Lubrizol LifeSciences

Tecoflex® TPU - Clear

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

Features: Variety of hardesses, offers an inherent ultraviolet (UV) stability that resists yellowing by aging and sterilization, good mechanical properties and can be color-matched

Process: Extrusion and Injection Molding

Products & Properties	ASTM Test	EG-80A	EG-85A	EG-93A	EG-100A	EG-60D	EG-65D	EG-68D	EG-72D
Durometer (Shore Hardness)	D2240	72A	77A	87A	94A	51D	60D	63D	67D
Specific Gravity	D792	1.04	1.05	1.08	1.09	1.09	1.10	1.10	1.11
Flexural Modulus (psi)	D790	1,000	2,300	3,200	10,000	13,000	37,000	46,000	92,000
Ultimate Tensile (psi)	D412	5,800	6,200	7,700	8,200	8,300	8,300	8,300	8,100
Ultimate Elongation (%)	D412	660	550	390	370	360	360	350	310
Tensile Modulus (psi)	D412								
at 100% Elongation		300	600	1000	1600	1800	2200	2600	3400
at 200% Elongation		500	900	1900	3000	2900	3000	3700	4800
at 300% Elongation		800	1400	4300	5600	5600	6000	6300	7100
Mold Shrinkage (in/in)	D955	.008-.012	.008-.012	.006-.010	.006-.010	.004-.008	.004-.008	.004-.008	.004-.006

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

HANDLING CONSIDERATIONS

Lubrizol Advanced Materials, Inc. / 9911 Brecksville Road, Cleveland, Ohio 44141-3247 / 216.447.5000

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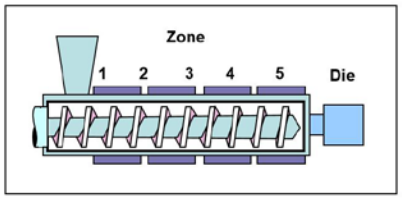
Properties of all thermoplastic polyurethane products in the molten state are adversely affected by moisture. For best results, always dry the material at least two hours at 65.5°C (150°F) or overnight at 54.4°C (130°F) in a machine mounted dehumidifying dryer (a desiccant dryer delivering air at 1 liter/sec/ 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:

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

Recommended Starting <u>Extrusion</u> Temperature Profile:



	EG-80A	EG-85A	EG-93A	EG-100A	EG-60D	EG-65D	EG-68D	EG-72D
	°F/°C	°F/°C	°F/°C	°F/°C	°F/°C	°F/°C	°F/°C	°F/°C
Zone 1	340/171.1	340/171.1	350/176.6	350/176.6	360/182.8	360/182.8	370/187.7	370/187.7
Zone 2	350/176.6	350/176.6	360/182.8	360/182.8	370/187.7	370/187.7	380/193.3	380/193.3
Zone 3	360/182.8	360/182.8	370/187.7	370/187.7	380/193.3	380/193.3	390/198.8	390/198.8
Zone 4	370/187.7	370/187.7	370/187.7	370/187.7	390/198.8	390/198.8	400/204.4	400/204.4
Adapter 5	370/187.7	370/187.7	370/187.7	370/187.7	400/204.4	400/204.4	410/210	410/210
Die	370/187.7	370/187.7	380/193.3	380/193.3	400/204.4	400/204.4	410/210	410/210

Screen Pack Recommendation: 100/500/250

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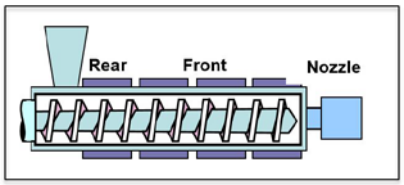
Recommended Starting Injection Molding Temperature Profile:



	EG-80A	EG-85A	EG-93A	EG-100A	EG-60D	EG-65D	EG-68D	EG-72D
	°F/°C	°F/°C	°F/°C	°F/°C	°F/°C	°F/°C	°F/°C	°F/°C
Rear	310/154.4	325/162.7	325/162.7	325/162.7	360/182.2	375/190.5	375/190.5	375/190.5
Front	325/162.7	325/162.7	325/162.7	350/176.6	375/190.5	390/198.8	400/204.4	410/210
Nozzle	335/168.3	335/168.3	335/168.3	360/182.2	380/193.3	400/204.4	400/204.4	410/510
Melt	<380/<193.3	<380/<193.3	<385/<196.1	<410/<210	<410/<210	<430/<221.1	<430/<221.1	<440/<226.6
Mold	40-80/4.4-26.6	40-80/4.4-26.6	50-100/10-37.7	50-110/10-43.3	50-120/10-48.8	50-120/10-48.8	50-120/10-48.8	50-130/10-54.4

For further information refer to Lubrizol Advanced Materials processing guides.

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