



# PRODUCT DATA SHEET

## UI-5822

### LIQUID CASTABLE ELASTOMER 82 SHORE A

#### 1. PRODUCT:

UI-5822 is a two component, polyether based, liquid urethane casting system used for a variety of applications. It is 100% solids and contains no TDI or Moca.

#### 2. KEY FEATURES:

Easy to Mix and Use  
Low Viscosity  
Long Gel Time  
Available in a Variety of Colors  
Good Chemical Resistance  
Excellent Tear Strength  
Low Shrink

#### 3. SUGGESTED APPLICATIONS:

Potting and Encapsulating  
Tooling  
Wheels  
Filter Frames  
Concrete Stamp Pads  
Molds  
Bumper Pads  
Gaskets and Diaphragms

#### 4. SHELF LIFE:

Shelf life of UI-5822 is one (1) year from shipping, providing it is stored in an cool dry place in unopened containers.

#### 5. STANDARD COLORS:

White, Black, Red, Blue, Yellow

#### 6. STANDARD PACKAGING:

Quart Kit  
Gallon Kit  
5 Gallon Pail Packs  
(Pail of A and Pail of B)  
55 Gallon Drum Packs  
(Drum of A and Drum of B)

#### 7. GENERAL PROCESSING INFORMATION:

- A. PROCESSING TEMPERATURES: The higher the temperatures, the faster the reaction rates. Reaction rates are influenced by the temperature of the components and mold, the size of the batch being processed, the shape of the cavity being filled and the ambient conditions.
- B. SURFACE PREPARATION FOR MOLDS: Porous surfaces, i.e., wood and plaster in contact with UI-5822 must be well sealed with a urethane compatible sealer. An acrylic sealer is generally used. Allow final sealer coat to dry for 30 - 45 minutes before applying a suitable release agent.
- C. MOLD RELEASE AGENTS: The user must perform all pertinent tests in order to determine the

suitability of those products in the particular application. Silicone type release agents such as UI-9900 can be used where neither adhesion nor paintability of the molded part is required. A non silicone type may be used where paintability of the molded part is required. Frequent mold cleaning may be necessary to prevent mold release agent build up.

- D. ADHESION TO METAL AND WOOD: In order to ensure good polymer adhesion, substrate must be free of rust, oils and other impurities. Substrate may be sanded and degreased with a solvent such as Methyl Ethyl Ketone (MEK). Priming steel and wood with a urethane compatible primer such as UI-9906 will enhance polymer adhesion and application longevity. Other materials being primed may require experimentation in order to ensure optimum polymer adhesion. For further information regarding primers, contact Preformed Line Products' Technical Service Department.
- E. WEIGHT RATIO: Must be maintained within  $\pm 2.0\%$  of Part A and Part B. Deviation from the ratio and processing conditions recommended herein will alter the properties of this product.
- F. CAST PARTS: To produce cast parts without bubbles, the mixture of Part A and Part B should be placed under a vacuum prior to pouring into the mold. The addition of UI-9908 Bubble Release Agent up to 0.5% by weight or about 2.5 ml per pound of mixed system will facilitate air release under vacuum. The ratio of UI-9908 may vary depending on individual requirements and the amount of material being degassed.
- G. HAND PROCESSING PROCEDURE: For quart and gallon kits, pour Part A into Part B container. For pail packs and drum packs, weigh Part A and Part B to exact ratio by weight and pour into a clean, non porous container. The two components should be mixed thoroughly by hand, paddle or power mixer for specified mix time (see Properties section). Caution must be used to generate only a small vortex when mixing to prevent mixing excess air into the mixture. Scrape the sides and bottom of the mixing container periodically as unmixed material has a tendency to adhere to surfaces of mixing container. Pour the mixed material into the prepared mold, pattern or cavity and allow to cure. Do not scrape material from sides of mixing container while pouring material. Proper application of a parting agent is required for satisfactory release from mold.

