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Products/Techniques, Inc.

Low VOC Coatings

The Finishing Touch since 1947

Product: PTI-PU-CLEAR AND COLORS (MIL-PRF-85285D Type 1 & II) Aliphatic Polyurethane– Catalyst Cure

Other Products used with PTI-PU: Primers PTI-YEP and PTI-YACID; Reducer PT-1003 Type 1

Typical Uses:

PTI-PU is a two component catalyst cure aliphatic polyurethane which meets, and exceeds, MIL-PRF-85285D Type 1 & 2. When mixed and reduced according to PTI's instructions, PTI-PU topcoat will conform to most of California's air pollution rules and regulations including SCAQMD rules 1107 and 1124.

Aerospace/Aviation:	Aircraft (commercial and military), helicopters, radar equipment, cabin interiors (e.g., space shuttle) due to its self-extinguishing properties in the event of fire.
Industrial:	Material handling equipment, pumps, pipes, valves, fan equipment.
Marine:	Holding tanks, machinery, ship superstructure.
Recreation:	Playground equipment, golf carts, decks.

Physical Properties:

Toxicity:	PTI-PU contains no substance of known toxicity under normal conditions of usage.
Colors:	PTI-PU is available in clear, white, blacks, grays and most Federal Standard number 595B (FS#) colors or glosses. Custom colors are available upon request.
Viscosity:	Admixed and reduced [17925] -- 15 seconds with #4 Ford Cup.
Solids:	Nonvolatile admixed & reduced [17925] – 65% by weight.
Weight:	Weight per gallon-admixed and reduced [17925] – 10.2 lbs/gal
Hardness:	Pencil Hardness [17925] – 5H
Flexibility:	1/4" Mandrel – Passes.
Salt Spray:	Saturated Salt Spray 1,000 hours minimum.

Resistance Properties:

Salt Spray per ASTM B117 (corrosion)	1000+ hours
Humidity (Filiform)	1000+ hours
Lubricating Oil Conforms to MIL-L-23699	24 hrs. at 250° F
Hydraulic Fluid Conforms to MIL-H-5606/MIL-H-83282	24 hrs. at 150° F
JP-5 Jet Fuel Conforms to MIL-T-5625	7 Days at Room Temperature
Skydrol 500B Conforms to MIL-C-83286B	7 Days at Room Temperature

***Results: All pass with no blistering, softening, or other coating defects**

Chemical Properties

Chemical Resistance:

Methyl Ethyl Ketone soaked cloth 100+ rubs Passes

DS2 [1,5-Dichloropentane] Passes

The Chemicals listed below were tested at: 1 drop per day for five (5) days:

Phosphoric Acid [10%] Passes

Isopropanol [99%] Passes

Acetone Passes

Ethanol [99%] Passes

Triton X-100 Passes

NOTE: Other chemicals are currently being tested. As results are available, they will be published.

Application

Cleaning

All materials to be coated must be chemically or mechanically cleaned using a recognized cleaning method. A solvent wipe with IPA or Acetone is acceptable.

Use of Primer

PTI recommends **PTI-YEP MIL-PRF-23377G** (High Strontium prime-all primer) as a part of the application of this coating system to assure unsurpassed corrosion protection and maximum adhesion. An acid etch pretreatment wash primer, **PTI-YACID**, should be used prior to applying **PTI-YEP**.

Mixing

Stir component "A" and component "B" thoroughly before mixing. Mix one (1) part of component "A" to one (1) part of component "B" by volume. Reduce with **PTI-1003, Type 1 MIL-T-81772B – Type 1** reducer. To stay within the required 420 g/l VOC's, do not add more than 10% by volume of the reducer. Do not mix more than can be used within a four hour period. Do not combine this material with that of another manufacturer's material.

Method of Application

PTI-PU may be applied by conventional spraying, brushing, or rolling. For best results PTI recommends spraying using an HVLP (high pressure low volume) system. Spraying should be accomplished in a suitable area having adequate ventilation and clean filtered air. **A N.I.O.S.H. approved respirator should always be worn when spraying this material. See MSDS before using this material.** To avoid contamination, no other materials should be sprayed in the immediate area at the same time.

Curing

- Air Cure** – Set to touch: 4hrs maximum.
Dry Hard: 8hrs maximum
Full Chemical Cure: 7 days minimum.
- Force Cure** – Dry Hard: 30 minutes air dry then 2hrs at 225F
Full Cure: [After dry hard] 2hrs at 225F

NOTE: The foregoing is accurate to the best of our knowledge. However, conditions of use, storage and handling do affect the performance of the coating. Since these factors are beyond our control we do not guarantee individual results. For satisfactory results, PTI reducers must be used as recommended.