

UNISEAL

PENETRATING WATER-BASED EPOXY PRIMER

Technical Data & Application Instructions

PRODUCT DESCRIPTION

UNISEAL is a clear, single-component epoxy primer/sealer. It incorporates state of the art water-based technology to produce an extremely versatile product that penetrates and seals porous substrates. It is effective at increasing the bond of acrylic, polyurethane, butyl and epoxy topcoats to a variety of surfaces. It will also help to "solidify" punky or chalky surfaces. UNISEAL is safe to use, has very little odor, and is easy to clean up.

BASIC USES

UNISEAL is designed to penetrate and seal porous substrates and to improve the adhesion of high performance topcoats. It develops a tenacious bond to concrete, wood, fiberglass, steel, galvanized and aluminum surfaces. Although UNISEAL will greatly enhance the adhesion of various topcoats over metal surfaces, it is not designed to add to the corrosion resistance of the system, beyond what the topcoat provides. UNISEAL Black is also effective at increasing the bond of polyurethane foam to a wide variety of substrates.

UNISEAL will effectively solidify punky or chalky concrete or masonry surfaces when used as a primer prior to topcoating. It is also designed to be used on its own as a transparent sealer over interior concrete floors to provide dustproofing and enhanced cleanability characteristics. UNISEAL will amber slightly when used on exterior surfaces without a topcoat.

COLOR

UNISEAL is manufactured in standard Clear. Black is also available when UNISEAL is applied beneath polyurethane foam. The black surface will absorb the sun's radiant heat, enhancing the ability of the polyurethane foam to achieve its maximum yield.

TYPICAL PROPERTIES

- Solids By Weight:**
15% (± 1) [ASTM D2369]
- Solids By Volume:**
14% (± 1) [ASTM D2697]
- Weight Per Gallon:**
8.4 lbs. (3.8 kg) (± 2) [ASTM D1475]
- Dry Time To Touch:**
30 minutes @ 75°F (24°C)
[ASTM D1640]
- Cure Time:**
8+ hours @ 75°F (24°C). Cure and recoating time will vary from 2 to 48 hours depending upon ambient conditions and the type of topcoat being applied.
**High humidity and/or low temperature will retard cure and recoat times.*
- Volatile Organic Content (VOC):**
330 grams/liter
- Low & High Temperature Limits:**
-30°F to 150°F (-34°C to 66°C)

ADVANTAGES

- ADHESION:** UNISEAL penetrates and "wets" into porous surfaces, imparting a tenacious chemical and physical bond between the substrate and subsequent topcoat. It is also effective over damp concrete or wood surfaces.
- NON DUSTING:** UNISEAL penetrates deeply to eliminate concrete dusting, providing for easy cleanup and minimum maintenance.
- DEEP PENETRATION:** Its low viscosity allows UNISEAL to penetrate into and preserve dense surfaces such as smooth-troweled concrete floors, oriented strandboard, fiberglass and various types of metal surfaces.
- ANTI-SPALLING:** Applied to concrete decks, walkways, industrial areas, etc., UNISEAL will effectively protect against the intrusion of destructive salts, oils, solvents and gasoline. It also prevents spalling and pitting caused by freeze/thaw cycling.

PACKAGING & MIXING

UNISEAL is a single-component material available in 1-gallon (3.8 liter) cans, 5-gallon (19 liter) pails and 55-gallon (208 liter) drums.

Stir material prior to application. UNISEAL may be reduced with water for increased penetration over dense substrates. Shelf life in unopened containers is one year from date of manufacture. Store at temperatures between 50°F and 100°F (10°C and 38°C). Do not open containers until ready to use the material.

SURFACE PREPARATION

All surfaces must be clean and free of any dirt, oil, grease, soapy films, surface chemicals or other foreign contaminants. Slightly damp surfaces will not affect the performance of UNISEAL, provided there is no standing water or frost. New concrete should be water-cured in lieu of using a curing compound. Any form of curing compound or release agent on any surface to be sealed with UNISEAL must be completely removed, along with any laitance.

