

DuPont™ Hytrel®

thermoplastic polyester elastomer

Hytrel® 6356

Hytrel® 6356 is a medium modulus grade with nominal hardness of 63D. 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)	
@ 5% Strain			12 (1.7)
@ 10% Strain			15 (2.2)
Yield Stress	ISO 527	MPa (kpsi)	19 (2.8)
Stress at Break	ISO 527	MPa (kpsi)	46 (6.7)
Strain at Break	ISO 527	%	490
Nominal Strain at Break	ISO 527	%	540
Yield Strain	ISO 527	%	35
Tensile Modulus	ISO 527	MPa (kpsi)	280 (41)
Tensile Creep Modulus	ISO 899	MPa (kpsi)	
1h			248 (36)
1000h			182 (26.4)
Flexural Modulus	ISO 178	MPa (kpsi)	296 (43)
Hardness, Shore D	ISO 868		
15s			58
Maximum			63
Tensile Impact Strength	ISO 8256	kJ/m ²	300
Notched Charpy Impact Strength	ISO 179/1eA	kJ/m ²	
-40°C (-40°F)			15
-30°C (-22°F)			25
23°C (73°F)			120

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			
Brittleness Temperature	ISO 974	°C (°F)	<-100 (<-148)
Tear Strength	ISO 34-1 method B/a	kN/m (lb/in)	
Normal			145 (829)
Parallel			158 (903)
Thermal			
Deflection Temperature	ISO 75f	°C (°F)	
0.45MPa			85 (190)
1.80MPa			45 (113)
Melting Temperature	ISO 11357-1/-3	°C (°F)	
10°C/min			211 (412)
CLTE, Normal	ISO 11359-1/-2	E-4/C (E-4/F)	
-40 - 23°C (-40 - 73°F)			1.48 (0.82)
23 - 55°C (73 - 130°F)			1.76 (0.98)
55 - 120°C (130 - 248°F)			1.79 (0.99)
CLTE, Parallel	ISO 11359-1/-2	E-4/C (E-4/F)	
-40 - 23°C (-40 - 73°F)			1.54 (0.86)
23 - 55°C (73 - 130°F)			1.78 (0.99)
55 - 120°C (130 - 248°F)			1.81 (1.01)
Glass Transition Temperature	ISO 11357-1/-2	°C (°F)	
10°C/min			0 (32)
Vicat Softening Temperature	ISO 306	°C (°F)	
10N, 50°C/h			195 (383)
Rheological			
Melt Mass-Flow Rate	ISO 1133	g/10 min	
230°C, 2.16kg			9
Electrical			
Surface Resistivity	IEC 60093	ohm	>1E15
Relative Permittivity	IEC 60250		
1E2 Hz			4.6
1E6 Hz			4.1
Volume Resistivity	IEC 60093	ohm m	8E11

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Electrical			
Dissipation Factor	IEC 60250	E-4	
1E2 Hz			120
1E6 Hz			360
Electric Strength	IEC 60243-1	kV/mm	20
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	%	21
High Amperage Arc Ignition Resistance	UL 746A	arcs	
3.0mm			>200
Hot Wire Ignition	UL 746A	s	
3.0mm			31
Temperature Index			
RTI, Electrical	UL 746B	°C	
1.5mm			85
3.0mm			85
RTI, Impact	UL 746B	°C	
1.5mm			85
3.0mm			85
RTI, Strength	UL 746B	°C	
1.5mm			75
3.0mm			80

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Property	Test Method	Units	Value
Other			
Density	ISO 1183	kg/m ³ (g/cm ³)	1220 (1.22)
Water Absorption	ISO 62	%	
Equilibrium 50%RH			0.2
Immersion 24h			0.5
Saturation, immersed			0.6
Molding Shrinkage	ISO 294-4	%	
Normal, 2.0mm			1.5
Parallel, 2.0mm			1.5
Fogging	SAE J1756	%	
Ford 3h,100°C/21°C			99.5
Processing - Injection Molding			
Melt Temperature Optimum		°C (°F)	240 (465)
Mold Temperature Range		°C (°F)	45-55 (115-130)
Mold Temperature Optimum		°C (°F)	45 (115)
Drying Time, Dehumidified Dryer		h	2-3
Drying Temperature		°C (°F)	100 (210)
Processing Moisture Content		%	<0.08
Snake Flow		mm (in)	
Inject press 62MPa(9000psi), 1mm (0.040in)			79 (3.1)
Inject press 62MPa(9000psi), 2.5mm (0.100in)			330 (13)
Inject press 83MPa(12,000psi), 1mm (0.040in)			94 (3.7)
Inject press 83MPa(12,000psi), 2.5mm (0.100in)			430 (17)
Processing - Extrusion			
Melt Temperature Optimum		°C (°F)	230 (446)
Drying Time, Dehumidified Dryer		h	2-3
Drying Temperature		°C (°F)	100 (210)
Processing Moisture Content		%	<0.08

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