Product Datasheet

Ultralane® 5780
Ultralane® 5780-296
Ultralane® 5780HV
Ultralane® 5780AOX

ONE COMPONENT POLYURETHANE CONFORMAL COATINGS

The Ultralane® 5780 product line is comprised of easy to use one component, air drying polyurethane coatings that cure at room temperature. The cured coatings are recommended for use where flexibility and moisture resistance are important such as aerospace, industrial, and automotive electronics. The conformal coatings are available in a variety of colors and viscosities to suit your application.

The standard Ultralane® 5780 is a low viscosity coating, the Ultralane® 5780-296 is a slightly thicker version with tightly controlled viscosity and flow characteristics, and the Ultralane® 5780HV is thick version that provides a greater cured coating thickness with fewer coating layers required. The Ultralane 5780AOX is an anti-oxidant modified variation that provides identical performance to the Ultralane 5780, but with added resistance to oxidation such as from extended exposure to temperatures above 125°C.

The standard color of these coatings is a transparent yellow to amber, but black and other transparent and opaque color are available. The black color is helpful to provide UV resistance and the 5780AOX Black provides optimal oxidation resistance as well. Many other custom variations are available to meet your requirements. Please contact us to discuss your application if you'd like to receive samples of a custom color or to discuss the development of a custom variant that would be suitable for your application.

SUGGESTED APPLICATIONS:

- One-component, easy to use coatings
- TDI and MOCA free
- Room temperature or heat curing
- Meets rule 66 of the South Coast AQMD

HANDLING PROPERTIES	VALUE	TEST METHOD
Ultralane 5780		
Specific Gravity	0.90	ASTM D-1475
Viscosity, at 25ºC	200 cps	ASTM D-2393
Flash Point	28°C (82°F)	ASTM D-92
Solids Content	50%	ASTM D-2584
Ultralane 5780-296		
Specific Gravity	0.91	ASTM D-1475
Viscosity, at 25ºC	320 cps	ASTM D-2393
Flash Point	28°C (82°F)	ASTM D-92

Solids Content	51%	ASTM D-2584
Ultralane 5780HV		
Specific Gravity	0.92	ASTM D-1475
Viscosity, at 25ºC	1120 cps	ASTM D-2393
Flash Point	28°C (82°F)	ASTM D-92
Solids Content	57%	ASTM D-2584
Ultralane 5780AOX		
Specific Gravity	0.90	ASTM D-1475
Viscosity, at 25ºC	210 cps	ASTM D-2393
Flash Point	28°C (82°F)	ASTM D-92
Solids Content	51%	ASTM D-2584
All 5780 versions:		
Pot Life (4oz / 106g Mass)	2 hours	
Tack-Free Time, 3-5 mil coating		
At 75°F % 50% relative Humidity	30 – 60 Minutes	
At 85°F % 50% relative Humidity	20 – 40 Minutes	

Cure Schedules: 24 hours at 25°C **or** 2 hours at 25°C plus 2 hours at 65°C

(Note: These cures will yield coating ready-to-use for most purposes, but additional crosslinking may occur for up to 3-7 days which will further improve the mechanical properties of the coating.)

CURED PROPERTIES	VALUE	TEST METHOD
Appearance	Clear light yellow to amber or as ordered	
Specific Gravity	1.10	
Hardness, Shore A	80A	ASTM D-2240
Ultimate Tensile Strength	760 psi	ASTM D-638
Tensile Elongation	12%	ASTM D-412
Tensile Modulus	42000 psi	ASTM D-412
Fungus Resistance	Pass	Mil-I-46058 rev C
Suggested Maximum Use Temperature	125°C - 130°C	
Arc Resistance	61 seconds	ASTM D-495
Insulation Resistance, 98% rel. humidity		ASTM D-257
Initial	4.8×10^{13} ohms	
After 24 hours of humidity aging	6.9×10^{11} ohms	
After 7 days of humidity aging	6.9×10^{11} ohms	
Volume Resistivity		ASTM D-257
At 25°C (77°F)	3.8×10^{13} ohm-cm	
At 95°C (203°F)	1.6×10^{10} ohm-cm	
Dielectric Strength	750 V/mil (30000 V/mm)	ASTM D-495
Dielectric Constant		ASTM D-150
At 60Hz / at 1 MHz	3.97 / 3.00	
Dissipitation Factor		ASTM D-150
At 60Hz / at 1 MHz	0.046 / 0.038	

Note : Properties listed above are based on laboratory testing under controlled conditions. They are not for specification purposes. Please contact SP&S for suggested specification ranges or with questions about this data.

