

## DESCRIPTION

Two-component, polyester aliphatic urethane finish coating for heavy duty environments and anti-graffiti applications.

## COLOR

Available in standard colors and clear in satin or full gloss. Special colors and gloss can be matched upon request.

## PACKAGING

One and five gallon kits, premeasured for easy blending at jobsite.

## FEATURES

- As a non-sacrificial anti-graffiti coating, U-111 can be cleaned repeatedly with harsh chemicals and continue to perform
- Very high resistance to many aggressive chemicals
- Good gloss and color retention
- Withstands 5 years immersion in Skydrol 500 hydraulic fluid with no staining or adverse effect.

## USES

U-111 has non-yellowing, non-chalking properties combined with excellent abrasion, chemical and solvent resistance. It provides excellent gloss retention and will continue to retain a high gloss through many years of service.

It is recommended as a high performance finish coat in the following areas:

- Chemical process industries
- Water and waste treatment
- Pulp and paper mills
- Bridges and roadway walls
- Steel structures

In some cases it is self-priming, but it is generally used as a topcoat over U-104, U-109, U-497, and U-499

### Physical Properties

Taber Abrasion: (ASTM D-4060)	19mg loss; 1000 cycles, CS-17, 1000gms.
Pencil Hardness: (ASTM D-2134)	2H
Flexibility: (ASTM D-5222)	Pass 1/8" mandrel bend
V.O.C.:	< 340 g/L
Reverse and Direct Impact: (ASTM D-2794)	160 in. lbs.

### Technical Data

Volume Solids:	65%
Dry Film Thickness, Minimum:	4.0 mils per coat
Maximum:	6.0 mils per coat
Coverage @ 4 mils DFT:	Approximately 250 sq. ft. /gal. (may vary slightly with color)
Dry Time (70°F, 50% R.H.):	To Touch – 2-4 hrs.
	To Recoat – 4 hrs. minimum
	Mar Free – 12 hrs.
	Light Traffic – 24 hrs. Max. Hardness – 7 days
Pot Life @ 70°F, 50% R.H.:	2 hrs.
Primer:	U-104, U-109, U-497, U-499
Min. Application Temp.:	25°F or within 10°F of dew point
Service Temp. Range:	-40°F to +250°F Dry
Method of Application:	Brush or roller
Thinner:	CFI 711 Thinner
Cleanup Solvent:	CFI 704 or CFI 711
Shelf Life:	Part A (polyol): 2 years, if unopened
	Part B (hardner): 1 year, if unopened
Mix Ratio:	2 parts A to 1 part B by volume

*\*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.*

**READ THE SAFETY DATA SHEET PRIOR TO USE.**

## CHEMICAL RESISTANCE

Hydrochloric Acid 5%	Excellent	Oxalic Acid 10%	Excellent
Hydrochloric Acid 10%	Excellent	Citric Acid 10%	Excellent
Sulfuric Acid 5%	Excellent	Lactic Acid 85%	Good
Sulfuric Acid 10%	Excellent	Oxalic Acid	Good
Sulfuric Acid 30%	Good	Oleic Acid	Excellent
Nitric Acid 5%	Excellent	Maleic Acid 10%	Excellent
Nitric Acid 10%	Excellent	Gasoline	Excellent
Phosphoric Acid 10%	Good	Toluene	Excellent
Phosphoric Acid 50%	Good	Xylene	Excellent
Caustic Soda 10%	Excellent	Methanol	Excellent
Caustic Soda 40%	Excellent	Ethanol	Excellent
Ammonia 5%	Fair	Ethylene Glycol	Excellent
Ammonia 10%	Fair	Ethyl Acetate	Excellent
Sodium Bicarbonate 10%	Excellent	Acetone	Excellent
Sodium Chloride Solution 5%	Excellent	Methyl Ethyl Ketone	Excellent
Sodium Chloride Solution 10%	Excellent	Methyl Isobutyl Ketone	Excellent
Ammonium Chlorate 30%	Excellent	Perchloroethylene	Excellent
Formic Acid 10%	Good	Tricresyl Phosphate	Excellent
Acetic Acid 10%	Good	Tricresyl Phosphate	Excellent
Methylene Chloride	Poor	Skydrol A500	Excellent
MIL-E-23699 Hydraulic Oil	Excellent	JP-4 Jet Fuel	Excellent

