

Formulated  
Systems Group

Tooling  
Systems

### TDT 178-34

### REN:C:O-THANE Polyurethane Elastomer

A Variable Hardness Resilient Shore 10-40A Elastomer for Flexible Molds

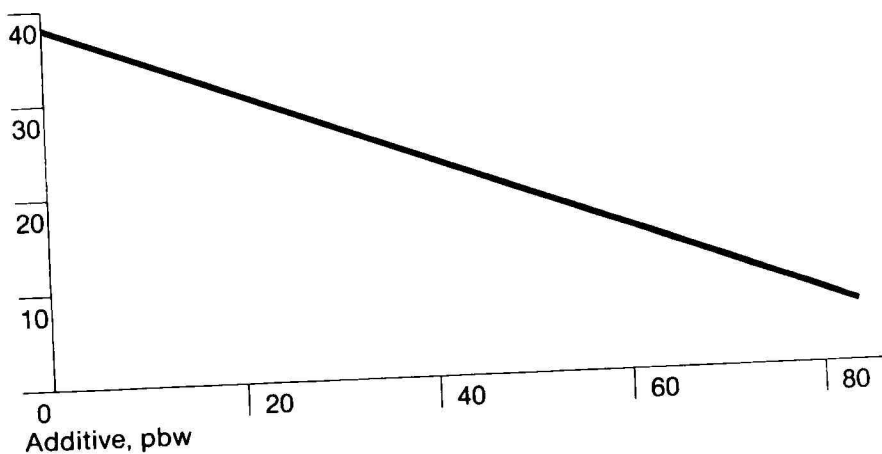
<b>Description</b>	TDT 178-34, the most flexible polyurethane of the REN:C:O-THANE line, allows easy stripping of molds from undercuts and complex parts. Low viscosity makes TDT 178-34 easy to handle. Complete cure can be obtained at room temperature. Heat cure is not recommended.			
<b>Applications</b>	Flexible molds Resilient parts Strippers Pads			
<b>Advantages</b>	Flexible at low temperatures Good tear strength Low viscosity Excellent reproductive qualities Variable hardness by using TDT 178-34 additive Flame retardant (Passes FAR 25.853(b) on thickness <0.080 in)			
<b>Typical Physical Properties</b>	Resin/Hardener ratio	weight	10/100	
		volume	10/100	
	Viscosity @ 77°F/25°C	resin	50 cP	
		hardener	2000-2400 cP	
	Color	resin	light amber	
		hardener	white	
	Pot life and viscosity profile (4 fl oz) @ 77°F	Time (min)	Viscosity (cP)	
			5	1900
			10	3000
			15	10,000
20			gelled	
Demold time @ 77°F (for most applications)	within 16 hrs			
Cure time @ 77°F (for ultimate properties)	7 days			

Typical Cured Properties	ASTM Test Method	Test Results* No Additive	Test Results* 40 pbw Additive
Density	D-792	1.22 g/cc	1.19 g/cc
Hardness (durometer)	D-2240	35-40 Shore A	18-23 Shore A
Tensile strength	D-638 @ 20"/min	1450 psi	>802 psi
Ultimate elongation	D-638 @ 20"/min	728%	840%
Tear strength	D-624 @ 20"/min DIE C	115 ppi	88 ppi
Compression set <sup>1</sup>	D-395 B	3.2%	1.8%
Linear shrinkage	D-2566 Mold #1	0.0008 in/in	0.0013 in/in

Cure Schedule  
\*7 days @ 77°F/25°C

TDT 178-34 Additive Parts by Weight Mixed with 10 pbw Resin and 100 pbw Hardener

Hardness, Shore A



Additive, pbw	Hardness, Shore A
0	38A
40	17A
80	8A

**Note:** Additive must be added prior to mixing resin and hardener to obtain a homogeneous mix. Best results are obtained when the resin is weighed first, the additive second and the hardener last.

<sup>1</sup>Compression set ASTM D-395 Method B. The percent of permanent deformation resulting from constant deflection/pressure required to compress samples 25%. Actual amount of set in 1/2" samples is (% compression set X 1/8").

**Storage/Handling Information**

**TDT 178-34 Resin**

This product may crystallize upon storage. If crystallized, vent container and heat to 125-145°F until crystals dissolve. Stir well after product has liquefied.

**TDT 178-34 Hardener**

Stir well before use. This material will separate

**TDT 178-34 Resin, Hardener and Additive**

Store at 70-90°F. This product is moisture sensitive and packaged under a blanket of dry nitrogen. Maintain factory seal, after use reblanket with dry nitrogen and tightly reseal.

Work in a well-ventilated area and use clean, dry tools for mixing and applying. For two-component system, combine the resin and hardener according to mix ratio. Mix together thoroughly and use immediately after mixing. Material temperature should be below 65°F (18°C) when mixing. For fast cleaning of hands, use REN® RP 70-S Hand Cleaner before washing. Resin and hardener should be combined in the proper ratio using automatic metering and mixing equipment.

**Safety/Handling Precautions**

**TDT 178-34 Resin**

**Warning!** Harmful if inhaled. Causes skin and eye irritation. Causes allergic skin and respiratory reactions.

Avoid contact with eyes, skin, and clothing. Avoid breathing vapor or mist. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

**TDT 178-34 Hardener**

**Warning!** Harmful if swallowed. Wash thoroughly after handling. Nuisance dust may be generated when sanding or sawing cured material.

**TDT 178-34 Additive**

**Caution!** In accord with good industrial practice, handle with due care. Avoid contact with eyes, skin and clothing. 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 and/or artificial respiration if necessary. Call a physician.

**IMPORTANT**

The following supersedes any provision in your company's forms, letters and papers. The information contained herein is believed to be reliable. **HOWEVER, CIBA-GEIGY MAKES NO WARRANTY, WHETHER EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, FOR THE PRODUCT OR PRODUCTS REFERRED TO HEREIN.** No statements or recommendations contained herein are to be construed as inducements to infringe any relevant patent, now or hereafter in existence. **UNDER NO CIRCUMSTANCES SHALL CIBA-GEIGY BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL OR OTHER DAMAGES FROM ALLEGED NEGLIGENCE, BREACH OF WARRANTY, STRICT LIABILITY OR ANY OTHER LEGAL THEORY, ARISING OUT OF THE USE OR HANDLING OF THE PRODUCT OR PRODUCTS REFERRED TO HEREIN.** The sole remedy of the buyer and the sole liability of CIBA-GEIGY for any claims shall be limited to the buyer's purchase price of the product which is the subject of the claim or the amount actually paid for such product, whichever is less. **TECHNICAL ADVICE FURNISHED BY SELLER SHALL NOT CONSTITUTE A WARRANTY, WHICH IS EXPRESSLY DISCLAIMED, ALL SUCH ADVICE BEING GIVEN AND ACCEPTED AT THE BUYER'S RISK.**