Hytrel® DYM350BK

(TPC+PBT) Celanese

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® DYM350BK is a medium modulus polyester alloy suited for injection molding of Air Bag Deployment Doors. It has a nominal durometer hardness of 55D and contains fine particle size carbon black.

Typical applications:
Air bag deployment door.

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
[C] Melt volume-flow rate, MVR	**14**	cm³/10min	ISO 1133
Temperature	**240**	°C	-
Load	**2.16**	kg	-
[C] Molding shrinkage, parallel	**1.4**	%	ISO 294-4, 2577
[C] Molding shrinkage, normal	**1.5**	%	ISO 294-4, 2577
[C] Density of melt	**1000**	kg/m³	-
[C] Eff. thermal diffusivity	**5.44E-8**	m²/s	-
ASTM Data			
Melt Flow Index, MFI	**13**	g/10min	ASTM D 1238
Temperature	**240**	°C	-
Load	**2.16**	kg	-
Mold Shrinkage, MD	**0.014**	mm/mm	ASTM D 955
Mold Shrinkage, TD	**0.017**	mm/mm	ASTM D 955

[C]: CAMPUS

Mechanical properties	Value	Unit	Test Standard
ISO Data			
[C] Charpy impact strength, +23°C	**N**	kJ/m²	ISO 179/1eU
[C] Charpy impact strength, -30°C	**N**	kJ/m²	ISO 179/1eU
[C] Charpy notched impact strength, -30°C	**120**	kJ/m²	ISO 179/1eA
[C] Puncture - maximum force, +23°C	**3200**	N	ISO 6603-2
[C] Puncture energy, +23°C	**39**	J	ISO 6603-2
[C] Stress at 10% elongation	**13**	MPa	ISO 527
[C] Stress at break TPE	**35**	MPa	ISO 527
[C] Strain at break TPE	**>300**	%	ISO 527
[C] Shore D hardness	**50**	-	ISO 7619-1
ASTM Data			
Tensile Strength at Break	**26**	MPa	ASTM D 638
Elongation at Break	**590**	%	ASTM D 638
Flexural Modulus	**400**	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	**N**	J/m	ASTM D 256
Temperature	**-40**	°C	-

[C]: CAMPUS

Thermal properties	Value	Unit	Test Standard
ISO Data			
[C] Melting temperature, 10°C/min	**222**	°C	ISO 11357-1/-3
[C] Glass transition temperature, 10°C/min	**-55**	°C	ISO 11357-1/-2
[C] Temp. of deflection under load, 1.80 MPa	**40**	°C	ISO 75-1/-2
[C] Temp. of deflection under load, 0.45 MPa	**50**	°C	ISO 75-1/-2
[C] Coeff. of linear therm. expansion, parallel	**180**	E-6/K	ISO 11359-1/-2
[C] Coeff. of linear therm. expansion, normal	**180**	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	**23**	mm/min	ISO 3795 (FMVSS 302)
[C] Oxygen index	**22**	%	ISO 4589-1/-2
ASTM Data			
DTUL @ 66 psi	**54**	°C	ASTM D 648
DTUL @ 264 psi	**46**	°C	ASTM D 648
Melting Temperature	**223**	°C	ASTM D 3418

[C]: CAMPUS

Electrical properties	Value	Unit	Test Standard
ISO Data			
[C] Relative permittivity, 100Hz	**4.6**	-	IEC 62631-2-1
[C] Relative permittivity, 1MHz	**4.4**	-	IEC 62631-2-1
[C] Dissipation factor, 100Hz	**70**	E-4	IEC 62631-2-1
[C] Dissipation factor, 1MHz	**230**	E-4	IEC 62631-2-1
[C] Volume resistivity	**>1E13**	Ohm*m	IEC 62631-3-1
[C] Surface resistivity	**5E14**	Ohm	IEC 62631-3-2
[C] Electric strength	**20**	kV/mm	IEC 60243-1

[C]: CAMPUS

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	**1180**	kg/m³	ISO 1183
Density	**1180**	kg/m³	ASTM D 792

[C]: CAMPUS

Characteristics

Processing
Injection Molding, Thermoforming

Delivery form
Pellets, Black

Additives
Release agent

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

Features
Creep Resistance

Chemical Resistance
Oxidation Resistance

Applications
Automotive

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