Hytrel® 7246

THERMOPLASTIC POLYESTER ELASTOMER

Technical Data

Product Description			
72 Shore D High Performance Polyester Elastomer			
General			
Material Status	•Commercial: Active		
Literature 1	•Processing - Extrusion (English) •Processing - Injection Molding (English) •Typical Processing for DuPont Engineering Polymers (English)		
UL Yellow Card 2	•E83247-251141 • E41938-258356		
Search for UL Yellow Card	•DuPont Transportation & Industrial • Hytrel®		
Availability	•Africa & Middle East •Asia Pacific	•Europe •Latin America	•North America
Additive	•UV Stabilizer		
Features	•UV Stabilized		
RoHS Compliance	•Contact Manufacturer • Pellets		
Forms	•Casting •Extrusion	•Film Extrusion •Injection Molding	• Sheet Extrusion • Thermoforming
Processing Method	•Creep Modulus vs. Time (ISO 11403-1)		
Multi-Point Data	•Isochronous Stress vs. Strain (ISO 11403-1) •Isothermal Stress vs. Strain (ISO 11403-1) •Isothermal Stress vs. Strain (TPE) (ISO 11403-1) •Secant Modulus vs. Strain (ISO 11403-1) •Shear Modulus vs. Temperature (ISO 11403-1) •Shear Modulus vs. Temperature, Dynamic (ISO 11403-1) •Shear Stress vs. Shear Rate (ISO 11403-1) •Tensile Modulus vs. Temperature, Dynamic (ISO 11403-1) •Viscosity vs. Shear Rate (ISO 11403-2)		
Part Marking Code (ISO 11469)	>TPC-ET<		
Resin ID (ISO 1043)			
ISO Designation	•TPC-ET •ISO 20029-TPC-ET,,GLN,70-22-075		

Physical	Nominal Value	Unit	Test Method
Density	1.26	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR) (240°C/2.16 kg)	13	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (240°C/2.16 kg)	12	cm³/10min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow	1.6	%	
Flow	1.6	%	
Water Absorption	0.30	%	ISO 62
24 hr, 23°C	0.60	%	
Saturation, 23°C, 2.00 mm	0.20	%	
Equilibrium, 23°C, 2.00 mm, 50% RH			

Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	550	MPa	ISO 527-2
Tensile Stress			ISO 527-2
Yield	27.0	MPa	
Break	50.0	MPa	
5.0% Strain	14.0	MPa	
10% Strain	23.0	MPa	
50% Strain	24.0	MPa	

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Mechanical	Nominal ValueUnit	Test Method
Tensile Strain		ISO 527-2
Yield	23%	
Break	> 300%	
Nominal Tensile Strain at Break	530%	ISO 527-2
Tensile Creep Modulus		ISO 899-1
1 hr	360MPa	
1000 hr	310MPa	
Flexural Modulus	550MPa	ISO 178
Shear Modulus	280MPa	ISO 6721
Poisson's Ratio	0.47	
Abrasion Resistance	100mm³	ISO 4649
Elastomers	**Nominal ValueUnit**	**Test Method**
Tear Strength		ISO 34-1
Across Flow	172kN/m	
Flow	182kN/m	
Impact	**Nominal ValueUnit**	**Test Method**
Charpy Notched Impact Strength		ISO 179/1eA
-40°C	7.0 kJ/m²	
-30°C	8.0 kJ/m²	
23°C	36 kJ/m²	
Notched Izod Impact Strength		ISO 180/1A
-40°C	7.0 kJ/m²	
23°C	38 kJ/m²	
Tensile Impact Strength (23°C)	300 kJ/m²	ISO 8256/1
Hardness	**Nominal ValueUnit**	**Test Method**
Shore Hardness		ISO 7619
Shore D	68	
Shore D, 15 sec	64	
Thermal	**Nominal ValueUnit**	**Test Method**
Heat Deflection Temperature		
0.45 MPa, Unannealed	100 °C	ISO 75-2/B
1.8 MPa, Unannealed	50.0 °C	ISO 75-2/A
Brittleness Temperature	-97.0 °C	ISO 974
Glass Transition Temperature 4	25.0 °C	ISO 11357-2
Vicat Softening Temperature		
--	140 °C	ISO 306/B50
--	205 °C	ISO 306/A50
Melting Temperature 4	218 °C	ISO 11357-3
CLTE		ISO 11359-2
Flow	1.8E-4cm/cm/°C	
Flow : -40 to 23°C	1.2E-4 cm/cm/°C	
Transverse	1.7E-4cm/cm/°C	
Transverse : -40 to 23°C	1.3E-4cm/cm/°C	
Effective Thermal Diffusivity	8.00E-8 m²/s	

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Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+15	ohms	IEC 62631-3-2
Volume Resistivity	2.0E+10	ohms·m	IEC 62631-3-1
Electric Strength	20	kV/mm	IEC 60243-1
Relative Permittivity			IEC 62631-2-1
1 MHz	3.50		
100 Hz	4.00		
Dissipation Factor	0.016		IEC 62631-2-1
100 Hz	0.030		
1 MHz			
Comparative Tracking Index	600	V	IEC 60112

Flammability	Nominal Value	Unit	Test Method
Flame Rating (1.5 mm)	HB		UL 94 IEC 60695-11-10, -20
Oxygen Index	23	%	ISO 4589-2
FMVSS Flammability	DNI		FMVSS 302

Fill Analysis	Nominal Value	Unit
Melt Density	1.11	g/cm³
Specific Heat Capacity of Melt	2150	J/kg/°C
Thermal Conductivity of Melt	0.15	W/m/K

Additional Information	Nominal Value	Unit	Test Method
Emission of Organic Compounds	300	µgC/g	VDA 277

Injection	Nominal Value	Unit
Drying Temperature	110	°C
Drying Time - Desiccant Dryer	2.0 to 3.0	hr
Suggested Max Moisture	0.080	%
Processing (Melt) Temp	240 to 260	°C
Melt Temperature, Optimum	245	°C
Mold Temperature	45 to 55	°C
Mold Temperature, Optimum	45	°C
Holding Pressure	70.0	MPa
Drying Recommended	yes	

Extrusion	Nominal Value	Unit
Drying Temperature	100 to 120	°C
Drying Time	2.0 to 3.0	hr
Suggested Max Moisture	0.060	%
Melt Temperature	225 to 245	°C
Extrusion Melt Temperature, Optimum	235	°C

Notes

[1] These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

[2] A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL Prospector continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.

[3] Typical properties: these are not to be construed as specifications.

[4] 10°C/min