DuPont™ Hytrel®

thermoplastic polyester elastomer

Hytrel® 3078

Hytrel® 3078 is a very low modulus grade, with nominal hardness of 30D. It contains non-discoloring stabilizer. It can be processed by many conventional thermoplastic processing techniques like injection molding and extrusion.

Property	Test Method	Units	Value
Identification			
Resin Identification	ISO 1043		TPC-ET
Part Marking Code	ISO 11469		>TPC-ET<
Mechanical			
Tensile Stress	ISO 527	MPa (kpsi)	
@ 10% Strain			1.8 (0.3)
@ 50% Strain			5.0 (0.7)
Stress at Break	ISO 527	MPa (kpsi)	24 (3.4)
Strain at Break	ISO 527	%	740
Nominal Strain at Break	ISO 527	%	900
Flexural Modulus	ISO 178	MPa (kpsi)	
-40°C (-40°F)			150 (21)
23°C (73°F)			23 (3.3)
100°C (212°F)			14 (2)
Hardness, Shore D	ISO 868		
Maximum			30
Notched Charpy Impact Strength	ISO 179/1eA	kJ/m^2	
-40°C (-40°F)			NB
-30°C (-22°F)			NB
23°C (73°F)			NB
Unnotched Charpy Impact Strength	ISO 179/1eU	kJ/m^2	
-30°C (-22°F)			NB
23°C (73°F)			NB
Brittleness Temperature	ISO 974	°C (°F)	-100 (-148)

Contact DuPont for Material Safety Data Sheet, general guides and/or additional information about ventilation, handling, purging, drying, etc.
Test specimen for ISO 527 is 1BA (2mm) at 50mm/min; all other ISO & ASTM mechanical properties measured at 4mm; ISO electrical properties measured at 2mm.
All mechanical & electrical properties measured on injection molded specimens.
Test temperatures are 23°C unless otherwise stated.

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Property	Test Method	Units	Value
Mechanical			
Tear Strength	ISO 34-1 method B/a	kN/m (lb/in)	
Parallel			80 (457.1)
Thermal			
Melting Temperature	ISO 11357-1/-3	°C (°F)	
10°C/min			177 (350)
CLTE, Normal	ISO 11359-1/-2	E-4/C (E-4/F)	
-40 - 23°C (-40 - 73°F)			3.2 (1.78)
23 - 55°C (73 - 130°F)			2.06 (1.15)
CLTE, Parallel	ISO 11359-1/-2	E-4/C (E-4/F)	
-40 - 23°C (-40 - 73°F)			2.1 (1.17)
23 - 55°C (73 - 130°F)			1.77 (0.98)
Glass Transition Temperature	ISO 11357-1/-2	°C (°F)	
10°C/min			-60 (-76)
Vicat Softening Temperature	ISO 306	°C (°F)	
10N, 50°C/h			80 (176)
Rheological			
Melt Mass-Flow Rate	ISO 1133	g/10 min	
190°C, 2.16kg			5.0
Electrical			
Surface Resistivity	IEC 60093	ohm	2E14
Relative Permittivity	IEC 60250		
1E2 Hz			4.9
1E6 Hz			4.8
Volume Resistivity	IEC 60093	ohm m	9E10
Dissipation Factor	IEC 60250	E-4	
1E2 Hz			70
1E6 Hz			125
Electric Strength	IEC 60243-1	kV/mm	18

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Property	Test Method	Units	Value
Electrical			
CTI	IEC 60112	V	>600
CTI	UL 746A	V	
3.0mm			>600
Flammability			
Flammability Classification	IEC 60695-11-10		
1.5mm			HB
3.0mm			HB
Flammability Classification	UL94		
1.5mm			HB
3.0mm			HB
Oxygen Index	ISO 4589-1/-2	%	19
High Amperage Arc Ignition Resistance	UL 746A	arcs	
3.0mm			>200
Hot Wire Ignition	UL 746A	s	
3.0mm			24
Temperature Index			
RTI, Electrical	UL 746B	°C	
1.5mm			50
3.0mm			50
RTI, Impact	UL 746B	°C	
1.5mm			50
3.0mm			50
RTI, Strength	UL 746B	°C	
1.5mm			50
3.0mm			50

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Property	Test Method	Units	Value
Other			
Density	ISO 1183	kg/m^3 (g/cm^3)	1070 (1.07)
Water Absorption	ISO 62	%	
Equilibrium 50%RH			0.2
Immersion 24h			0.5
Saturation, immersed			0.8
Molding Shrinkage	ISO 294-4	%	
Normal, 2.0mm			0.7
Parallel, 2.0mm			0.6
Processing - Injection Molding			
Melt Temperature Optimum		°C (°F)	205 (400)
Mold Temperature Range		°C (°F)	30-40 (85-100)
Mold Temperature Optimum		°C (°F)	30 (85)
Drying Time, Dehumidified Dryer		h	2-3
Drying Temperature		°C (°F)	80 (175)
Processing Moisture Content		%	<0.08
Processing - Extrusion			
Melt Temperature Optimum		°C (°F)	200 (392)
Drying Time, Dehumidified Dryer		h	2-3
Drying Temperature		°C (°F)	80 (175)
Processing Moisture Content		%	<0.08

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