Lubrizol LifeSciences

Tecoflex® TPU – 20% Barium Sulfate

Type: Medical Grade Aliphatic Polyether-based Thermoplastic Polyurethanes (TPUs) with 20% loading of Barium Sulfate

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

Process: Extrusion and Injection Molding

Products & Properties	ASTM Test	EG-80A-B20	EG-85A-B20	EG-93A-B20	EG-100A-B20	EG-60D-B20	EG-65D-B20	EG-68D-B20	EG-72D- B20
Durometer (Shore Hardness)	D2240	73A	83A	90A	93A	55D	63D	73D	75D
Specific Gravity	D792	1.24	1.25	1.27	1.29	1.32	1.32	1.30	1.31
Flexural Modulus (psi)	D790	1,200	2,700	5,000	17,000	27,000	82,000	76,600	125,000
Ultimate Tensile (psi)	D412	5,100	5,600	6,900	7,100	7,500	7,000	7,000	6,500
Ultimate Elongation (%)	D412	710	630	440	370	370	320	340	270
Tensile Modulus (psi)	D412								
at 100% Elongation		400	700	1,000	1,700	2,000	2,900	2,700	3,600
at 200% Elongation		600	1,100	1,800	2,600	3,100	3,600	3,500	4,200
at 300% Elongation		900	1,600	3,100	4,900	5,600	6,000	5,600	NA
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.

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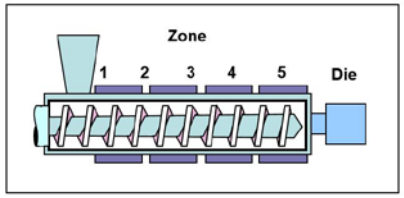
HANDLING CONDITIONS:

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 (270°C) melt temperature!

Processing Conditions:

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

Recommended Starting Extrusion Temperature Profile:



	EG-80A-B20	EG-85A-B20	EG-93A-B20	EG-100A-B20	EG-60D-B20	EG-65D-B20	EG-68D-B20	EG-72D-B20
	°F/°C	°F/°C	°F/°C	°F/°C	°F/°C	°F/°C	°F/°C	°F/°C
Zone 1	340/171.1	340/171.1	340/171.1	350/176.6	350/176.6	350/176.6	350/176.6	360/182.8
Zone 2	350/176.6	350/176.6	350/176.6	360/182.8	360/182.8	360/182.8	360/182.8	370/187.7
Zone 3	360.182.8	360/182.8	360/182.8	370/187.7	370/187.7	370/187.7	370/187.7	380/193.3
Zone 4	370/187.7	370/187.7	370/187.7	370/187.7	370/187.7	370/187.7	370/187.7	390/198.8
Adapter 5	370/187.7	370/187.7	370/187.7	370/187.7	370/187.7	370/187.7	370/187.7	390/198.8
Die	370/187.7	370/187.7	370/187.7	380/193.3	380/193.3	380/193.3	380/193.3	390/198.8

Screen Pack Recommendation: 50/250/100

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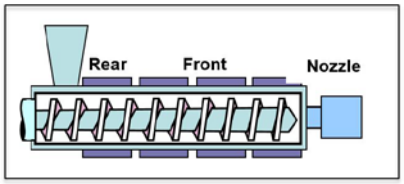
Recommended Starting <u>Injection Molding</u> Temperature Profile:



	EG-80A-B20	EG-85A-B20	EG-93A-B20	EG-100A-B20	EG-60D-B20	EG-65D-B20	EG-68D-B20	EG-72D-B20
	°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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