



Selection & Specification Data

Generic Type	A water-based epoxy repair mortar which is cement and aggregate filled.
Description	An economical epoxy patching and surfacing compound that exhibits excellent bond strength to concrete and other masonry surfaces. It is ideally suited for patching spalled concrete and masonry wall surfacing to accept subsequent topcoats. UniCrete 7 repairs damaged concrete, fills large cracks, and can be used as a coving and sloping material for floor-wall transitions.
Features	<ul style="list-style-type: none"> . Epoxy modification improves chemical resistance for wastewater environment . Water based, low odor . Excellent film strength, abrasion, and impact resistance . Is castable, making it suitable for restoring pump foundations . Easily topcoated to provide additional chemical resistance or appearance . Also used as a primer without aggregate . Topcoated with Union Compound's lining systems provides protection from acid attack from H₂S or MIC.
Color	Clear
Primers	Combine parts A & B and use as a primer.
Topcoats	Epoxies, Epoxy-Novolacs, Polyurethanes
Dry Film Thickness	As required to fill the void or resurface the substrate. May be applied up to 2 inches per application. Feather-edging is not recommended.
Solids Content	By Volume: 54% ± 2%
Theoretical Coverage Rate	72 ft ² @ 12 mils (1.8 m ² /l @ 300 microns) Allow for loss in mixing, application and rough or porous surfaces.
Theoretical Coverage Rate	Primer only: 120 ft ² per gallon 3-gallon unit with aggregate blend: 1.68 ft ³
VOC Values	As supplied: 0 lbs/gallon Water based product
Limitations	<ul style="list-style-type: none"> . Minimum surface and ambient temperature is 50°F (10°C). . Not for use under vinyl ester or polyester materials.

Substrates & Surface Preparation

General	Surfaces must be clean and dry. Employ adequate methods to remove dirt, dust, oil and all other contaminants that could interfere with adhesion of the coating.
Concrete	Concrete must be cured 28 days at 75°F (24°C) and 50% relative humidity or equivalent. Prepare surfaces in accordance with ASTM D4258 Surface Cleaning of Concrete and ASTM D4259 Abrading Concrete.
CMU	Mortar joints should be thoroughly cured for a minimum of 15 days at 75°F (24°C) and 50% relative humidity or equivalent.



Performance Data

Test Method	Results
Dynamometer Adhesion to concrete	350 psi
ASTM C-109 Compressive Strength	5840 psi
ASTM C-190 Tensile Strength	865 psi
ASTM C-348 Flexural Strength	1840 psi
Abrasion Resistance Tabor Abrader (CS-17 Wheel)	0.09 mg.

Test reports and additional data available upon written request.

Application Equipment

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

General	UniCrete 7 may be applied using conventional concrete placement and finishing tools. Mixing should be done by a horizontal blade mortar mixer.
Mixing	Power mix Parts A and B separately, then combine by ratio of 1:2 and use as a primer at a spreading rate of 120 ft ² per gallon. Within 4 hours of priming, combine the following mixture, for use as a surfacing build up material. Premix sand and cement for best results before adding to A+B mixture by ratio of 1:2.
Ratio	<p><u>½ Cubic foot kit (for voids, bugholes)</u></p> <p>Part A .38 gal. (3.4 lbs.) Part B .77 gal. (6.2 lbs.) Sand #40-80 angular mesh 39 lbs. Portland Cement (Type 1) 11 pounds</p> <p><u>3 Gallon Kit* (for filling up to 1" thick)</u></p> <p>Part A 1 gallon (8.8 lbs.) Part B 2 gallon (16. lbs.) Sand #30-50 angular mesh* 150 lbs. Portland Cement (Type 1)* 42 lbs.</p> <p><u>3 Gallon Kit* (for filling over 1" thick)</u></p> <p>Part A 1 gallon (8.8 lbs.) Part B 2 gallon (16. lbs.) Sand #30-50 angular mesh* 50 lbs. Portland Cement (Type 1)* 42 lbs. Pea Gravel ¼"* 100. Lbs.</p> <p>* Sand, cement and pea gravel for 3 and 15 gallon kits are not supplied by Union Compound and should be bought locally. Note: In thicknesses over 2", up to 15% additional pea gravel can be added to further extend volume by 5%. Components listed are for 3 gallon kit. Scale up appropriately for 15 gallon kit. Apply to the surface using rubber float or other suitable spreading tool</p>
Pot Life	60 minutes at 75°F (24°C)

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Application Conditions

Condition	Material	Surface	Ambient	Humidity
Normal	70°-80°F (21°-26°C)	70°-80°F (21°-26°C)	70°-80°F (21°-26°C)	0-80%
Minimum	50°F (10°C)	50°F (10°C)	50°F (10°C)	0%
Maximum	90°F (32°C)	125°F (52°C)	110°F (43°C)	80%

This product simply requires the substrate temperature to be above the dew point. Special application techniques may be required above or below normal application conditions. Note: When conditions such as excessive wind and high ambient temperatures exist, cover the area with polyethylene sheeting.

Curing Schedule

Surface Temp. & 50% Relative Humidity	Set Time to Topcoat	Light Traffic	Heavy Traffic	Final Cure
75°F (24°C)	12 Hours	24 hours	48 hours	28 days

These times are based on ½" thickness at 70°F (21°C). Higher film thickness, 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 before recoating. During high humidity conditions, it is recommended that the application be done while temperatures are increasing.

When using UniCrete 7 as an underlayment for epoxy, epoxynovolac, or polyurethane coatings, it will be necessary to allow the UniCrete 7 to cure a minimum of 7 days for every 1 inches of thickness. The maximum recoat time without surface preparation is 28 days at 85°F. Always take precautions to prohibit the surface from becoming contaminated prior to application of topcoating; it will be necessary to detergent wash and abrasive blast or sand the surface if it has been contaminated.

Cleanup & Safety

Cleanup	Use scouring pads and water. 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 respirator.

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Packaging, Handling & Storage

Shipping Weight (Approximate)	<u>3 Gallon kit*(1+2)</u>	<u>15 gallon kit*(10+5)</u>
	<u>27 lbs.</u> <u>(12 kg)</u>	<u>135 lbs.</u> <u>(61kg)</u>
	* Liquid components A & B only.	
Flash Point (Setaflash)	Part A	485°F (251°C)
	Part B	Water-based, Not applicable.
	Part C	Not applicable.
Storage Conditions	65° - 85°F (18°-30°C) Store indoors. Do not freeze	
Shelf Life	Part A & B: Min. 24 months at 75°F (24°C)	

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