



PRODUCT DATA

URETHABOND 104

Coatings For Industry, Inc. • 319 Township Line Road, Souderton, PA 18964 / 215-723-0919

Description

One package aromatic urethane, moisture-curing, primer/finish.

Color

Non-leafling aluminum.

Packaging

One and five gallon containers.

Uses

URETHABOND 104 is a maintenance primer and finish coating for interior and exterior use over steel and masonry surfaces where a high degree of chemical, abrasion, and corrosion resistance is required. This coating is generally used as a primer on steel and weathered galvanized surfaces where

only marginal surface preparation can be achieved. It has been used as a primer for Urethabond urethane, Wearcoat epoxy, and Siloxseal silicone topcoat systems.

URETHABOND 104 can be used as a topcoat where gloss retention is not a critical factor, i.e., as an aluminum roof paint. Because it has excellent salt corrosion resistance properties, URETHABOND 104 has been widely used in marine atmospheres. It has found use on steel tanks, stacks, piping, metal building paneling, trucks, railcars, bridges, etc.

URETHABOND 104 is supplied as a one package product to be applied as supplied. It **must not** be thinned.

Technical Data

Volume Solids:	50%
Number of Coats:	2 minimum
Film Thickness, minimum:	2 mils dry (4 mils wet) per coat
maximum:	3.5 mils dry (7 mils wet) per coat
Theoretical Coverage @ 2 mils dft:	400 sq. ft./gallon
Drying Time @ 75°F., 50% R.H.:	To touch -0.7 hrs. Tack free -1.25 hrs. Hard dry -3.00 hrs. Mar free -4.5 hrs.
Recoat Time:	3 hours min. 48 hours max.
Maximum Hardness:	7 days
Thinner:	Not to be thinned
Cleanup Solvent:	CFI-704 cleaner, lacquer thinner, aromatics 100
Minimum Application Temperature:	25°F
Maximum Service Temperature:	300°F dry, continuous
Fire Resistance of Dry Film:	Self-extinguishing

**NOTE: Although this coating composition is not a fire-retardant product, it will not support combustion and will self extinguish when the source of fire is removed.*

Salt Spray, 5% (ASTM B117)

3 coats of URETHABOND 104 was applied over rusty steel with an "X" scribed through the center of the plate. After 11,000 hours exposure only slight undercutting at spots along the "X" was noted and this was less than 1/32" undercut. Total film thickness was approximately 8.0 mils.

2 coats of URETHABOND 104 and 1 coat of URETHABOND 111, two component urethane finish coat applied with an "X" scribed through center of plate. After 11,000 hours exposure results appeared similar to above. Total film thickness was approximately 8.0 mils.

Weatherometer

Cycle consisted of:

30 minutes light, 125°F, 30% R.H.:

30 minutes dark, 80°F, 100% R.H.

Panels were prepared as for above salt spray using rusty substrate, after 2000 hours the coating appeared in very good condition with no apparent undercutting along the scribed "X."

Outdoor Exposure

2 coats URETHABOND 104 at approximately 6.0 mils DFT was applied to rusty panels and exposed for 5 years showed no signs of lifting paint film or blistering and no apparent rusting.

Heat Test

2 coats of URETHABOND 104 were applied to sandblasted panels and subjected to 350°F for 15 days. Although slight yellowing occurred, there appeared to be no loss of adhesion or blistering of film.

Solvent Resistance

After curing for 7 days at room temperature, URETHABOND 104 coated panels were subjected to various solvents and found to be extremely resistant. After 30 days exposure, there was no failure or noticeable attack by solvents such as xylol, toluol, or other aromatics. Alcohols and glycols showed no attack. Also, ester solvents such as ethyl glycol acetate had no affect. Acetone softened the film after 10 days,

Test Data

although it hardened upon removal. Methylene Chloride destroyed the film in two days. Gasoline, diesel fuel, and JP-4 jet fuel had no affect on the coating.

Physical Properties

URETHABOND 104 applied to grit blasted 0.20" thick SAE 1010 steel.

Reverse and direct impact - greater than 160 inch lbs.

Taber Abrasion 1000 cyc. with CS17 wheel, 1000 gm wt. - 18 mg. loss

Sward Hardness - 35

Surface Preparation

Previously painted and Rusted Surfaces

For optimum surface preparation, sandblasting is recommended. However, in situations where sandblasting is not permitted or restricted, URETHABOND 104 can be applied over tightly rusted surfaces, so long as the rust profile is covered by at least 1 mil DFT of prime coat. It is necessary to remove all oil, grease, loose scale or rust, and loose paint using a stiff wire brush, by hand tool cleaning or by other suitable means. This coating will adhere well to light and tightly rusted surfaces and will arrest further rusting for long periods of time.

New Metal Surfaces

New metal should be sandblasted for optimum adhesion. This is to provide an anchor pattern and to remove mill scale from hot rolled steel. URETHABOND 104 should be applied within four hours of blasting. (Maximum blast profile of 1.5 mils.)

Concrete Surfaces

Surface should be free of all dust, form oils, curing compounds, and other foreign matter. If the surface is smooth it should be sandblasted or etched with a 15 or 20% solution of muriatic acid for maximum adhesion. The acid etching material must be completely flushed and the surface thoroughly dry before the application of URETHABOND urethane coatings.

Application

URETHABOND 104 may be applied by brush, roller (short nap), or spray (air atomizing or airless). **These coatings are moisture curing and it is extremely important that the surface be free of all moisture prior to coating application.**

Also, the coating should dry for a minimum of one hour at 75°F and 50% R.H. prior to being subjected to moisture (rain); longer at lower temperatures and relative humidity.

CAUTION: Concentrations greater than TLV can occur when MDI is sprayed or used in poorly ventilated areas. In such case, or whenever concentrations of MDI exceed the TLV, respiratory protection must be worn. A positive pressure, supplied air-respirator or self-contained breathing apparatus is recommended. In situations where MDI is not sprayed or used in a poorly ventilated area, at least an air-purifying respirator equipped with an organic vapor cartridge and particulate pre-filters must be worn. However this should only be permitted where concentrations are below the TLV. Observe OSHA regulations for respirator use (29 CFR 1910.134).

IMPORTANT: **Clean equipment immediately after use.** If coating is allowed to harden on equipment, an industrial paint stripper is required to remove it.

Do not thin for application.

Stir prior to use to assure that no settled pigment remains at bottom of container. Use only low speed mixing and avoid developing a vortex as this will induce moisture into the system which can cause gelling. Keep lid on container when not in use and store only in dry areas.

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All other coatings or alcohol-containing solvents must be thoroughly flushed from application equipment prior to application of URETHABOND 104. Refer also to material safety data sheet and package label.

Precautions

Contains aromatic polyisocyanate prepolymer. Use adequate ventilation. In confined areas, use adequate forced ventilation during application and drying. When spraying, a fresh air mask should be used. **HARMFUL OR FATAL IF SWALLOWED.** If swallowed, do not induce vomiting. Call physician immediately.

Difficult to remove from skin. Wear gloves and protective clothing. Moisture in skin will cause rapid cure. Do not attempt to remove cured coating on skin with solvent; soak in warm, soapy water. Barrier creams are not recommended where possible to cover with protective clothing.

Combustible. Keep away from heat, sparks, and open flame. Refer also to material safety data sheet.