

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® 4068FG is a high performance thermoplastic polyester elastomer developed for applications in contact with food.

FOOD CONTACT

This product is manufactured according to Good Manufacturing Practice (GMP) principles and generally accepted in food contact applications in Europe and the USA when meeting applicable use conditions. For details, individual compliance statements are available from our representative.

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
^[C] Melt volume-flow rate, MVR	8.8	cm ³ /10min	ISO 1133
Temperature	220	°C	-
Load	2.16	kg	-
^[C] Molding shrinkage, parallel	1.0	%	ISO 294-4, 2577
^[C] Molding shrinkage, normal	0.9	%	ISO 294-4, 2577
^[C] Eff. thermal diffusivity	5.44E-8	m ² /s	-

[C]: CAMPUS

Mechanical properties	Value	Unit	Test Standard
ISO Data			
^[C] Tensile creep modulus, 1000h	21	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	N	kJ/m ²	ISO 179/1eA
^[C] Tensile notched impact strength, +23°C	145	kJ/m ²	ISO 8256/1
^[C] Stress at 10% elongation	3.5	MPa	ISO 527
^[C] Stress at break TPE	29	MPa	ISO 527
^[C] Strain at break TPE	>300	%	ISO 527
^[C] Abrasion resistance	180	mm ³	ISO 4649
^[C] Shore D hardness	31	-	ISO 7619-1

ASTM Data

Shore D Hardness	40	-	ASTM D 2240
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[C]: CAMPUS

Thermal properties	Value	Unit	Test Standard
ISO Data			
^[C] Melting temperature, 10°C/min	193	°C	ISO 11357-1/-3
^[C] Glass transition temperature, 10°C/min	-50	°C	ISO 11357-1/-2
^[C] Coeff. of linear therm. expansion, parallel	230	E-6/K	ISO 11359-1/-2
^[C] Coeff. of linear therm. expansion, normal	230	E-6/K	ISO 11359-1/-2

[C]: CAMPUS

Electrical properties	Value	Unit	Test Standard
ISO Data			
^[C] Relative permittivity, 100Hz	4.8	-	IEC 62631-2-1

Hytre[®] 4068FG

TPC

Celanese

[C] Relative permittivity, 1MHz	4.7	-	IEC 62631-2-1
[C] Electric strength	18	kV/mm	IEC 60243-1
[C] Comparative tracking index	600	-	IEC 60112

[C]: CAMPUS

Other properties	Value	Unit	Test Standard
[C] Water absorption	0.7	%	Sim. to ISO 62
[C] Humidity absorption	0.3	%	Sim. to ISO 62
[C] Density	1110	kg/m ³	ISO 1183

[C]: CAMPUS

Characteristics

Processing

Injection Molding, Film Extrusion, Profile Extrusion, Sheet Extrusion, Other Extrusion, Casting, Thermoforming

Special Characteristics

Platable, Light stabilized or stable to light, Heat stabilized or stable to heat

Delivery form

Pellets, Natural Color

Certifications

Food contact

Additives

Release agent

Regional Availability

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

Other text information

Injection molding

PREPROCESSING

Drying temperature = 100°C

Drying time, dehumidified dryer = 2-3 h

Processing moisture content = <0.06 %

PROCESSING

Melt temperature range = 205-230°C

Melt temperature optimum = 215°C

Profile extrusion

PREPROCESSING

Drying temperature = 100°C

Drying time, dehumidified dryer = 2-3 h

Processing moisture content = <0.06 %

PROCESSING

Melt temperature range = 205-230°C

Melt temperature optimum = 215°C