**RATING SYSTEM – TESTS WERE RUN IN TOTAL IMMERSION AND FOLLOWING RATES GIVEN:** **Excellent** – 3 months with no blistering or coating degradation. **Very Good** – 2 months with no blistering or coating degradation. **Good** – 1 month with no blistering or coating degradation. **Fair** – 1/2 month with no blistering or coating degradation. **Poor** – less than 1/2 month.

## SURFACE PREPARATION

**New Metal Surfaces** – New metal surfaces should be cleaned of oil, grease and dirt. To obtain optimum results, the metal should be sandblasted and U-104 primer applied then topcoated with U-111.

**Rusted Surfaces** – If metal surface is rusted and sand-blasting is not practical from an application or cost standpoint, U-104 can be applied directly over rust which is tightly adherent. Although this situation is not as ideal as sandblasting, excellent results have been obtained (see CFI Bulletin 104.1).

**Previously Painted Surfaces** – When painting over previously painted surfaces a spot test should be made to check for lifting, or incompatibility with the old coating. Dirt and loose paint should be removed by suitable method and spot primed before application of finish coat.

**IMPORTANT:** *It is extremely important that this surface is free of all moisture prior to coating application or blistering of paint film may occur.* See also the Product Information Bulletins on the above primers.

## MIXING

Mix Part A for 2 to 3 minutes to assure full dispersion of pigment. Pour Component B (hardener) into Component A (resin). Stir at low speed to prevent air entrapment for 2 to 5 minutes (base mixing time on temperature and viscosity), using an “in-the-bucket” mixer, or jiffy mixer. Thorough mixing is required.

## APPLICATION

U-111 can be applied immediately after mixing the two components. This coating may be applied by spray (air or airless), brush or roller (close nap). If application is by spray method, suitable protective vapor/particulate respirators should be worn by all personnel in the area. In poorly ventilated enclosed areas or when airborne

concentrations exceed TLV (ceiling) for HDI, a fresh air supplied mask should be worn.

In all cases, observe OSHA/NIOSH regulations for respirator use (29 CFR 1910.134) whenever a respirator is used. Spray equipment must be equipped with properly working vapor traps and air supply must be dry.

## **PRECAUTIONS**

### **WARNING: Flammable**

Contains Aliphatic Polyisocyanate Prepolymer Hexamethylene Diisocyanate. Use only with adequate ventilation.

Good industrial hygiene practice dictates that when isocyanate based coatings are spray applied, some form of respiratory protection should be worn. During the spray application of organic solvent containing coating systems, the use of a supplied-air (either positive pressure or continuous flow type) respirator is mandatory when one or more of the following conditions exist:

- The airborne isocyanate concentrations are not known; or
- The airborne isocyanate monomer concentrations exceed 0.05 ppm (10 times the TLV); or
- The airborne polyisocyanate (polymeric, oligomeric) concentrations exceed 5 mg/m<sup>3</sup> averaged over 8 hours or 10 mg/m<sup>3</sup> averaged over 15 minutes (10 times the MGL); or
- No airborne solvent concentration exceeds its odor threshold; or
- Spraying is performed in a confined space (see OSHA confined space standard 29 CFR 1910.146)

Individuals with chronic respiratory problems or prior respiratory reactions to isocyanates must not be exposed to vapors or spray mist containing isocyanates. If affected by inhalation, vapor or spray mist, remove to fresh air. If breathing difficulty persists or occurs later, consult a physician and have label information available.

Refer also to Safety Data Sheet.