

Hytrel® G5544

THERMOPLASTIC POLYESTER ELASTOMER

DuPont Performance Polymers

Message:

55 Shore D Standard Performance Polyester Elastomer with Heat Ageing Protection

General Information			
UL YellowCard	E41938-234594		
Additive	Heat Stabilizer		
Features	Heat Stabilized		
Uses	Blow Molding Applications		
	Film		
	Profiles		
	Sheet		
Agency Ratings	UL Unspecified Rating		
Forms	Pellets		
Processing Method	Blow Molding		
	Casting		
	Extrusion		
	Film Extrusion		
	Injection Molding		
	Profile Extrusion		
	Sheet Extrusion		
	Thermoforming		
Multi-Point Data	Creep Modulus vs. Time (ISO 11403-1)		
	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 Stress vs. Shear Rate (ISO 11403-1)		
	Specific Volume vs Temperature (ISO 11403-2)		
	Viscosity vs. Shear Rate (ISO 11403-2)		
Part Marking Code (ISO 11469)	>TPC-ET<		
Resin ID (ISO 1043)	TPC-ET		
Physical	Nominal Value	Unit	Test Method
Density	1.22	g/cm³	ISO 1183

Melt Mass-Flow Rate (MFR) (230°C/2.16 kg)	10	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (230°C/2.16 kg)	10.0	cm ³ /10min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow	1.6	%	
Flow	1.6	%	
Water Absorption			
24 hr	1.6	%	ASTM D570
23°C, 24 hr, 2.00 mm	2.2	%	ISO 62
Equilibrium, 23°C, 2.00 mm, 50% RH	0.40	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Shore Hardness			ISO 868
Shore D	56		
Shore D, 15 sec	51		
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	200	MPa	ISO 527-2
Tensile Stress			ISO 527-2
Break	33.0	MPa	
5.0% Strain	8.10	MPa	
10% Strain	11.7	MPa	
50% Strain	9.00	MPa	
Tensile Strain (Break)	> 300	%	ISO 527-2
Nominal Tensile Strain at Break	290	%	ISO 527-2
Tensile Creep Modulus			ISO 899-1
1 hr	110	MPa	
1000 hr	85.0	MPa	
Flexural Modulus	190	MPa	ISO 178
Elastomers	Nominal Value	Unit	Test Method
Tear Strength			ISO 34-1
Across Flow	110	kN/m	
Flow	120	kN/m	
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-40°C	14	kJ/m ²	
-30°C	45	kJ/m ²	
23°C, Partial Break	90	kJ/m ²	
Charpy Unnotched Impact Strength (23°C)	No Break		ISO 179/1eU
Notched Izod Impact Strength			ISO 180/1A
-40°C	27	kJ/m ²	
23°C	64	kJ/m ²	
Tensile Impact Strength (23°C)	285	kJ/m ²	ISO 8256/1
Thermal	Nominal Value	Unit	Test Method

Brittleness Temperature	-61.0	°C	ISO 974
Glass Transition Temperature ¹	-35.0	°C	ISO 11357-2
Melting Temperature ²	214	°C	ISO 11357-3
CLTE			ISO 11359-2
Flow	2.1E-4	cm/cm/°C	
Transverse	1.9E-4	cm/cm/°C	
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	1.0E+14	ohms	IEC 60093
Volume Resistivity	3.0E+12	ohms·cm	IEC 60093
Electric Strength	19	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
100 Hz	5.00		
1 MHz	4.50		
Dissipation Factor			IEC 60250
100 Hz	0.020		
1 MHz	0.040		
Flammability	Nominal Value	Unit	Test Method
Burning Rate (1.00 mm)	25	mm/min	ISO 3795
Flammability Classification			IEC 60695-11-10, -20
1.50 mm	HB		
3.00 mm	HB		
Oxygen Index	19	%	ISO 4589-2
Fill Analysis	Nominal Value	Unit	Test Method
Melt Density	1.05	g/cm ³	
Specific Heat Capacity of Melt	2110	J/kg/°C	
Thermal Conductivity of Melt	0.15	W/m/K	
Effective Thermal Diffusivity	0.0544	cSt	
Odor	3		VDA 270
NOTE			
1.	10°C/min		
2.	10°C/min		

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Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China



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