

CONATHANE® TU-8090

CONATHANE TU-8090 is a two-component polyurethane casting system formulated to produce 90 Shore A elastomers. CONATHANE TU-8090 does not contain MbOCA or heavy metal catalysts.

CONATHANE TU-8090 has an initial mixed viscosity of 3500 cps at 25°C, making it pourable into almost any configuration. It has an effective pot life of 15-20 minutes at 25°C, and will cure at room or elevated temperatures.

APPLICATIONS:

- Cast-in-place linings for metal polishing and finishing equipment
- Industrial wheels
- Vibration, shock, and sound dampening pads
- Metal forming pads
- Flexible molds
- Drop hammer faces
- Washers
- Gaskets
- Bushings and diaphragms

TYPICAL PRODUCT CHARACTERISTICS

	Prepolymer PART A	Curative PART B	Test Method
Viscosity @ 25°C, cps	4200	356	ASTM D-2393
Specific Gravity @ 25°C	1.06	1.19	ASTM D-792
Color	Light Amber	Light Amber or Black	Visual

TYPICAL CURED PROPERTIES

	TU-8090	TEST METHOD
Hardness, Shore A	90	ASTM D2240
Tensile Strength, psi	3500	ASTM D412
100% Modulus, psi	1250	ASTM D412
200% Modulus, psi	1500	ASTM D412
300% Modulus, psi	1750	ASTM D412
Elongation, %	600	ASTM D412
Graves Tear Strength, pli	525	ASTM D624
Split Tear Strength, pli	135	
Bashore Rebound, %	47	ASTM D2632
Linear Shrinkage @ 80°C Cure, %	1.18	ASTM D2566
Linear Shrinkage @ 25°C Cure, %	No measurable shrinkage	ASTM D2566
Flammability – 1/4" thickness	V-2	UL94
Ross Flex Test – 1/4" thickness	No cut growth after 5 million cycles	ASTM D1052

Electrical Properties

	25°C	130°C
Volume Resistivity, ohm-cm	7.3 x 10 ¹⁵	1.2 x 10 ¹⁰
Surface Resistivity, ohms	2.0 x 10 ¹⁶	4.2 x 10 ¹¹
Dielectric Constant – 100 Hz	5.38	4.43
- 1 KHz	5.18	4.24
- 1 MHz	4.32	3.89
Dissipation Factor – 100 Hz	0.024	0.348
- 1 KHz	0.024	0.048
- 1 MHz	0.057	0.021
Dielectric Strength, vpm	534	

RECOMMENDED PROCESSING PARAMETERS

Mix Ratio by Weight, Prepolymer/Curative	100/20
Mix Ratio by Volume, Prepolymer/Curative	100/18
Initial Mixed Viscosity @ 25°C	3500 cps
Work Life @ 25°C	15-20 minutes
Full Cure @ 25°C	7-10 days
Alternate Full Cure @ 80°C	16 hours

CONATHANE TU-8090 can be processed by batch mixing or by the use of automatic metering, mixing, and dispensing equipment. Specific recommendations can be made by the technical service department of Cytec Industries Inc. or by your regional sales manager. The following procedure is recommended for batch processing:

1. Containers used for weighing or mixing should be metal, glass, or plastic. Mixing rods should also be metal, plastic, or glass. Avoid paper containers and wooden sticks.
2. Use a separate container for mixing, with enough space to allow for expansion during degassing (usually two to three times the volume of material being mixed) if void-free castings are desired. In many applications the degassing step may be eliminated.
3. Weigh the correct proportions of the two components together, mix thoroughly, and degas at 28-29 inches of mercury vacuum to remove air entrapped during mixing.
4. Pour mixed material into molds or fixtures in a manner to avoid trapping air bubbles or pockets, and cure as recommended. Porous molds should be properly sealed prior to using. Contact Cytec's customer service department, or your local regional sales manager, for assistance.
5. If parts are to be demolded, a quality CONAP® mold release should be applied prior to pouring.

PRIMERS

Please consult Cytec's customer service department regarding primers recommended for improving the bond of CONATHANE TU-8090 to metal surfaces. It is important that all dirt, rust, grease, and oil be removed from surfaces prior to applying the primer. Request *Surface Preparation Guide*, Bulletin AC-107, for recommendations.

COLORING

CONATHANE TU-8090 is supplied in a clear amber color. For those who wish to color CONATHANE TU-8090, Cytec offers four different color concentrates (See CONAP® DS-1830 Series). Please request Bulletin AC-112 for information on these color concentrates.

HANDLING AND STORAGE INSTRUCTIONS

CONATHANE TU-8090 has a shelf life of 18 months from date of manufacture when stored in the original unopened containers at 70°F-85°F. Containers should be flushed with dry nitrogen or CONAP® Dri-Purge each time they are opened unless the contents are used within one day.

AVAILABILITY

CONATHANE TU-8090 is available in gallon, 5-gallon, and 55-gallon units. Each unit consists of pre-weighed quantities of Part A and Part B packaged in separate containers.

An EVALUATION KIT is available at for a nominal fee.

See the Comparison Chart for the CONATHANE® TU-8000 *Series* to compare properties of similar products.

CAUTION:

Responsible handling of Cytec Industries Inc. products requires a thorough review of safety, health, and environmental issues prior to use. Review the Material Safety Data Sheets(s) for the specific Cytec Industries Inc. product(s) and container label information before opening containers. Ensure that employee exposure issues are understood, communicated to all workers, and controls are in place to prevent exposures above Permissible Exposure Limits (P.E.L.'s). Review safety and environmental issues to be certain controls are in place to prevent injury to employees, the community, or the environment, and ensure compliance with all applicable Federal, State, and Local laws and regulations. For assistance in this review process, please call your Cytec Industries Inc. representative or our office noted below.