

**TECHNICAL DATA SHEET**

**HIGH PERFORMANCE URETHANE CASTING ELASTOMER**

**92 SHORE A**

DESCRIPTION

This product is an MDI terminated, polyester based adipate, urethane prepolymer.  
It can also be used as a general purpose polyester urethane as it combines good resilience with excellent physical properties and solvent stability.

FEATURES

Excellent toughness and abrasion resistance.  
Good low temperature flexibility.  
Good dynamic properties and resilience.  
FDA approval

LIQUID POLYMER PROPERTIES	VALUE
Physical Form	Solid
Available Isocyanate (NCO), %	8.6
Amine Equivalent	488
Viscosity 75 C, cps	1000
100C, cps	400

TYPICAL PROCESS PARAMETERS	VALUE
Prepolymer (8.6%), C	100
TMP/Butanediol (eq. wt. 45), C	25
Mold Temperature, C	100
Demold Time at 100C, minutes	90

PHYSICAL PROPERTIES	VALUE	TEST METHOD
Mix ratio, phr	See below	
Curative Mold Ratio	.95	
Pot Life, minutes	5-6	
Hardness, Shore A	92	D-2240
100% Modulus, psi	1189	D-412
300% Modulus, psi	2441	D-412
Ultimate Tensile, psi	5359	D-412

Ultimate Elongation, %	441	D-412
Tear, Die C, pli	455	D-624
Bashore Resilience, %	33	D-2632
Split Tear, pli	211	D-1938
Compression Set, %	18	D-395(B)

#### CURATIVES

Other room temperature liquid and solid curatives can be used, depending on your specific application. See your sales representative for additional information.

#### CALCULATION OF MIX RATIO

Wts. of curative per 100 grams =

$$\frac{(\% \text{NCO Prepolymer}) \times (\text{Eq. Wt. Curative}) \times (\% \text{Stoichiometry})}{4202}$$

NOTE: Actual equivalent weight should be calculated from the hydroxyl number found on the label for each specific lot of curing agent.

The exact weight of the curative must be calculated from the %NCO on each drum to consistently produce elastomers of good quality.

#### MOLD PREPARATION

Porous materials, such as plaster and wood, must have all surfaces that come in contact with this product be well sealed with a sealer which is compatible with urethane. Acrylic sealers and hard waxes are typical examples of sealers. Use multiple coatings of the sealer to form a high gloss finish. After the final coat of sealer has been applied and thoroughly dried, apply an even coat of PARTINGKOTE FH-8302. Wipe off any excess PARTINGKOTE FH-8302 so a complete and uniform coating results.

Metal mold surfaces, (steel and aluminum) should be sprayed with an even coat of silicone type release agent such as PARTINGKOTE FH-8302 Greenchem MR-515 or Contour Chemical LIFFT.

#### PROCESSING

This prepolymer is a liquid at room temperature, however for ease of handling it can be warmed to a minimum of 85C. The resin should be charged to the mixing container or pot, degassed at approximately 10mm Hg, and then adjusted to the process temperature.

The resin and curative should be combined, mixed well for one minute

minimum, then degassed at 10mm Hg. Typical mold temperatures are 100C.

#### ADHESION TO METAL

Many applications for product require that the urethane casting be bonded to a metal insert or substrate. The metal surfaces must be roughened or sand blasted and cleaned and degreased with a solvent such as trichloroethylene. Optimum adhesion is obtained when the metal part is then coated with adhesives. See your sales representative for recommendations for your application.

#### STORAGE

Product should be stored at 65-85F. Shelf life is one year from date of shipment in unopened containers. Opened containers should be purged of moisture with dry nitrogen or URALITE FH-8440 INERT BLANKETING Gas.

#### HANDLING PRECAUTIONS

This prepolymer contains free monomeric diphenylmethane 4,4'-diisocyanate (MDI) which may be harmful if inhaled. Inhalation of vapors may cause allergic respiratory reaction and the reaction may be delayed four to eight hours. Contact may cause eye and skin irritation.

#### EMERGENCY AND FIRST AID PROCEDURES

**Skin Contact:** Prompt washing with 99% isopropyl alcohol followed by washing with soap and water.

**Eye Contact:** Irrigate promptly with clean water for 15 minutes and call a physician.

**Inhalation:** Treat symptomatically; vaso-dilators, fresh air, oxygen. Call a physician.

**Ingestion:** Call a physician at once. Give copious quantities of milk and/or water to dilute. Induce vomiting only on the advice of a physician.



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#### PROTECTION PROCEDURES

If used in an enclosed area, use an air supplied mask or respirator with canister for organic vapors. Provide mechanical exhaust ventilation. Vapors are generally heavier than air, therefore any ventilation equipment should be designed to pick up between bench level and floor level. Use protective gloves, safety glasses, and rubber or plastic aprons. Avoid contact with skin or clothing. Contaminated clothing must be removed immediately and laundered before wearing again. Contaminated shoes should be discarded.



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**LIMITED WARRANTY AND TERMS**

H.B. Fuller Company ("Fuller") warrants that, for a Warranty Period of one year (or the period specified on the applicable Technical Data Sheet, whichever is less) from the date of shipment from Fuller to the Initial Purchaser, that this Fuller product was manufactured in accordance with Fuller's specifications in effect on the date of manufacture. These specifications are available upon request. This Warranty does not cover test data, or any defects, damages or other harms caused to any extent or in any way by failure to follow applicable Fuller instructions, if any, or abuse or misuse of the product.

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**LIMITATIONS OF REMEDIES AND DAMAGES** -- FOR ANY VALID CLAIM PRESENTED UNDER THE LIMITED WARRANTY, Fuller WILL REPLACE THE PRODUCT, OR AT ITS OPTION, REFUND THE PURCHASE PRICE. THIS REPLACEMENT/REFUND REMEDY IS THE PURCHASER'S SOLE AND EXCLUSIVE REMEDY AGAINST Fuller. THE PURCHASER AGREES THAT NO OTHER REMEDY (INCLUDING BUT NOT LIMITED TO LOST PROFITS, LOST SALES, INJURY TO PERSON OR PROPERTY OR ANY OTHER INCIDENTAL OR CONSEQUENTIAL LOSS) SHALL BE AVAILABLE TO PURCHASER FOR CLAIMS ARISING OUT OF ANY USE OF THE PRODUCT REGARDLESS OF THE LEGAL THEORY (CONTRACT, TORT OR OTHER). IN NO EVENT WILL Fuller BE OBLIGATED TO PAY DAMAGES TO PURCHASER IN ANY AMOUNT EXCEEDING THE PRICE THAT THE PURCHASER PAID FOR THE PRODUCT.

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**CONDITIONAL ACCEPTANCE** -- Fuller's acceptance of Purchaser's order for this product is expressly conditional on Purchaser's assent to terms and conditions set forth herein.

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**ADEQUATE TESTS:** The information contained in this bulletin we believe is correct to the best of our knowledge and tests. The recommendations and suggestions herein are made without guarantee or representation as to results. We recommend that adequate tests be made in your laboratory or plant to determine if this product meets all of your requirements.