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Hytrel® HTR8745 BK320

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® HTR8745 BK320 is designed for blow molding or processing techniques requiring high melt viscosity. It has nominal hardness of 45D, is pigmented black with fine particle size carbon black, and contains a general purpose stabilizer.

Product information

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

Rheological properties

Melt mass-flow rate	6.5	g/10min	ISO 1133
Melt mass-flow rate, Temperature	230	°C	
Melt mass-flow rate, Load	10	kg	
Moulding shrinkage, parallel	1.6	%	ISO 294-4, 2577
Moulding shrinkage, normal	1.5	%	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	94	MPa	ISO 527-1/-2
Stress at 10% strain	7.7	MPa	ISO 527-1/-2
Tensile stress at break	34	MPa	ISO 527-1/-2
Nominal strain at break	500	%	ISO 527-1/-2
Tensile strain at break	>300	%	ISO 527-1/-2
Flexural modulus	98	MPa	ISO 178
Charpy notched impact strength, -30°C	N	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -40°C	N	kJ/m²	ISO 179/1eA
Izod notched impact strength, -40°C	N	kJ/m²	ISO 180/1A
Poisson's ratio	0.49		
Shore D hardness, 15s	40		ISO 48-4 / ISO 868
Shore D hardness, max	45		ISO 868
Tear strength, parallel	120	kN/m	ISO 34-1
Tear strength, normal	120	kN/m	ISO 34-1

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Thermal properties

Melting temperature, 10°C/min	203	°C	ISO 11357-1/-3
Glass transition temperature, 1 Hz	-42	°C	ISO 6721
Freezing temperature, 10°C/min	178	°C	ISO 11357-1/-2
Vicat softening temperature, 50°C/h 10N	160	°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	1140	kg/m³	ISO 1183

Injection

Drying Recommended	yes	
Drying Temperature	110	°C
Drying Time, Dehumidified Dryer	2 - 4[1]	h
Processing Moisture Content	≤0.08	%
Melt Temperature Optimum	240	°C
Min. melt temperature	230	°C
Max. melt temperature	250	°C
Screw tangential speed	Low-Medium	m/s
Mold Temperature Optimum	45	°C
Min. mould temperature	45	°C
Max. mould temperature	55	°C
Ejection temperature	156	°C

[1]: 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, Blow Moulding
Delivery form	Pellets
Special characteristics	Light stabilised or stable to light, Heat stabilised or stable to heat

Automotive

OEM	STANDARD
Mercedes-Benz	DBL5562.17
Mercedes-Benz	DBL5562.33
Mercedes-Benz	DBL5562.36

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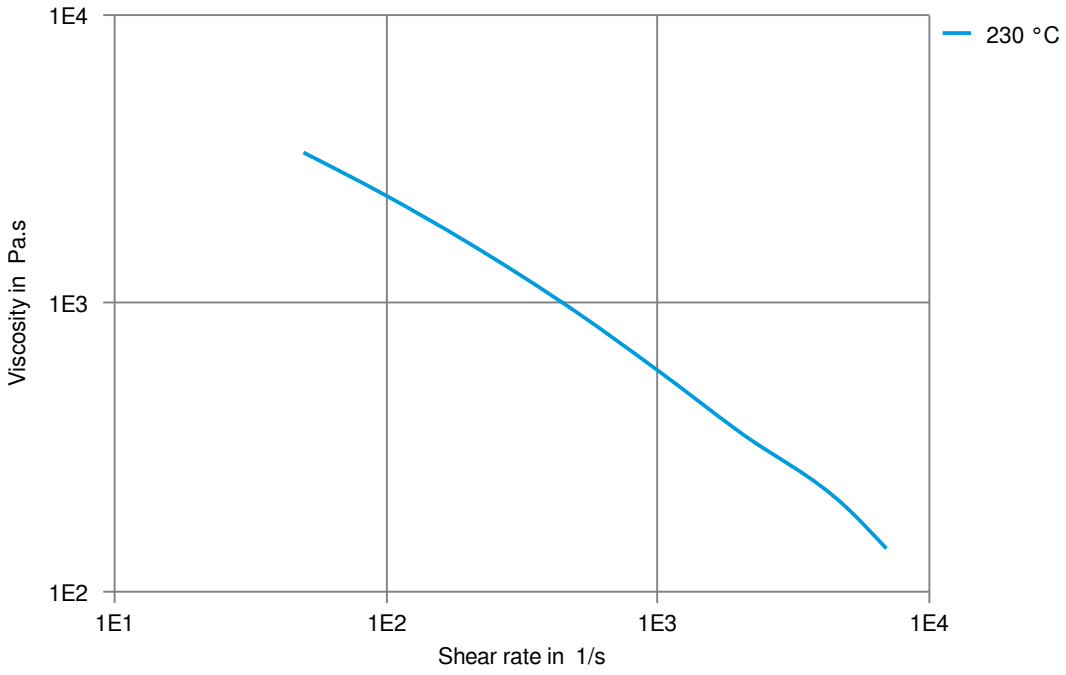
VW Group	TL 522 81-A TPC-ET
VW Group	TL 522 81-B TPC-ET
VW Group	TL 522 81-C TPC-ET

