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Hytrel® HTR8745LV BK320 (PRELIMINARY)

THERMOPLASTIC POLYESTER ELASTOMER

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 moulding 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® HTR8745LV BK320 is a 43 Shore D, Heat Stabilized, Black, High Performance High Flow Polyester Elastomer with Excellent Fatigue Resistance Developed for Injection Moulding

Product information

Resin Identification	TPC-ET	ISO 1043
Part Marking Code	>TPC-ET<	ISO 11469

Rheological properties

Melt mass-flow rate	15	g/10min	ISO 1133
Melt mass-flow rate, Temperature	230	°C	
Melt mass-flow rate, Load	10	kg	
Moulding shrinkage, parallel	1.5	%	ISO 294-4, 2577
Moulding shrinkage, normal	1.5	%	ISO 294-4, 2577
Flow length	160[1]	mm	
Flow length - pressure	180	MPa	
Flow length - width/thickness	1	mm	

[1]: spiral flow

Typical mechanical properties

Tensile modulus	111[2]	MPa	ISO 527-1/-2
Stress at 5% elongation	4.7[3]	MPa	ISO 527-1/-2 or ISO 37
Stress at 10% elongation	8[3]	MPa	ISO 527-1/-2 or ISO 37
Tensile stress at 50% elongation	12.8[3]	MPa	ISO 527-1/-2 or ISO 37
Tensile stress at break	27[3]	MPa	ISO 527-1/-2
Tensile strain at break	>300[3]	%	ISO 527-1/-2
Flexural modulus	109	MPa	ISO 178
Charpy notched impact strength, -30 °C	102	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -40 °C	126	kJ/m²	ISO 179/1eA
Izod notched impact strength, -40 °C	88.0	kJ/m²	ISO 180/1A
Shore D hardness, 15s	41		ISO 48-4 / ISO 868
Shore D hardness, max	43		ISO 868
Tear strength, parallel	120	kN/m	ISO 34-1
Tear strength, normal	140	kN/m	ISO 34-1

[2]: Measured with injected 1BA bars at 1 mm/min

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[3]: Measured with injected 1BA bars at 50 mm/min

Thermal properties

Melting temperature, 10°C/min	206	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	-45	°C	ISO 11357-1/-3
Freezing temperature, 10°C/min	167	°C	ISO 11357-1/-2
Vicat softening temperature, 50°C/h 10N	173	°C	ISO 306

Flammability

FMVSS Class	B		ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	<80	mm/min	ISO 3795 (FMVSS 302)

Physical/Other properties

Density	1150	kg/m³	ISO 1183

Injection

Drying Recommended	yes	
Drying Temperature	110	°C
Drying Time, Dehumidified Dryer	2 - 4[4]	h
Processing Moisture Content	≤0.08	%
Melt Temperature Optimum	240	°C
Min. melt temperature	230	°C
Max. melt temperature	250	°C
Screw tangential speed	Medium	m/s
Mold Temperature Optimum	45	°C
Min. mould temperature	45	°C
Max. mould temperature	55	°C
Ejection temperature	171	°C

[4]: Prolonged drying and multiple drying are not recommended

Extrusion

Processing Moisture Content	≤0.06	%
Melt Temperature Optimum	240	°C

Characteristics

Processing	Injection Moulding, Extrusion, Sheet Extrusion, Other Extrusion, Coatable
Delivery form	Pellets
Special characteristics	Light stabilised or stable to light, Heat stabilised or stable to heat, High Flow

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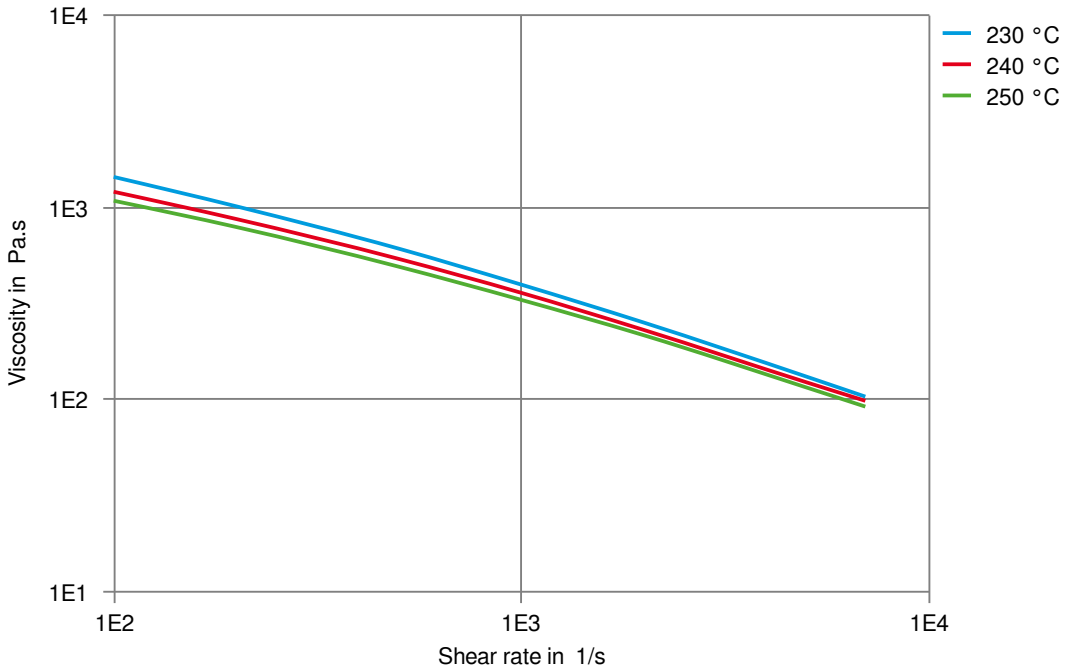
Viscosity-shear rate



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Shearstress-shear rate