

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® HTR4275 BK316 is designed for blow molding, extrusion or processing techniques requiring high melt viscosity. It has nominal hardness of 55D, is pigmented black with fine particle size carbon black, and contains a general purpose stabilizer.

Typical applications:

Hollow thin wall parts requiring a tough polymer with excellent flexibility and temperature properties such as automotive boots.

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
^[C] Melt volume-flow rate, MVR	6	cm ³ /10min	ISO 1133
Temperature	230	°C	-
Load	10	kg	-
^[C] Molding shrinkage, parallel	1.7	%	ISO 294-4, 2577
^[C] Molding shrinkage, normal	1.9	%	ISO 294-4, 2577
^[C] Density of melt	1000	kg/m ³	-
^[C] Thermal conductivity of melt	0.15	W/(m K)	-
^[C] Spec. heat capacity of melt	2100	J/(kg K)	-
^[C] Eff. thermal diffusivity	5.44E-8	m ² /s	-

[C]: CAMPUS

Mechanical properties	Value	Unit	Test Standard
ISO Data			
^[C] Tensile Modulus	160	MPa	ISO 527
^[C] Tensile creep modulus, 1h	140	MPa	ISO 899-1
^[C] Tensile creep modulus, 1000h	90	MPa	ISO 899-1
^[C] Charpy impact strength, +23°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	160	kJ/m ²	ISO 179/1eA
^[C] Tensile notched impact strength, +23°C	410	kJ/m ²	ISO 8256/1
^[C] Stress at 10% elongation	10.4	MPa	ISO 527
^[C] Stress at 100% elongation	21	MPa	ISO 527
^[C] Stress at break TPE	37	MPa	ISO 527
^[C] Strain at break TPE	>300	%	ISO 527
^[C] Shore D hardness	52	-	ISO 7619-1

ASTM Data

Flexural Modulus	160	MPa	ASTM D 790
Shore D Hardness	55	-	ASTM D 2240

[C]: CAMPUS

Thermal properties	Value	Unit	Test Standard
ISO Data			
^[C] Melting temperature, 10°C/min	192	°C	ISO 11357-1/-3
^[C] Glass transition temperature, 10°C/min	-30	°C	ISO 11357-1/-2
^[C] Temp. of deflection under load, 1.80 MPa	41	°C	ISO 75-1/-2
^[C] Temp. of deflection under load, 0.45 MPa	57	°C	ISO 75-1/-2
^[C] Coeff. of linear therm. expansion, parallel	181	E-6/K	ISO 11359-1/-2
^[C] Coeff. of linear therm. expansion, normal	185	E-6/K	ISO 11359-1/-2

Hytre® HTR4275 BK316

TPC

Celanese

[C] Burning Behav. at 1.5 mm nom. thickn. Thickness tested	HB 1.5	class mm	IEC 60695-11-10 -
[C] Burning rate, FMVSS, Thickness 1 mm	38	mm/min	ISO 3795 (FMVSS 302)
[C]: CAMPUS			

Other properties	Value	Unit	Test Standard
[C] Water absorption	0.5	%	Sim. to ISO 62
[C] Humidity absorption	0.2	%	Sim. to ISO 62
[C] Density	1170	kg/m ³	ISO 1183
Water Absorption, 24hr	0.5	%	ASTM D 570
[C]: CAMPUS			

Characteristics**Processing**

Injection Molding, Blown Film Extrusion, Film Extrusion, Pipe/Tube Extrusion, Profile Extrusion, Sheet Extrusion, Wire/Cable Extrusion, Other Extrusion, Coating, Blow Molding, Thermoforming

Delivery form

Pellets, Black

Additives

Release agent

Special Characteristics

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

Features

Fatigue Resistance, Melt Strength

Chemical Resistance

Grease Resistance, Oxidation Resistance

Applications

Automotive

Regional Availability

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

Other text information**Blow molding****Molding shrinkage**

Normal, 1.0mm Blow Molded = 2.2-2.7 %

Parallel 1.0mm Blow Molded = 1.5-2.0 %