Viscosity-shear rate



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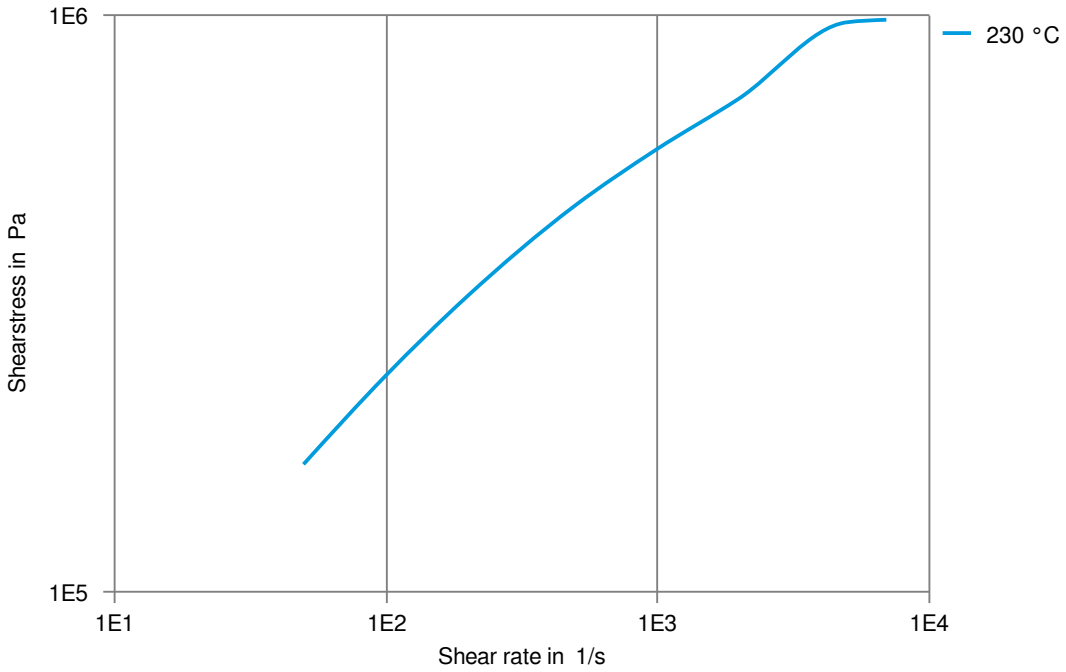
Shearstress-shear rate