Prior to applying UNISEAL, all loose material, dirt and dust must be removed by use of a power vacuum, stiff-bristled broom or compressed air. If concrete is badly spalled, restore surface to a reasonable condition using UNITED'S Uni-Crete or other cementitious patching or resurfacing compound. Fiberglass surfaces should be scuff-sanded prior to priming. Metal surfaces must be free of oily residue and loose rust. Previously painted surfaces should be brush blasted or mechanically abraded to remove the existing finish.

New concrete that has been previously cured with a curing compound, or concrete that has been smooth trowelled, shall be cleaned and etched with 10% Muriatic Acid solution. Wash with **United Cleaning Concentrate (UCC)**, and follow with a rinse of clean water.

Existing concrete must be cleaned using **United Cleaning Concentrate** or similar biodegradable chemical cleaner and water. Cleaning shall be accomplished using mechanical scrubbers. Rinse thoroughly with fresh water to remove all traces of the chemical cleaner. If general cleaning is not adequate, then surfaces should be cleaned and etched as recommended for new concrete.

If surfaces are highly contaminated, or if surfaces are to be subjected to unusual service conditions, consult UNITED'S Technical Service Department for recommendations.



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APPLICATION

UNISEAL may be applied by brush, roller or spray. Airless spray is the preferred method. Any airless spray equipment capable of 1,000 psi (6,980 kpa) and ½ gallon per minute (1.9 l/minute) delivery can be used. A reversible, self-cleaning spray tip with an orifice size of .015" to .027" (.4 mm to .7 mm) and minimum 40 degree fan angle is recommended. Before spraying, flush equipment with clean water to prevent contamination.

Coverage rate will vary depending upon surface porosity. One coat is usually sufficient for sealing substrates when UNISEAL is used as a primer. When used as a sealer/finish, two coats are required to achieve a uniform sheen. Two coats may also be required when sealing lightweight concrete or other highly porous surfaces. The following are approximate application rates:

Concrete: 250 to 300 sq. ft./gallon (6.1-7.3 m²/l)

Lightweight Concrete: 100 to 150 sq.ft./gal. (2.4-3.7 m²/l)

Wood: 300 sq. ft./gallon (7.3 m²/l)

Fiberglass: 300 to 400 sq. ft./gallon (7.3-9.8 m²/l)

Metal: 300 to 400 sq. ft./gallon (7.3 - 9.8 m²/l)

Thin as necessary with water to achieve adequate penetration of the surface being sealed. When used as a sealer/finish apply a second coat of UNISEAL at approximately 50% greater coverage rate than those listed above. When used as a primer on exterior applications, UNISEAL should be topcoated within 48 hours to ensure optimum bonding characteristics. Do not permit UNISEAL to puddle or "glaze" over on top of the substrate. Allow to dry thoroughly prior to topcoating. On interior applications, the dry time is dependant on the ability of the water to evaporate from the film. Use fans to generate maximum air movement. Covered tanks and vessels may require a dehumidification unit to accelerate the dry time.

Use water and **United Cleaning Concentrate** or equal to thoroughly flush equipment. Purge the water from the system using solvent. Leave solvent in the lines and equipment until next use.

LIMITATIONS & PRECAUTIONS

UNISEAL is a thin penetrating sealer. It is not designed for use as a high-build surface coating. Do not use over metal under immersion conditions.

UNISEAL will freeze and become unusable below 32°F (0°C). Do not ship or store unless protection from freezing is available. Do not apply if conditions will not permit complete cure before rain, dew or freezing temperatures occur. Do not apply in the late afternoon if moisture condensation can appear during the night. Do not apply UNISEAL at temperatures below 50°F (10°C).

UNISEAL may be an irritant to skin. Avoid breathing of vapor or spray mist. Approved MSHA/NIOSH chemical cartridge respirator must be worn by applicator. Avoid contact with eyes and skin.

For additional information, refer to OSHA guidelines and UNISEAL Material Safety Data Sheet.