H. MAINTENANCE AND CLEAN UP: Clean up of the automatic mixing equipment can be performed with the use of a non flammable cleaning solvent, such as Methylene Chloride. Methylene Chloride is a hazardous chemical, therefore chemical data, legislative acts, regulatory guidelines and manufacturer's precautions must be read and understood before use. Hand mixing equipment may be cleaned with a cleaning solvent such as Methyl Ethyl Ketone (MEK). MEK is a highly flammable chemical, therefore necessary safety precautions must be exercised.

I. PRECAUTIONS: Normal handling precautions must be exercised. Use in a well ventilated area and wash hands before eating or smoking. Personnel handling UI-5822 must wear protective gloves, glasses and clothing. Do not burn UI-5822 as it will release toxic vapors. Read Material Safety Data Sheet before using.

**8. TECHNICAL SERVICE:**

Technical assistance is available by contacting Preformed Line Products' Technical Service Department.

**9. STORAGE, SAFETY AND HANDLING:**

Store UI-5822 in a dry cool area. Avoid storage temperatures above 85°F and below 50°F. Before using, read carefully Preformed Line Products' General Information Bulletin on Safety, Handling, Storage, Packaging, Technical Services and Warranty. Material Safety Data available upon request. UI-5822 is packaged in sealed containers with a nitrogen blanket to prevent moisture contamination. Therefore, containers should not be opened until ready to use. If the total amount of either

Part A or Part B is not used initially, the remaining portion of unmixed materials should be re-blanketed with nitrogen of UI-9904 "Magic Blanket", an inert gas available in aerosol cans.

**10. PREFORMED LINE PRODUCTS AVAILABLE FOR USE WITH UI-5822:**

- UI-9900 Silicone Mold Release
- UI-9904 "Magic Blanket" Aerosol Inert Gas
- UI-9906 Adhesion Promoter
- UI-9908 Bubble Release Agent

**11. WARRANTY:**

The statements made herein are based on our research and the research of others and are believed to be accurate. No guarantee of their accuracy is made, however. Neither the seller nor the manufacturer has any knowledge or control concerning the purchaser's use of the product. No express warranty is made by the seller or the manufacturer with respect to the results of any use of the product. Neither seller nor manufacturer assumes any liability for personal injury, loss or damage resulting from the use of the product. In the event that the product shall prove defective, the buyer's exclusive remedy shall be repayment of the purchase price, or, at the manufacturer's option, replacement of the non-conforming product. The buyer expressly waives any claim to additional damages, including consequential damages. Warranty claims are void unless made in writing within thirty (30) days after purchase. Warranty runs exclusively to the benefit of the original buyer.

**NOTE:**

Prior to use, customer should thoroughly evaluate to determine suitability for use intended.

12. PHYSICAL PROPERTIES OF UI-5822 (TYPICAL)		
PROPERTY	RESULTS	ASTM TEST METHOD
Shore Hardness	82 ± 2 A	D-2240
Standard Colors	White, Black, Red, Blue, Yellow	—
Mix Ratio Part A to Part B		—
By Weight	62A / 100B	
By Volume	53A / 100B	D-1475
Weight per Gallon		
Part A	10.0 lbs	
Part B	8.4 lbs	—
Mix Time	3 min	D-2471
Pot Life	20 min	D-2471
Gel Time (1 lb. mass @ 75°F)	30 - 40 min	—
Demold Time (minimum)		
@ 77°F (25°C)	4 hours	
@ 175°F (79°C)	1 - 2 hours	—
Complete Cure		
@ 75°F (25°C)	7 days	
@ 175°F (25°C)	2 - 3 days	—
Peak Exotherm		
Elongation, Ultimate	125%	D-412
Tensile Strength	1185 psi	D-412
Modulus	970 psi	
V - Tear Strength	192 pli	D-470
Viscosity		D-2393
Part A	400 cps	
Part B	800 cps	
Specific Gravity		—
Part A	1.2	
Part B	1.12	
Abrasion Resistance (Tabor)	4.5	CS-17-Mg lost; 1000 Gm/1000 Rev
Resilience (Rebound)	54%	Bashore
Linear Shrinkage	less than 0.003 in/in	D-2566
Shelf Life (Unopened containers)	1 year	—
Solids	100%	—