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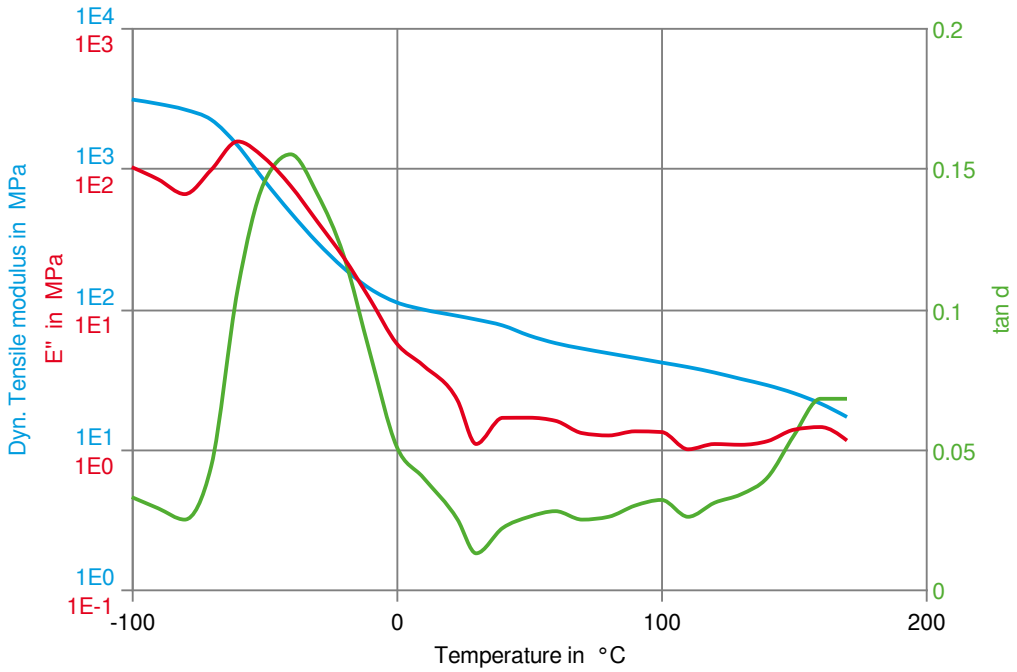
Dynamic Tensile modulus-temperature



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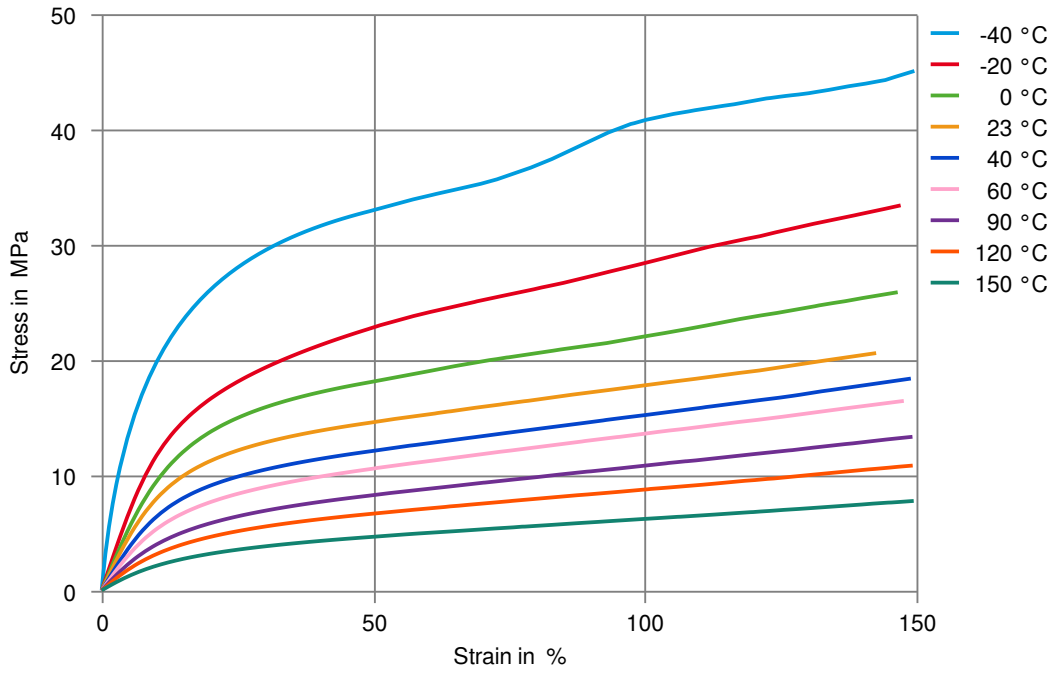
Stress-Strain (Flexible Materials)



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