# Product Datasheet

# Ultralane® 1700A/B

## POLYURETHANE SEALANT, ADHESIVE & ENCAPSULANT

Ultralane® 1700A/B is an easy to use, low viscosity system that cures to form a tough, hard rubber that has excellent chemical and moisture resistance. The mixed system has a low viscosity and convenient mix ratios by weight and volume. The cured polymer is flame retardant to UL 94VO requirements and does not contain and antimony or brominated flame retardants. The system complies with RoHS (2002/95/EG) regulations and electronic waste regulations (2002/96/EG WEEE directive) of the European Union.

The Ultralane® 1700A/B system has excellent adhesion to metals including brass, glass, and many plastics. It performs well as a sealant for electrical and industrial equipment and can be used as a tough, semi-flexible adhesive. It has excellent electrical properties and is an outstanding electrical potting or encapsulating material. This system can also be used to cast tough, semi-flexible parts such as gaskets, gears, and nesting fixtures that demonstrate good tear resistance.

Standard colors are Tan or Black, but custom colors are available on request. The neutral Tan color is easy to pigment or dye prior to curing to achieve a wide range of colors and visual effects. Other custom variations are possible, please contact us to discuss the development of a custom variant that would be suitable for your application.

**SUGGESTED APPLICATIONS:**

- Tough, semi-rigid Parts
- Bonding or sealing metal, glass, plastic, and other substrates.
- Electric Potting & Encapsulation of transformers, coils, and other components

| HANDLING PROPERTIES | VALUE | TEST METHOD |
|---|---|---|
| Ultralane 1700A (resin) | | |
| Visual Appearance | Clear Amber liquid | |
| Density, Part A | 1.25 g/cm³ | ASTM E-201 |
| Viscosity, Part A, at 25ºC | 240 cps | ASTM D-2393 |
| Flash Point | >200°C | ASTM D-92 |
| Ultralane 1700B (hardener) | | |
| Visual Appearance | Off-white or Black Liquid | |
| Density, | 1.56 g/cm³ | ASTM E-201 |
| Viscosity, Part B, at 25ºC | 8,000 cps | ASTM D-2393 |
| Flash Point | >200°C | ASTM D-92 |
| Mixed Viscosity at 25ºC | 3,500 cps | ASTM D-2393 |
| Mix Ratio by weight and volume: | 40A:100B by weight or 1A:2B by volume | |
| Pot life, 100 gram mass | ~15 minutes | |

Demolding time: 8 hours at room temperature or allow to gel then cure for 3 hours at 150ºF or 2 hours at 80ºC. Allow to cool prior to demolding.

Cure Schedules: 24 hours at 25ºC (Full properties may take up to 7 days at room temperature) **or** gel at 25ºC for 2 hours, then heat cure for 4+ hours at 80ºC **or** 2 hours at 95ºC.
(Small parts, especially those having masses less 10 grams or cross-sectional areas less than 1/8" may not require a room temperature gel prior to heat curing as this step is designed to reduce shrinkage and warpage in large masses and thicker cross-sectional areas.)

| **CURED PROPERTIES** | | **TEST METHOD** |
|---|---|---|
| Density | 1.45 g/cm$^3$ | ASTM D-792 |
| Hardness, Shore D at 25°C | 55 - 65 | ASTM D-2240 |
| Ultimate Tensile Strength | 2,800 psi | ASTM D-638 |
| Flexural Strength | 4400 psi | ASTM D-638 |
| Coefficient of Thermal Expansion (0°C to 80°C) | 50 ppm/°C | ASTM E-381 |
| Thermal conductivity | 0.64 W/mK | ASTM D-2214 |
| Insulation Class | Class B (266°F/130°C) | IEC 85 |
| Relative Thermal Index (RTI) | 266°F / 130°C | UL 746B |
| Flame Retardance | UL 94VO at 6mm | UL94VO |
| Dielectric Strength | 30 KV/mm | IEC 243 |
| Surface Resistance | 1 x $10^{14}$ ohm | IEC 93 |
| Volume Resistivity @ 25°C | 1 x $10^{14}$ ohm-cm | IEC 93 |
| Dielectric Constant @ 23°C / 50°C / 80°C | 5.6 / 6.3 / 6.9 | IEC 250 |
| Dissipitation Factor @ 23°C / 50°C / 80°C | 0.044 / 0.088 / 0.129 | IEC 250 |
| Electrolytic Corrosion | A / 1.2 | VDE 0307 |
| Tracking Resistance | CTI > 600V | IEC 112 |

## PROCESSING AND APPLICATION INSTRUCTIONS:

If any settling or separation is observed in the Ultralane 1700B, thoroughly re-mix using a paint shaker or by manual mixing using a paint stirrer to ensure that the material is uniform prior to use.

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 Parts 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.

This product is also suitable for use in meter mix dispensing equipment at a 1 part A to 2 part B by volume mix ratio.

## PACKAGING AVAILABLE:

This product is available in 400ml dual syringe cartridges at a 1A:2B by volume mix ratio. The dual syringe cartridges eliminate the need for hand mixing and allow for almost air free injection

into your mold or parts. It is also available in gallons, 5-gallon pails and drums. Other package sizes are available by request

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 15ºC (59ºF). Crystallization may occur if the material is exposed to cold for extend periods. If this occurs, heat the entire container for 3-4 hours at 50 ºC -70ºC to re-liquefy the material. Allow to cool to ambient temperature prior to using. Also, protect the Ultralane 1700A from exposure to moisture or high humidity. Tightly re-seal containers after use. If the recommended storage conditions are observed these products will have a minimum shelf-life of 12 months from the date of shipment.

**HANDLING PRECAUTIONS & PERSONAL HYGENIE**

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.

**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 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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