

Product Texts

Common features of Hytrel® thermoplastic polyester elastomer include mechanical and physical properties such as exceptional toughness and resilience, high resistance to creep, impact and flex fatigue, flexibility at low temperatures and good retention of properties at elevated temperatures. In addition, it resists many industrial chemicals, oils and solvents. Special grades include heat stabilised, flame retardant, food contact compliant, blow molding and extrusion grades. Concentrates offered include black pigments, UV protection additives, heat stabilisers, and flame retardants. Hytrel® thermoplastic polyester elastomer is plasticiser free.

The good melt stability of Hytrel® thermoplastic polyester elastomer normally enables the recycling of properly handled production waste. If recycling is not possible, we recommend, as the preferred option, incineration with energy recovery (-24 kJ/g of base polymer) in appropriately equipped installations. For disposal, local regulations have to be observed.

Hytrel® thermoplastic polyester elastomer typically is used in demanding applications in the automotive, fluid power, electrical/electronic, consumer goods, appliance and power tool, sporting goods, furniture, industrial and off-road transportation/equipment industry.

Hytrel® 5526 is a medium modulus Hytrel® grade with nominal durometer hardness of 55D. It contains non-discoloring stabilizer. It is specially recommended for injection molding applications requiring high flow properties.

Typical applications:

Seals, packing and gaskets; gears and bearings.

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
^[C] Melt volume-flow rate, MVR	17.5	cm ³ /10min	ISO 1133
Temperature	220	°C	-
Load	2.16	kg	-
^[C] Molding shrinkage, parallel	1.4	%	ISO 294-4, 2577
^[C] Molding shrinkage, normal	1.4	%	ISO 294-4, 2577
^[C] Density of melt	1040	kg/m ³	-
^[C] Thermal conductivity of melt	0.19	W/(m K)	-
^[C] Spec. heat capacity of melt	2110	J/(kg K)	-
^[C] Eff. thermal diffusivity	9E-8	m ² /s	-
ASTM Data			
Melt Flow Index, MFI	18	g/10min	ASTM D 1238
Mold Shrinkage, MD	0.014	mm/mm	ASTM D 955

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Mechanical properties	Value	Unit	Test Standard
ISO Data			
^[C] Tensile Modulus	190	MPa	ISO 527
^[C] Tensile creep modulus, 1h	170	MPa	ISO 899-1
^[C] Tensile creep modulus, 1000h	130	MPa	ISO 899-1
^[C] Charpy impact strength, +23°C	N	kJ/m ²	ISO 179/1eU
^[C] Charpy impact strength, -30°C	N	kJ/m ²	ISO 179/1eU
^[C] Charpy notched impact strength, +23°C	N	kJ/m ²	ISO 179/1eA
^[C] Charpy notched impact strength, -30°C	150	kJ/m ²	ISO 179/1eA
^[C] Tensile notched impact strength, +23°C	270	kJ/m ²	ISO 8256/1
^[C] Stress at 10% elongation	11	MPa	ISO 527
^[C] Stress at break TPE	40	MPa	ISO 527
^[C] Strain at break TPE	>300	%	ISO 527
^[C] Abrasion resistance	120	mm ³	ISO 4649
^[C] Shore D hardness	51	-	ISO 7619-1
ASTM Data			
Tensile Strength at Break	40	MPa	ASTM D 638
Elongation at Break	550	%	ASTM D 638
Flexural Modulus	207	MPa	ASTM D 790
Shore D Hardness	55	-	ASTM D 2240
Izod Impact notched, 1/8 in	N	J/m	ASTM D 256
Izod Impact notched, Low-Temperature	128	J/m	ASTM D 256
Temperature	-40	°C	-

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Thermal properties	Value	Unit	Test Standard
ISO Data			
^[C] Melting temperature, 10°C/min	203	°C	ISO 11357-1/-3
^[C] Glass transition temperature, 10°C/min	-25	°C	ISO 11357-1/-2
^[C] Temp. of deflection under load, 1.80 MPa	45	°C	ISO 75-1/-2
^[C] Temp. of deflection under load, 0.45 MPa	65	°C	ISO 75-1/-2
^[C] Vicat softening temperature, B	75	°C	ISO 306
^[C] Coeff. of linear therm. expansion, parallel	200	E-6/K	ISO 11359-1/-2
^[C] Coeff. of linear therm. expansion, normal	200	E-6/K	ISO 11359-1/-2
^[C] Burning Behav. at 1.5 mm nom. thickn.	HB	class	IEC 60695-11-10
Thickness tested	1.5	mm	-
Yellow Card available	yes	-	-
^[C] Burning Behav. at thickness h	HB	class	IEC 60695-11-10
Thickness tested	3.0	mm	-
Yellow Card available	yes	-	-
^[C] Burning rate, FMVSS, Thickness 1 mm	28	mm/min	ISO 3795 (FMVSS 302)
^[C] Oxygen index	21	%	ISO 4589-1/-2
ASTM Data			
UL 94 Flame rating	HB	-	UL 94
Thickness tested	1.5	mm	-
Coefficient of Thermal Expansion, MD	187	E-6/K	ASTM D 696
Coefficient of Thermal Expansion, TD	171	E-6/K	ASTM D 696
DTUL @ 66 psi	90	°C	ASTM D 648
DTUL @ 264 psi	49	°C	ASTM D 648
Melting Temperature	203	°C	ASTM D 3418

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Electrical properties	Value	Unit	Test Standard
ISO Data			
^[C] Relative permittivity, 100Hz	4.9	-	IEC 62631-2-1
^[C] Relative permittivity, 1MHz	4.6	-	IEC 62631-2-1
^[C] Dissipation factor, 100Hz	90	E-4	IEC 62631-2-1
^[C] Dissipation factor, 1MHz	375	E-4	IEC 62631-2-1
^[C] Volume resistivity	4E11	Ohm*m	IEC 62631-3-1
^[C] Surface resistivity	>1E15	Ohm	IEC 62631-3-2
^[C] Electric strength	20	kV/mm	IEC 60243-1
^[C] Comparative tracking index	600	-	IEC 60112
ASTM Data			
Dielectric Strength, Short Time	17.3	kV/mm	ASTM D 149
Dissipation Factor, 1 MHz	0.04	-	ASTM D 150
Dielectric Constant, 1 MHz	4.5	-	ASTM D 150

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Other properties	Value	Unit	Test Standard
^[C] Water absorption	0.6	%	Sim. to ISO 62
^[C] Humidity absorption	0.2	%	Sim. to ISO 62
^[C] Density	1190	kg/m ³	ISO 1183
Water Absorption, 24hr	0.5	%	ASTM D 570
Density	1200	kg/m ³	ASTM D 792

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Characteristics

Processing

Injection Molding, Thermoforming, Rotational Molding

Chemical Resistance

Oxidation Resistance

Delivery form

Pellets

Additives

Release agent

Special Characteristics

Platable, High impact or impact modified, Light stabilized or stable to light, Heat stabilized or stable to heat

Features

Color Stability, Creep Resistance

Certifications

Food contact, Food approval FDA 21 CFR

Applications

Automotive

Regional Availability

North America, Europe, Asia Pacific, South and Central America, Near East/Africa