Generic TPU, Unspecified

Thermoplastic Polyurethane Elastomer

Generic

Message:

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This information is provided for comparative purposes only.

General Information			
Physical	**Nominal Value**	**Unit**	**Test Method**
Specific Gravity			
--	0.978 - 1.43	g/cm³	ASTM D792
23°C	0.938 - 1.22	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR) (230°C/2.16 kg)	0.80 - 5.0	g/10 min	ISO 1133
Molding Shrinkage - Flow (23°C)	0.35 - 3.7	%	ASTM D955
Water Absorption (23°C, 24 hr)	0.020 - 0.30	%	ASTM D570
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness (23°C)	50 - 110		ASTM D785
Durometer Hardness			
23°C	40 - 95		ASTM D2240
23°C	40 - 97		ISO 868
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus (23°C)	1450 - 2330	MPa	ASTM D638
Tensile Strength			
Yield, 23°C	8.27 - 76.5	MPa	ASTM D638
Fracture, 23°C	4.14 - 65.5	MPa	ASTM D638
Fracture, 23°C	18.3 - 50.0	MPa	ISO 527-2
23°C	1.31 - 12.9	MPa	ASTM D638
23°C	2.00 - 32.2	MPa	ISO 527-2
Tensile Stress (23°C)	2.47 - 16.1	MPa	ASTM D1708
Tensile Elongation			
Fracture, 23°C	20 - 580	%	ASTM D638
Fracture, 23°C	430 - 1100	%	ISO 527-2
Flexural Modulus (23°C)	22.1 - 79.9	MPa	ASTM D790
Flexural Strength (23°C)	1.45 - 83.0	MPa	ASTM D790
Taber Abrasion Resistance (23°C)	5.40 - 85.1	mg	ASTM D1044
Elastomers	**Nominal Value**	**Unit**	**Test Method**
Tensile Stress			
100% strain, 23°C	0.827 - 7.01	MPa	ASTM D412
100% strain, 23°C	0.900 - 16.0	MPa	ISO 37
300% strain, 23°C	2.07 - 29.6	MPa	ASTM D412

300% strain, 23°C	9.00 - 25.3	MPa	ISO 37
Tensile Strength			
Yield, 23°C	2.50 - 25.2	MPa	ASTM D412
Yield, 23°C	13.8 - 30.4	MPa	ISO 37
Fracture, 23°C	6.00 - 41.1	MPa	ASTM D412
Tensile Elongation			
Fracture, 23°C	190 - 1200	%	ASTM D412
Fracture, 23°C	450 - 980	%	ISO 37
Tear Strength			
23°C	19.3 - 136	kN/m	ASTM D624
23°C	26 - 150	kN/m	ISO 34-1
Compression Set			
--	13 - 70	%	ASTM D395
23°C	18 - 53	%	ISO 815

Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C)	260 - 870	J/m	ASTM D256

Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Unannealed)	71.9 - 79.4	°C	ASTM D648
Glass Transition Temperature	-67.0 - 79.0	°C	ASTM E1356
Vicat Softening Temperature	66.7 - 105	°C	ASTM D1525

Injection	Nominal Value	Unit
Drying Temperature	79.8 - 113	°C
Drying Time	1.5 - 10	hr
Suggested Max Moisture	0.010 - 0.030	%
Rear Temperature	164 - 241	°C
Middle Temperature	160 - 246	°C
Front Temperature	169 - 248	°C
Nozzle Temperature	170 - 254	°C
Processing (Melt) Temp	171 - 247	°C
Mold Temperature	20.0 - 74.0	°C
Injection Pressure	6.00 - 103	MPa
Back Pressure	0.433 - 5.52	MPa
Screw Speed	50 - 60	rpm

Injection instructions

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Extrusion	Nominal Value	Unit
Drying Temperature	48.4 - 113	°C
Drying Time	1.5 - 5.0	hr
Cylinder Zone 1 Temp.	149 - 238	°C
Cylinder Zone 3 Temp.	159 - 233	°C
Cylinder Zone 5 Temp.	180 - 233	°C

Melt Temperature	189 - 230	°C
Die Temperature	188 - 235	°C

Extrusion instructions

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Recommended distributors for this material

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