PROCESSING AND APPLICATION INSTRUCTIONS :

The printed circuit board or other substrate to be coated should be clean and free of grease, dirt, or, other contaminants. Although solvent cleaning is generally sufficient, if excess flux is evident,

techniques such as vapor degreasing may produce better cleaning. Ultralane 5780 products may be sprayed, dipped, or applied by brush.

When dip coating, an insertion and withdrawal rate of approximately 3 - 5 inches per minute will provide the recommended coverage. Coverage will vary with the viscosity of the material used. Higher viscosity coatings (ex. Ultralane 5780-296 or 5780 HV) will produce a thicker coating layer than the standard Ultralane 5780 at the same withdrawal speed. The rate chosen should allow complete wetting of all surfaces by the coating and minimizes the run-off during cure. Particularly densely covered boards may require a slower withdrawal rate.

For Spray coating the Ultralane 5780 can generally be used as-is, but for low pressure spraying equipment or where thinner coating layers are desired thinning the coating may be helpful. Mineral spirits or one of our Ultralane Thinner series can be used to achieve desirable results.

For bush application, heavily load the brush and use the brush to flow the coating onto the board. Do not brush as with paints, but rather convey the coating on the heavily loaded brush and let it flow off the brush to coat the surface. This will help to eliminate brush strokes and provide a smooth uniform coating. Small amounts of mineral spirits or thinner can help to give a thin uniform coating when brush applying.

PACKAGING AVAILABLE:

This product is available in half-pint (8oz), 1-Quart, 1-gallon, and 5-gallon pails. Please call us with any special packaging requests or for information on custom kitting.

STORAGE GUIDELINES:

Store these materials in a clean, cool and dry environment in their tightly closed original containers. These products are flammable and should be stored away from open flame, sparks, or excessive heat. Store these materials in their tightly closed original containers. For pigmented products, shake or thoroughly re-mix prior to use. These products are not considered temperature sensitive, but should ideally be stored between 15°C - 35°C (59°F - 95°F). If the recommended storage conditions are observed the products will have a minimum shelf-life of 12 months from the date of shipment.

HANDLING PRECAUTIONS:

Mandatory and recommended industrial hygiene procedures should be followed whenever these products are being handled and processed. For additional information please consult the corresponding material safety data sheets.

PERSONAL HYGIENE:

Danger! Flammable! Causes severe eye and skin irritation. Harmful if inhaled. Harmful if swallowed. Keep away from heat, sparks and flames. Ground metal containers before pouring or transferring contents. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Avoid breathing vapor or mist. Use only with adequate ventilation. Do not take internally.

FIRST AID

In case of contact:
Skin – Immediately wash skin thoroughly with mild soap and water. Remove contaminated clothing and wash before reuse. Destroy contaminated shoes and other articles made of leather.
Eyes – Immediately flush eyes with plenty of water for 15 minutes and get prompt medical attention.
Inhalation - Remove person to fresh air. Administer oxygen or artificial respiration if necessary. Call a physician.

Ingestion - Do not induce vomiting. Dilute with plenty of water and contact physician immediately. Never give anything by mouth to an unconscious person.

DISCLAIMER:

IMPORTANT: The following supercedes Buyer's documents. **SELLER / MANUFACTURER MAKES NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, INCLUDING OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE**. No statements herein are to be construed as inducements to infringe any relevant patent. Under no circumstances shall Seller / Manufacturer be liable for incidental, consequential or indirect damages for alleged negligence, breach of warranty, strict liability, tort or contract arising in connection with the product(s). Buyer's sole remedy and Seller's sole liability for any claims shall be Buyer's purchase price. Data and results presented are based on controlled or laboratory work and must be confirmed by Buyer by testing for its intended conditions of use. The product(s) has not been tested for, and is therefore not recommended for, uses for which prolonged contact with mucous membranes, abraded skin, or blood is intended; or for uses for which implantation within the human body is intended

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