

**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® G4074 is a low modulus grade with nominal hardness of 40D. It contains discoloring stabilizer. It can be processed by many conventional thermoplastic processing techniques like injection molding and extrusion.**

Typical applications:

Hose and tubing, hose jackets, wire and cable jackets, film and sheeting, moulded products. Not suited for light-colored finished products.

Processing/Physical Characteristics	Value	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Melt volume-flow rate, MVR	<b>5</b>	cm <sup>3</sup> /10min	ISO 1133
Temperature	<b>190</b>	°C	-
Load	<b>2.16</b>	kg	-
<sup>[C]</sup> Molding shrinkage, parallel	<b>0.8</b>	%	ISO 294-4, 2577
<sup>[C]</sup> Molding shrinkage, normal	<b>0.8</b>	%	ISO 294-4, 2577
<sup>[C]</sup> Density of melt	<b>1030</b>	kg/m <sup>3</sup>	-
<sup>[C]</sup> Thermal conductivity of melt	<b>0.26</b>	W/(m K)	-
<sup>[C]</sup> Spec. heat capacity of melt	<b>2050</b>	J/(kg K)	-
<sup>[C]</sup> Eff. thermal diffusivity	<b>5.44E-8</b>	m <sup>2</sup> /s	-
<b>ASTM Data</b>			
Melt Flow Index, MFI	<b>5.2</b>	g/10min	ASTM D 1238
Temperature	<b>190</b>	°C	-
Load	<b>2.16</b>	kg	-
Mold Shrinkage, MD	<b>0.008</b>	mm/mm	ASTM D 955

[C]: CAMPUS

Mechanical properties	Value	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Tensile creep modulus, 1000h	<b>35</b>	MPa	ISO 899-1
<sup>[C]</sup> Charpy impact strength, +23°C	<b>N</b>	kJ/m <sup>2</sup>	ISO 179/1eU
<sup>[C]</sup> Charpy impact strength, -30°C	<b>N</b>	kJ/m <sup>2</sup>	ISO 179/1eU
<sup>[C]</sup> Charpy notched impact strength, +23°C	<b>N</b>	kJ/m <sup>2</sup>	ISO 179/1eA
<sup>[C]</sup> Charpy notched impact strength, -30°C	<b>N</b>	kJ/m <sup>2</sup>	ISO 179/1eA
<sup>[C]</sup> Puncture - maximum force, -30°C	<b>3000</b>	N	ISO 6603-2
<sup>[C]</sup> Puncture energy, -30°C	<b>37</b>	J	ISO 6603-2
<sup>[C]</sup> Stress at 10% elongation	<b>4.4</b>	MPa	ISO 527
<sup>[C]</sup> Stress at break TPE	<b>20</b>	MPa	ISO 527
<sup>[C]</sup> Strain at break TPE	<b>250</b>	%	ISO 527
<sup>[C]</sup> Abrasion resistance	<b>50</b>	mm <sup>3</sup>	ISO 4649
<sup>[C]</sup> Shore D hardness	<b>33</b>	-	ISO 7619-1
<b>ASTM Data</b>			
Tensile Strength at Break	<b>16</b>	MPa	ASTM D 638
Elongation at Break	<b>310</b>	%	ASTM D 638
Flexural Modulus	<b>65.5</b>	MPa	ASTM D 790
Shore D Hardness	<b>40</b>	-	ASTM D 2240
Izod Impact notched, 1/8 in	<b>N</b>	J/m	ASTM D 256

Izod Impact notched, Low-Temperature	<b>27</b>	J/m	ASTM D 256
Temperature	<b>-40</b>	°C	-

[C]: CAMPUS

Thermal properties	Value	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Melting temperature, 10°C/min	<b>170</b>	°C	ISO 11357-1/-3
<sup>[C]</sup> Glass transition temperature, 10°C/min	<b>-45</b>	°C	ISO 11357-1/-2
<sup>[C]</sup> Coeff. of linear therm. expansion, parallel	<b>210</b>	E-6/K	ISO 11359-1/-2
<sup>[C]</sup> Coeff. of linear therm. expansion, normal	<b>200</b>	E-6/K	ISO 11359-1/-2
<sup>[C]</sup> Burning Behav. at 1.5 mm nom. thickn.	<b>HB</b>	class	IEC 60695-11-10
Thickness tested	<b>1.5</b>	mm	-
Yellow Card available	<b>yes</b>	-	-
<sup>[C]</sup> Burning Behav. at thickness h	<b>HB</b>	class	IEC 60695-11-10
Thickness tested	<b>3.0</b>	mm	-
Yellow Card available	<b>yes</b>	-	-
<sup>[C]</sup> Burning rate, FMVSS, Thickness 1 mm	<b>51</b>	mm/min	ISO 3795 (FMVSS 302)
<sup>[C]</sup> Oxygen index	<b>20</b>	%	ISO 4589-1/-2
<b>ASTM Data</b>			
UL 94 Flame rating	<b>HB</b>	-	UL 94
Thickness tested	<b>1.5</b>	mm	-
Coefficient of Thermal Expansion, MD	<b>205</b>	E-6/K	ASTM D 696
Coefficient of Thermal Expansion, TD	<b>217</b>	E-6/K	ASTM D 696
DTUL @ 66 psi	<b>50</b>	°C	ASTM D 648
Melting Temperature	<b>170</b>	°C	ASTM D 3418

[C]: CAMPUS

Electrical properties	Value	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Relative permittivity, 100Hz	<b>5.7</b>	-	IEC 62631-2-1
<sup>[C]</sup> Relative permittivity, 1MHz	<b>5</b>	-	IEC 62631-2-1
<sup>[C]</sup> Dissipation factor, 100Hz	<b>550</b>	E-4	IEC 62631-2-1
<sup>[C]</sup> Dissipation factor, 1MHz	<b>530</b>	E-4	IEC 62631-2-1
<sup>[C]</sup> Volume resistivity	<b>4E9</b>	Ohm*m	IEC 62631-3-1
<sup>[C]</sup> Surface resistivity	<b>2E13</b>	Ohm	IEC 62631-3-2
<sup>[C]</sup> Electric strength	<b>17</b>	kV/mm	IEC 60243-1

[C]: CAMPUS

Other properties	Value	Unit	Test Standard
<sup>[C]</sup> Density	<b>1180</b>	kg/m <sup>3</sup>	ISO 1183
Water Absorption, 24hr	<b>2.1</b>	%	ASTM D 570
Density	<b>1190</b>	kg/m <sup>3</sup>	ASTM D 792

[C]: CAMPUS

Film Properties	Value	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> WVTR, 23°C/85%r.h.	<b>1900</b>	g/(m <sup>2</sup> *d)	ISO 15106-1/-2
<sup>[C]</sup> Oxygen transmission rate, 23°C/85%r.h.	<b>34000</b>	cm <sup>3</sup> /(m <sup>2</sup> *d*bar)	ISO 15105-1/-2
<sup>[C]</sup> Thickness of specimen	<b>0.025</b>	mm	-

[C]: CAMPUS

**Characteristics**

**Processing**

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

**Chemical Resistance**

Oxidation Resistance

**Delivery form**

Pellets

**Applications**

General Purpose, Sports Equipment

**Special Characteristics**

Platable, Heat stabilized or stable to heat

**Regional Availability**

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

**Features**

Color Stability, Foamable, Copolymer

**Other text information****Profile extrusion****PREPROCESSING**

Drying temperature = 80°C

Drying time, dehumidified dryer = 2-3 h

Processing moisture content = &lt;0.06 %

**PROCESSING**

Melt temperature optimum = 195°C

Melt temperature range = 185-200°C