

Technical Data Sheet

Electronic & Engineering Materials

CONATHANE® TU-701

Two-Component Polyurethane Tooling Elastomer

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CONATHANE® TU-701

Product Description

CONATHANE® TU-701 is an unfilled, two-component, room temperature curing, 100%-solids polyurethane system.

It consists of CONATHANE® TU-401 Part A Urethane Prepolymer and CONATHANE® TU-701 Curative.

Areas of Application

Highly recommended for use in potting or casting applications requiring excellent UV stability and elastomeric properties.

Common applications include potting and casting of industrial wheels, metal forming pads, flexible molds, washers, gaskets, bushings and vibration, shock or sound dampening pads.

Features and Benefits

- Non-MBOCA curing system
- Excellent UV stability
- Excellent physical properties
- Good chemical and solvent resistance

Application Methods

- Hand-mix Bench Potting / Casting
- Meter-mix Bench Potting / Casting
- Meter-mix Vacuum Potting / Casting

Transportation / Storage

Store below 25°C / 77°F in a dry controlled environment out of direct sunlight. This material should be suitable for use stored under these conditions in the original sealed containers for twelve (12) months from the date of shipment.

Failure to store the product as recommended above may lead to deterioration in product performance.

This product is sensitive to moisture and atmospheric humidity. Containers, once opened, should be used immediately or blanketed with dry air or nitrogen (CONAP® Dri-Purge) before resealing.

Mix individual components thoroughly before use.

Health / Safety

Refer to the Safety Data Sheet.

Typical Properties of Material as Supplied

Property	Conditions	Value		Units
		CONATHANE® TU-401 Part A Urethane Prepolymer	CONATHANE® TU-701 Part B Curative	
Viscosity	25°C / 77°F	8,500	400	cP
Specific Gravity	25°C / 77°F	1.04	1.01	
Appearance		Clear light amber	Clear amber	
Mix Ratio	Parts by weight	100	65	
	Parts by volume	100	67	

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Typical Properties of Mixed Materials

Property	Conditions	Value	Units
Viscosity (initial)	25°C / 77°F	2,000	cP
Work Life	25°C / 77°F	20 – 30	minutes

Application / Curing Schedule

Mix TU-701 Part A and TU-701 Part B in the ratio specified above until homogeneous. Components may be preheated up to 60°C if reduced viscosity is required. If hand mixing, degas at >27 in. Hg vacuum before use.

Cure 7 - 21 days at 25°C / 77°F – or – 16 hours at 80°C / 176°F

Demold time of 24 hours at 25°C / 77°F – or – 2 hours at 80°C / 176°F

The cure schedules above are based on time after the unit reaches the specified temperature and are recommendations only. The user is responsible for determining the optimum cure conditions for his application.

Typical Mechanical Properties

Property	Test Method	Conditions	Value	Units
Appearance	Visual	25°C / 77°F	light amber	
Shore Hardness	ASTM D2240	25°C / 77°F	A 70	
Tensile Strength	ASTM D412	25°C / 77°F	3,000	psi
		100% modulus	300	psi
		200% modulus	500	psi
		300% modulus	650	psi
Ultimate Elongation	ASTM D412	25°C / 77°F	750	%
Graves Tear Strength	ASTM D412	25°C / 77°F	280	pli
Linear Shrinkage	ASTM D2566	25°C / 77°F cure	< 0.5	%
		80°C / 160°F cure	1.0	%
Flammability	UL94	1/8" thickness	meet V2	
UV Resistance	ASTM G53	Weatherometer without visual degradation	8000	hours

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Typical Electrical Properties

Property	Test Method	Conditions	Value	Units
Dielectric Strength	ASTM D149	1/16" @ 25°C / 77°F	500	volts / mil
Dielectric Constant	ASTM D150	100 Hz @ 25°C / 77°F	5.6	
		1 kHz @ 25°C / 77°F	5.4	
		1 MHz @ 25°C / 77°F	4.3	
Dissipation Factor	ASTM D150	100 Hz @ 25°C / 77°F	0.09	
		1 kHz @ 25°C / 77°F	0.03	
		1 MHz @ 25°C / 77°F	0.08	
Arc Resistance	MIL-M-24041C		> 120	seconds
Volume Resistivity	ASTM D257	25°C / 77°F	3.4 x 10 ¹¹	ohm-cm
Surface Resistivity	ASTM D257	25°C / 77°F	9.4 x 10 ¹²	ohms / sq.

The above properties are typical values and are not intended for specification use.

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