

Product Datasheet

Provisional - data still under development



Ultralane[®] 720-1A/B

WATER CLEAR, SHORE 75D, POLYURETHANE CASTING SYSTEM

Ultralane[®] 720-1A/B is a pourable liquid casting system that produces tough, water-clear parts and resists yellowing. The system is easy to pigment or dye prior to curing to achieve a wide range of colors and visual effects. The system is low in viscosity and reproduces fine details.

The Ultralane[®] 720-1A/B system is MOCA & TDI free. It can be supplied in custom colors and viscosities or in softer version. 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:

- Casting lenses, optical components, and other rigid parts
- Electric Encapsulation of sensors and optical devices
- Bonding glass and other transparent materials

HANDLING PROPERTIES	<u>VALUE</u>	<u>TEST METHOD</u>
<u>Ultralane 720-1A (resin)</u>		
Visual Appearance	Clear liquid	
Density, Part A	1.20 g/cm ³	ASTM E-201
Viscosity, Part A, @ 25°C	250 cps	ASTM D-2393
Flash Point	>149°C	ASTM D-92
<u>Ultralane 720-1B (hardener)</u>		
Visual Appearance	Clear to slightly blue Liquid	
Density,	1.04 g/cm ³	ASTM E-201
Viscosity, Part B, @ 25°C	1,350 cps	ASTM D-2393
Flash Point	>149°C	ASTM D-92
Mix Viscosity	800 cps	ASTM D-2393
Mix Ratio by weight and volume:	1A : 1B	
Pot life, 4oz / 150 gram mass	30 minutes	
Demolding time:	8 - 24 hours @ room temperature or allow to gel then cure for 2 hours at 150°F or 1 hour @ 80°C. Allow to cool prior to demolding.	
Cure Schedules:	24 hours @ 25°C (Full properties may take up to 7 days at room temperature) or 16 hours @ 80°C or gel at 25°C for 1-2 hours + 4-8 hours @ 80°C.	

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CURED PROPERTIES	VALUE		TEST METHOD
	ROOM TEMP. CURE	HEAT CURE	
Density	68 lb./ft ³ (1.09 g/cm ³)	68 lb./ft ³ (1.09 g/cm ³)	ASTMD-792
Hardness, Shore D	78±5	79±5	ASTM D-2240
Ultimate Flexural Strength	10,800 psi	11,500 psi	ASTM D-790
Flexural Modulus	250,000 psi	240,000 psi	ASTM D-790
Ultimate Tensile Strength	4,800 psi	6,100 psi	ASTM D-638
Tensile Elongation	30%	30%	ASTM D-638
Tear Strength	500 ppi	-	ASTM D-624
Heat Deflection Temp. @ 264 psi	133°F / 56°C	145°F / 63°C	ASTM D-648
Ultimate Compressive Strength	7,000 psi	7,700 psi	ASTM D695
Izod Impact, notched	1.00 ft-lb./in	1.10 ft-lb./in.	ASTM D-256
Linear Shrinkage during cure*	0.002 in/in	0.003 in/in	ASTM D-624

* Molds are half round steel, 10 inches long, 0.875 inches deep

PROCESSING AND APPLICATION INSTRUCTIONS :

To use, weigh Part A and Part B into a clean mixing container. Mixing containers should preferably be made of polypropylene, polyethylene, glass, or non-corroding metal. (Stainless steel, aluminum, etc.). Always use weighing equipment having accuracy that is ±1% or less of the smallest quantity that you will be weighing. Blend Part A & B thoroughly using a spatula or stirring stick for at least 2 minutes using a kneading motion. Scrape the bottom and sides of the mixing container carefully and frequently to produce a uniform mixture. For Bubble-free parts, vacuum degas after mixing.

PACKAGING AVAILABLE:

This product is available in 5-gallon pails as well as gallon, and quart kits.

It can be supplied in dual syringe cartridges of approximately 50ml or 250ml. The dual syringe cartridges eliminate the need for hand mixing and allow for air free injection into your mold.

Please call use 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. Protect from extended exposure to temperatures below 15°C (59°F). Crystallization may occur if the material is exposed to cold for extend periods. If this occurs, heat the entire container for 4 hours at 70°C to re-liquify the material. Allow to cool to ambient temperature prior to using. Also protect the EpoPro 104A&B from exposure to moisture or high humidity. Tightly re-seal containers after use. If the recommended storage conditions are observed the products will have a minimum shelf-life of 12 months from the date of shipment.

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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:

Ultralane 720-1A

WARNING! Harmful if inhaled. Causes skin and eye irritation. Causes allergic skin and respiratory reaction. Avoid contact with eyes, skin, and clothing. Avoid breathing vapor or mist. Avoid prolonged or repeated contact with skin. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

Ultralane 720-1B

CAUTION! In accord with good industrial practice, handle with due care. Could cause eye, skin, and respiratory irritation. Prolonged or repeated skin contact or inhalation of vapors may cause allergic skin or respiratory reactions. Harmful if inhaled or swallowed. Avoid contact with eyes, skin, or clothing. Wear eye protection and impervious gloves when handling. Wash thoroughly after handling. Avoid breathing vapor or mist. Keep containers closed when not in use. Use only with adequate ventilation.

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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