

DESCRIPTION

Single component, one package, aromatic moisture cured urethane that can be used as a primer or self-priming finish coating. This product functions well over many types of properly prepared surfaces, including clean, dry, tightly adhered rusted surfaces.

COLOR

Silver/Gray, Low-Lustre

PACKAGING

Available in one and five gallon units.

FEATURES

- Single component.
- Bonds tightly to and encapsulates tightly adhered rusted surfaces.
- Excellent at arresting and resisting further corrosion.
- Fast cure, typically allowing two coats same day.

USES

Primer: U-104 is a maintenance primer that can also act as a finish coat specifically formulated to provide maximum protection to metal panels and structural steel. U-104 promotes adhesion for topcoats such as U-111 and U-166, and adheres well to carbon steel, galvanized steel, Galvalume®, Kynar®, copper, stainless steel, and aluminum.

Finish Coat: U-104 can also be used as a topcoat or finish coat where color or gloss is not a critical factor. To use as the finish coat, two or more coats are required.

U-104 MUST NOT BE THINNED.

Physical Properties

Reverse and Direct Impact: (ASTM D-2794)	160 in. lbs.
Taber Abrasion: (ASTM D-4060)	18mg loss; 1000 cycles, CS-17, 1000gms
Sward Hardness: (ASTM D-2134)	35
V.O.C.:	410 g/L
Salt Fog (ASTM B-117)	11,000 hrs.

Technical Data

Volume Solids:	50%
Number of Coats:	One (Two if used as a finish coat)
Film Thickness:	2 to 3.5 mils DFT (4 to 7 mils wet)
Coverage @ 3 mils DFT:	265 sq. ft. per gallon
Dry Time (75°F, 50% R.H.):	To Touch: 45 min. Tack Free: 1.5 hrs. Hard Dry: 3 hrs.
Recoat Time:	3 hrs. min., 24 hrs. max
Thinner:	Do Not Thin
Cleanup Solvent:	CFI 704 Cleaner or lacquer thinner
Min. Application Temp:	25°F
Max. Service Temp.:	300°F dry
Fire Resistance of Dry Film:	Self-extinguishing*

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

READ THE SAFETY DATA SHEET PRIOR TO USE.

TEST DATA

SALT SPRAY, 5% (ASTM B-117).

Three coats of U-104 was applied over rusty steel with an "X" scribed through the center of the plate, in accordance with ASTM B-117. After 11,000 hours exposure, only slight undercutting at spots along the "X" was noted, with the undercut less than 1/32". After 14,000 hours there was significant red rust in the scribe, but no staining in the field and still only slight undercutting. Total DFT 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 2,000 hours the coating appeared in very good condition with no apparent undercutting along the scribed "X."

OUTDOOR EXPOSURE

2 coats U-104 at approximately 6.0 mils DFT was applied to rusty panels and exposed for 5 years. The coating showed no signs of lifting or blistering, and there was zero apparent rusting.

HEAT TEST

2 coats of U-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, U-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 effect. Acetone softened the film after 10 days, although it hardened upon removal. Methylene Chloride destroyed the film in two days. Gasoline, diesel fuel, and JP-4 jet fuel had no effect on the coating.

SURFACE PREPARATION

For optimum results, surface preparation of grit blasting is recommended. Please see the recommendation for various substrates where grit blasting is permitted.

Mechanical grinding or steel brush may also be considered effective as long as the final surface is dry and free of any oils, cleaners, or dust.

All surfaces should be free of loose rust and scale prior to coating application. All surfaces must also be free of dirt or grease/oil-based products. Degreasing is recommended with organic solvents, caustic solutions, or pressure washing with a solution of TSP or strong detergent (2,500 psi recommended) to remove dirt and/or grease. If using a power washer, caution must be taken so that substrate is not penetrated to allow water to intrude into the interior of the structure. A spray nozzle of 15 degrees or greater is recommended.

New Galvanized Steel or Galvalume – Brush blast using caution to not remove galvanizing. The surface should be prepared to brush blast specification (SSPC-SP 7/NACE No. 4).

Steel – The surface should be grit blasted to commercial blast (SSPC-SP 6/NACE No. 2). The finish should be free of loose mill scale, rust scale and old coatings.

Stainless Steel – There are various types of stainless steel including 304 (the softest), 316, 316 L and 904. Use a 120 psi blast nozzle. Do not grit blast with iron or steel grit abrasives.

Aluminum – Recommended 80 mesh or finer grit abrasive.

Copper – Brush blasting to remove oxides. Follow specifications of surface preparation (SSPC-SP 7/NACE No. 4).

ALTERNATIVE CHEMICAL CLEANING PREPARATION

For situations where grit blasting is not feasible or permitted, U-104 can be applied over a clean, dry, lightly rusted surface so long as the rust profile is fully covered by at least 1 mil DFT of U-104 coating.

It is necessary to remove all oil, grease and loose scale using suitable means. Clean the surface by pressure washing using a solution of TSP or strong detergent (follow product instructions). Allow the surface to dry. Using leaf blowers or fans can accelerate drying.

Once the surface is dry, a solvent wipe (such as MEK or lacquer thinner) should be performed according to SSPC-SP 5/NACE No. 1. Once the solvent has dried and the surface is free of all grease, oil and dirt the surface is ready to coat with U-104.

APPLICATION

DO NOT THIN FOR APPLICATION.

U-104 may be applied by brush, roller (short nap), or spray (air atomizing or airless). These coatings are moisture cured 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 lower relative humidity.

IMPORTANT: *Stir prior to use and during application to assure that no settled pigment remains at bottom of container. Use only low speed mixing equipment or hand mixing tools. Do not develop a vortex as this will induce moisture into the system, causing premature curing.*

IMPORTANT: *Always keep lid on container when not in use and store only in dry areas. All other coatings or alcohol-containing solvents must be thoroughly flushed from application equipment prior to application of U-104. Refer also to safety data sheet and package label.*

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

PRECAUTIONS

Contains aromatic polyisocyanate prepolymer (MDI). Use adequate ventilation. In confined areas, use adequate forced ventilation during application and drying. When spraying, a fresh air mask should be used.

SAFETY PRECAUTION: U-104 contains MDI.

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 other than where U-104 is sprayed or used in a poorly ventilated area, an air purifying respirator equipped with an organic vapor cartridge and particulate pre-filters should be worn. This should only be permitted, however, where concentrations are below the TLV. Observe OSHA regulations for respirator use (29 CFR 1910.134).

HARMFUL OR FATAL IF SWALLOWED.

If swallowed, do not induce vomiting. Call physician immediately. U-104 is difficult to remove from skin, and may temporarily discolor the skin. Wear gloves and protective clothing.

COMBUSTIBLE.

Keep away from heat, sparks, and open flame. Refer also to Safety Data Sheet.