

Tecothane® TPU - Clear

Type: Medical Grade Aromatic Polyether-based Thermoplastic Polyurethanes (TPUs)

Features: Variety of hardnesses, good mechanical properties, good chemical resistance, and can be color-matched

Process: Extrusion and Injection Molding

Products & Properties	ASTM Test	TT-1074A	TT-1085A	TT-1095A	TT-1055D	TT-1065D	TT-1069D	TT-1072D	TT-1075D-M
Durometer (Shore Hardness)	D2240	75A	85A	94A	54D	64D	69D	74D	75D
Specific Gravity	D792	1.10	1.12	1.15	1.16	1.18	1.18	1.18	1.19
Flexural Modulus (psi)	D790	1,300	3,000	8,000	18,000	26,000	44,000	73,000	180,000
Ultimate Tensile (psi)	D412	6,000	7,000	9,000	9,600	10,000	8,800	9,000	8,300
Ultimate Elongation (%)	D412	550	450	400	350	300	310	275	150
Tensile Modulus (psi)	D412								
at 100% Elongation		500	800	1300	2500	2800	3200	3700	3600
at 200% Elongation		700	1000	2100	3800	4600	4200	3900	NA
at 300% Elongation		1100	1600	4300	6500	7800	NA	NA	NA
Mold Shrinkage (in/in)	D955	.008-.012	.008-.012	.006-.010	.004-.008	.004-.008	.004-.008	.004-.006	.004-.006

Note: These test results are based on small samples of Tecothane® polyurethanes and do not necessarily represent average results from larger test samples. This information should not be used for establishing engineering or manufacturing guidelines.

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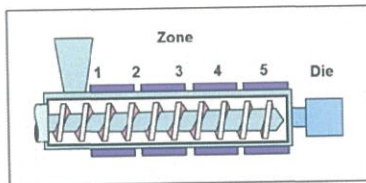
HANDLING CONSIDERATIONS

Properties of all thermoplastic polyurethane products in the molten state are adversely affected by moisture. For best results, always dry the material at least two hours at 95°C (200°F) or overnight at 80°C (180°F) in a machine mounted dehumidifying dryer (a desiccant dryer delivering air at 1 liter/sec/ kg at -40°C dew point (1 cfm/lb at -40°F dew point)). A dehumidifying dryer hopper or one shot loader is also recommended. Depending on the applied processing technique, the maximum moisture level should be 0.05%. Never exceed 500°F (260°C) melt temperature!

Processing Conditions:

- Tecothane® TPU's can be processed on any conventional extruder or molder.

Recommended Starting Extrusion Temperature Profile:

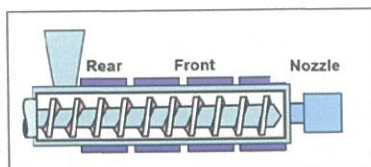


	TT-1074A	TT-1085A	TT-1095A	TT-1055D	TT-1065D	TT-1069D	TT-1072D	TT-1075D-M
	°F/°C	°F/°C	°F/°C	°F/°C	°F/°C	°F/°C	°F/°C	°F/°C
Zone 1	380/193.3	390/198.8	390/198.8	395/201.7	395/201.7	395/201.7	405/207.2	405/207.2
Zone 2	390/198.8	400/204.4	400/204.4	405/207.2	405/207.2	405/207.2	415/212.8	415/212.8
Zone 3	400/204.4	410/210	410/210	415/212.8	415/212.8	415/212.8	425/218.3	425/218.3
Zone 4	410/210	420/215.5	420/215.5	425/218.3	425/218.3	425/218.3	435/223.9	435/223.9
Adapter 5	420/215.5	420/215.5	420/215.5	425/218.3	425/218.3	425/218.3	435/223.9	435/223.9
Die	420/215.5	430/221.1	430/211.1	435/223.9	435/223.9	435/223.9	445/229.4	445/229.4

Screen Pack Recommendation: 100/500/250

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Recommended Starting Injection Molding Temperature Profile:



	TT-1074A	TT-1085A	TT-1095A	TT-1055D	TT-1065D	TT-1069D	TT-1072D	TT-1075D-M
	°F/°C	°F/°C	°F/°C	°F/°C	°F/°C	°F/°C	°F/°C	°F/°C
Rear	340/171.1	375/190.5	380/193.3	380/193.3	380/193.3	380/193.3	380/193.3	380/193.3
Front	360/182.2	385/196.1	395/201.6	395/201.6	395/201.6	395/201.6	395/201.6	395/201.6
Nozzle	365/185	390/198.8	400/204.4	405/207.2	410/210	410/210	410/210	410/210
Melt	<410/<210	<415/<212.7	<420/<215.5	<435/<223.8	<445/<229.4	<445/<229.4	<450/<232.2	<455/<235
Mold	50-90/10-32.2	50-110/10-43.3	50-120/10-48.8	50-130/10-54.4	50-130/10-54.4	50-130/10-54.4	50-130/10-54.4	50-130/10-54.4

For further information refer to Lubrizol Advanced Materials processing guides.

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