Clear Polyurethane Adhesive, Casting & Encapsulation System

Ultralane 720LV A/B

Ultralane 720LV A/B is a room temperature curing polyurethane system, formulated for bonding glass and many other materials and for impregnating electrical and electronic components. Typical applications for this system include impregnating wire wound devices and bonding glass.

Properties

- No TDI or MOCA®
- Excellent mechanical & electrical properties
- Water Clear and resistant to yellowing
- Very Low viscosity

Benefits

Ultralane 720LV A/B provides the end-user with a tough, water clear polymer. The low viscosity of this system facilitates air release, and superior impregnation. It's processing characteristics allow the end-user many options when handling the system.

Product description

(average values)

Ultralane® 720LV Part A

Viscosity, cP	ASTM D-2393	at 25ºC	120
Density, g/cm^3	ASTM D-792	at 25ºC	1.00
Flash point, °C	ASTM D-92		65
As-supplied form		Water clear liquid	
Shelf life, months		6	
Disposal		Regular procedures approved by national and/or local authorities	

Ultralane® 720LV part B

Viscosity, cP	ASTM D-2393	at 25ºC	550
Density, g/cm^3	ASTM D-792	at 25ºC	1.00
Flash point, °C	ASTM D-92		65
As-supplied form		Water clear liquid	
Shelf life, months		6	
Disposal		Regular procedures approved by national and/or local authorities	

Storage

The products described in this instruction sheet should be stored at 70-100°F. The material is combustible and should be stored away from heat, sparks, or open flames. The products are moisture sensitive and packaged under a blanket of dry nitrogen. To protect from moisture, blanket with dry nitrogen and tightly reseal after use. Under these conditions their shelf lives will be six months from date of shipping.

System preparation

Mix using meter-mix dispensing equipment, or manually, as follows:

Weigh the desired amount of hardener into a mixing container with resin. Mix thoroughly by means of mechanical mixer or manual stirring. Be sure to scrape the side and walls of the mixing container during mixing. Check for uniform color as a sign of complete mixing.

Vacuum deairing is often not necessary because of the very low viscosity of this system. If using vacuum de-air for no more than 1 minute or some of the solvent in the system may be removed resulting in a higher viscosity.

When ready, apply to one surface. If the materials to be bonded are porous (ex. wood, paper, glass cloth, etc.) the second surface may be immediately applied. If bonding non-porous material such as glass or metal, allow 10 – 20 minutes after application of the material for the solvent to evaporate prior to bonding. This will result in the strongest bonds. If it is desirable to speed the solvent evaporation, you can heat the substrate to which the adhesive is bonded to 100F- 120F (~40C-50C). This heat will help to speed the evaporation of the solvent. After applying the adhesive to the warm surface, wait 5- 10 minutes then position the second surface.

Mix ratios

System

	parts by weight	parts by volume
Ultralane® 720LV part A	100	100
Ultralane® 720LV part B	100	100

Processing data

System

(average values)

Initial viscosity, cP	ASTM D-2393	At 25ºC	300
Pot life, minutes	OC-WL-001	At 25ºC	45 - 60
Recommended cure time, hours		At 25ºC	24*
	or	At 40ºC	8*
Gel Time, 10 grams			
Minutes		At 25°C	60
minutes		At 40°C	30

*Cure schedule results in approximately 95% of final properties, Additional time at room temperature or elevated temperatures is required for 100% of final properties to develop.

Properties

not for specification purposes

Typical physical properties

Density, g/cm^3	ASTM D-792	1.05
Hardness, Shore D	ASTM D-2240	78
Lap Shear Strength, psi	DIN 53283	
Aluminum to Aluminum		1500
Polycarbonate to Itself		740
Glass to Glass		1000
Tensile Elongation, %	ASTM D-638	32
Tensile strength, psi	ASTM D-638	4,500
Tear Strength, ppi	ASTM D-624 Die C	450
Compressive strength, psi	ASTM D-695	8,000
Flexural strength, psi	ASTM D-790	9,800
Flexural Modulus, psi	ASTM D-790	102,000
Izod Impact Strength, ft-lbs/in	ASTM D-256	1.1
Heat Deflection Temperature, 66 psi, ºF	ASTM D-648	138
Tg, °F	Perkin Elmer Application Case #20	146
Water absorption, % by weight, 24 hours at 25°C	ASTM D-570	0.3
Thermal conductivity, cal/sec·cm·°C	ASTM D-2214	4 x 10^{-4}

Typical electrical properties

Volume resistivity, Ω·cm	ASTM D-257	at 25ºC	2.0 x 10^{14}
Dielectric strength, V/mil	ASTM D-149		425
Dielectric constant	ASTM D-150		
60 Hz			4.8
Dissipation factor	ASTM D-150		
60 Hz			0.18

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® 720LV part A
Warning! Combustible keep away from heat, sparks and open flames. 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® 720LV part B
Warning! Combustible keep away from heat, sparks and open flames. Harmful if inhaled. May cause skin and eye irritation or allergic skin and respiratory reactions. 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.

First aid

In case of contact:

Skin: Immediately wash with soap and water. Remove contaminated clothing and launder before reuse. Destroy contaminated shoes.

Eyes: Immediately flush with water for at least 15 minutes. Call a physician.

Ingestion: If conscious, give plenty of water to drink. Do not induce vomiting. Call a physician.

Inhalation: Remove to fresh air. Administer oxygen or artificial respiration if necessary. Call a physician.

Other: Referral to physician is recommended if there is any question about the seriousness of any injury.

Specialty Polymers & Services, Inc.
27822 Fremont Court
Valencia, CA 91355

Tel: 661-294-1790
Fax: 661-294-0640
E-mail: info@spolymers.com
www.spolymers.com