

Por-A-Thane™

Polyether Prepolymers

PUMA Polymers has over 30 years experience formulating polyurethane prepolymers and systems. The prepolymers contained on this selector chart are suited for a majority of applications; however, if you desire a custom formulation or require a product not listed please give us a call. We can supply the right elastomer for your application.

PUMA Polymers offers a wide range of polyether and polyester based polyurethane prepolymers. The most common formulations are contained on this selector chart. Typical applications would include rollers, gears, bushings, abrasion resistant linings, mining wear parts, casters, high load bearing wheels and many other miscellaneous cast parts requiring a tough abrasion resistant elastomer.

Property	E80T	E83T	E90TS	E93TS	G92T	E95T	E95TS	E70DT	E70DTS
Appearance	Semi Solid / Super Cooled liquid	Waxy-solid, or pale straw liquid	Viscous Liquid	Light Yellow Liquid	Light Amber	Viscous Liquid	Viscous Liquid	Clear Viscous Liquid	Clear Viscous Liquid
NCO Content	3.0%	3.2%	4.3%	5.1%	5.50%	6.4%	6.4%	9.4%	9.45%
Viscosity @ 160°F	3000CPS @ 122°F	4000 CPS	3.00-6.0CPS	2500CPS @ 122°F	1300CPS	5000-6000CPS @ 85°F	150-250 CPS	150-350CPS	700CPS
Specific Gravity	1.14	1.05	1.06	1.1	1.15	1.07	1.07	1.12	1.12
Curative	MBOCA	MBOCA	MBOCA	MBOCA	MBOCA	MBOCA	MBOCA	MBOCA	MBOCA
Durometer	Shore A 80	Shore A 83	Shore A 90	Shore A 93	Shore A 92	Shore A 95	Shore A 95	Shore D 75	Shore D 75
Modulus 100%	-	-	1100psi	-	-	1800psi	1800psi	5000psi	-
Modulus 300%	-	-	2200psi	-	-	4300psi	4300psi	-	-
Ultimate Tensile	5000psi	4275psi	5500psi	7300psi	3500psi	6500psi	6500psi	8000psi	-
Elongation	500%	500%	430%	530%	500%	380%	380%	215%	-
Tear Die C	550pli	360pli	600pli	592pli	497pli	700pli	700pli	-	-
Tear Split, D-470	-	41pli	-	-	84pli	-	-	120pli	-
Resilience, Bashore	55%	53%	42%	47%	28%	40%	40%	35%	-
Compression Set, Method B	-	-	30%	-	-	36%	36%	55%	-
Processing Temperature	110°C	80-100°C	80-100°C	90-100°C	80-100°C	230-250°F	80-100°C	54-66°C	70-100°C
Pot Life	6 Minutes	5 Minutes	10 Minutes	9-10 Minutes	4 Minutes	2-3 Minutes	5 Minutes	90 Seconds	90 Seconds
Demold Time	35 Minutes @ 110°C	1 Hour @ 100°C	1 Hour @ 100°C	1 Hour @ 100°C	1 Hour @ 100°C	1 Hour @ 212°F	1 Hour @ 100°C	15 Minutes @ 100°C	-
Post Cure Time	8 Hours @ 110°C	16 Hours @ 100°C	16 Hours @ 100°C	24 Hours @ 100°C	8 Hours @ 100°C	16 Hours @ 212°F	16 Hours @ 100°C	16 Hours @ 100°C	16 Hours @ 100°C

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Polyester Prepolymers

Property	A80T	A85M	A85T	A88T	A90T	A95T	A50DT
Appearance	Semi Solid / Super Cooled liquid	Light yellow solid	Waxy Solid	Semi Solid / Super Cooled liquid	Clear, light yellow viscous liquid	Semi Solid / Super Cooled liquid	Clear, Light yellow viscous liquid
NCO Content	3.3%	6.8%	3.5%	4.2%	4.5%	5.2%	5.6%
Viscosity	1275 CPS	1000 CPS	1250 CPS	2900 CPS	2140 CPS	700 CPS	1010 CPS
Specific Gravity	1.14	1.17	1.16	1.16	1.12	1.16	1.12
Curative	MBOCA	1,4-Butanediol (95%)	MBOCA	MBOCA	MBOCA	MBOCA	MBOCA
Durometer	Shore A 80	Shore A 83	Shore A 85	Shore A 88	Shore A 90	Shore A 95	Shore D 50
Modulus 100%	-	-	640psi	-	-	1275psi	-
Modulus 300%	-	-	1140psi	-	-	2550psi	-
Ultimate Tensile	6500psi	7172 psi	7100psi	5300psi	7244psi	7500psi	9404psi
Elongation	800%	720%	575%	550%	558%	450%	500%
Tear Die C	420pli	644 pli	420pli	560 pli	554pli	620pli	683pli
Tear Split, D-470	-	-	-	-	148pli	-	156pli
Resilience, Bashore	55%	32%	40%	38%	38%	38%	38%
Compression Set, Method B	-	18.8%	23%	-	-	26%	-
Processing Temperature	80-100°C	90-100°C	80-100°C	80-100°C	80-100°C	80-100°C	80-100°C
Pot Life	6 Minutes	7-8 Minutes	8 Minutes	5 Minutes	5-6 Minutes	3 Minutes	3-4 Minutes
Demold Time	35 Minutes	5 Hours @ 110°C	45 Minutes	20 Minutes	20 Minutes	20 Minutes	20 Minutes
Post Cure Time	8 Hours @ 100°C	16 Hours @ 100°C	8 Hours @ 100°C	16 Hours @ 100°C	16 Hours @ 100°C	8 Hours @ 100°C	16 Hours @ 100°C

Please note the information contained in this bulletin is a reference only and not meant as a specification. Please contact the technical service department at PUMA Polymers to obtain material specifications.

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