sprayed within the working time of the mixed material.

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Mixing & Thinning

Mixing:
Premix each component separately, than add together and mix until uniform.

Ratio By Volume:
3:1 Ratio (A to B)

Thinning:
Thinning is not normally required. Use of thinners other than those supplied or recommended by Union Compound may adversely affect product performance and void product warranty, whether expressed or implied.

Pot Life:
30 minutes (large kit) at 80°F (27°C). The pot life ends when the material becomes too viscous to use.

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	While this is a solventless epoxy, it is common practice when used as a tank lining or in enclosed areas to circulate the air during and after application until the coating is cured. Minimal protection is needed when proper ventilation is achieved. The ventilation system should be capable of preventing any solvent vapor concentration from reaching the lower explosion limit for any solvents that may be present. 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 may contain flammable solvents if thinned. 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 non-ferrous tools and wear conductive and non-sparking shoes.

Application & Application Conditions

Also review NACE No.10/SSPC-PA 6 Joint Standard for further details. Listed below is an abbreviated summary of the key steps following surface prep, optional holding primer application.
1. Spray apply a resin (flood) coat at 20-30 mils.
2. Lay sections of pre-cut mat. Selection of mat is critical for proper "wetting" by the resin. Acceptable mat can be purchased from Carboline (Chopped Strand Mat; ¾ oz) or from Saint-Gobain (Vetrotex Division), M127, ¾ oz/ft2.
3. Using ribbed rollers, roll the resin into the mat to fully saturate the mat and remove air entrapment.
4. Spray 2nd resin coat at 25-30 mils. Allow to cure overnight.

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5. Sand to remove any protruding fibers.
6. Spray apply a final (clear or pigmented) gel coat at 20-25 mils, to seal and cover the reinforced coating system.
7. When the final coat (system) has cured sufficiently to pass 50 double rubs with MEK, it is suitable for service.

Application Conditions:

Condition	Material	Surface	Ambient	Humidity
Normal	80°F (27°C)	60-85°F (16-29°C)	60-85°F (16-29°C)	40-80%
Minimum	80°F (27°C)	35°F (2°C)	35°F (2°C)	10%
Maximum	90°F (32°C)	110°F (43°C)	110°F (43°C)	80%

This product requires the substrate temperature to be above the dew point. Condensation due to substrate temperatures below the dew point can cause flash rusting on prepared steel and interfere with proper adhesion to the substrate. Special application techniques may be required above or below normal application conditions.

Curing Schedule

CAUTION: Please note requirement for ambient cure in addition to bake schedule.

Surface Temp. & 50% Relative Humidity	Dry to Handle	Cure for Crude Oil or Water Immersion*
35°F (2°C)	72 Hours	10 days
50°F (10°C)	36 Hours	7 days
75°F (24°C)	10 Hours	3 days
100°F (38°C)	6 Hours	36 hours

* Longer cure times are generally needed for more aggressive service.

Force Cure Bake Cycle (optional):

Ambient Cure at 75°F (24°C)	Then Bake at Surface Temperature of 130°F (54°C)*
15 Minutes	3.5 Hours

*Note: For the bake cycle, increase the surface temperature from 75°F (24°C) to 130°F (54°C) at a rate not exceeding 30°F (16°C) every 15 minutes. Following the 3.5-hour cure, allow the lining to air dry for an additional two hours prior to placing in service.
Insufficient ventilation or cooler temperatures will require longer cure times. 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 if recoating.

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Packaging, Handling & Storage

Shipping Weight (Approximate)	1 Gallon Kit 5 Gallon Kit	10 lbs. (4.5 kg) 40 lbs. (18 kg)
Flash Point (Setaflash)	Part A: >205°F (96°C) Part B: >230°F (110°C)	
Storage Temperature & Humidity	40° - 110°F (4°- 43°C) Store indoors. 0-80% Relative Humidity	
Shelf Life	Part A: 24 months at 75°F (24°C) Part B: 18 months at 75°F (24°C)	

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

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