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Hytrel® HTR8797 BK320

THERMOPLASTIC POLYESTER ELASTOMER

Hytrel® HTR8797 BK320 is a 55 Shore D High Viscosity Polyester Elastomer with Excellent Heat Ageing Protection Developed for Blow Molding

Product information

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

Rheological properties

Melt volume-flow rate	9	cm^3/10min	ISO 1133
Temperature	240	°C	
Load	10	kg	
Melt mass-flow rate	9	g/10min	ISO 1133
Melt mass-flow rate, Temperature	240	°C	
Melt mass-flow rate, Load	10	kg	
Moulding shrinkage, parallel	2.1	%	ISO 294-4, 2577
Moulding shrinkage, normal	2.1	%	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	180	MPa	ISO 527-1/-2
Stress at 5% strain	8	MPa	ISO 527-1/-2
Stress at 10% strain	12	MPa	ISO 527-1/-2
Tensile stress at 50% strain, 1BA	19	MPa	ISO 527-1/-2
Tensile stress at 100% strain	22	MPa	ISO 527-1/-2
Tensile stress at break	35	MPa	ISO 527-1/-2
Nominal strain at break	400	%	ISO 527-1/-2
Tensile strain at break	>300	%	ISO 527-1/-2
Flexural modulus	180	MPa	ISO 178
Charpy impact strength, 23°C	N	kJ/m^2	ISO 179/1eU
Charpy notched impact strength, 23°C	N	kJ/m^2	ISO 179/1eA
Charpy notched impact strength, -30°C	42	kJ/m^2	ISO 179/1eA
Charpy notched impact strength, -40°C	19	kJ/m^2	ISO 179/1eA
Izod notched impact strength, -40°C	19.0	kJ/m^2	ISO 180/1A
Poisson's ratio	0.48		
Brittleness temperature	-58	°C	ISO 974
Shore D hardness, 15s	51		ISO 48-4 / ISO 868
Shore D hardness, max	54		ISO 868
Tear strength, parallel	140	kN/m	ISO 34-1
Tear strength, normal	120	kN/m	ISO 34-1

Thermal properties

Melting temperature, 10°C/min	214	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	-40	°C	ISO 11357-1/-3
Temperature of deflection under load, 0.45 MPa	62	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h 10N	182	°C	ISO 306
Coeff. of linear therm. expansion, parallel, -40-23°C	160	E-6/K	ISO 11359-1/-2

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THERMOPLASTIC POLYESTER ELASTOMER

Coefficient of linear thermal expansion (CLTE), parallel	197	E-6/K	ISO 11359-1/-2
CLTE, Parallel, 23-55 °C(73-130 °F)	203	E-6/K	ASTM E 831
Coeff. of linear therm. expansion, parallel, 55-160 °C	224	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal, -40-23 °C	150	E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	189	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal, 55-160 °C	217	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, Normal,23-55 °C (73-130 °F)	197	E-6/K	ASTM E 831

Flammability

FMVSS Class	B		ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	43	mm/min	ISO 3795 (FMVSS 302)

Physical/Other properties

Density	1190	kg/m³	ISO 1183
Density of melt	1010	kg/m³	

Injection

Drying Recommended	yes	
Drying Temperature	110	°C
Drying Time, Dehumidified Dryer	2 - 4	h
Processing Moisture Content	≤0.08	%
Melt Temperature Optimum	245	°C
Min. melt temperature	240	°C
Max. melt temperature	255	°C
Mold Temperature Optimum	45	°C
Min. mould temperature	40	°C
Max. mould temperature	50	°C

Extrusion

Processing Moisture Content	≤0.06	%
Melt Temperature Optimum	230	°C

Blow Molding

Drying Recommended	yes	
Drying Temperature	90 - 100	°C
Drying Time, Dehumidified Dryer	4 - 6	h
Processing Moisture Content	≤0.03	%
Melt Temperature Optimum	235	°C
Melt Temperature Range	230 - 240	°C
Swell ratio	2.6	
Mold Temperature Optimum	50	°C
Mold Temperature Range	30 - 70	°C

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Characteristics

Processing	Injection Moulding, Extrusion, Other Extrusion, Blow Moulding
Delivery form	Pellets
Special characteristics	Heat stabilised or stable to heat

Additional information

Injection molding

PREPROCESSING

Drying recommended = Yes
Drying temperature = 110 °C
Drying time, dehumidified dryer = 2-4 h
Processing moisture content = <0.08 %

PROCESSING

Melt temperature optimum = 245 °C
Mold temperature optimum = 45 °C
Mold temperature range = 40-50 °C

Automotive

OEM	ADDITIONAL INFORMATION
General Motors	Part Specific Approval, Please Contact Your CE Representative For More Details.
Mercedes-Benz	DBL5562.AA39 TPC
VW Group	VW 50123 TPC-ET

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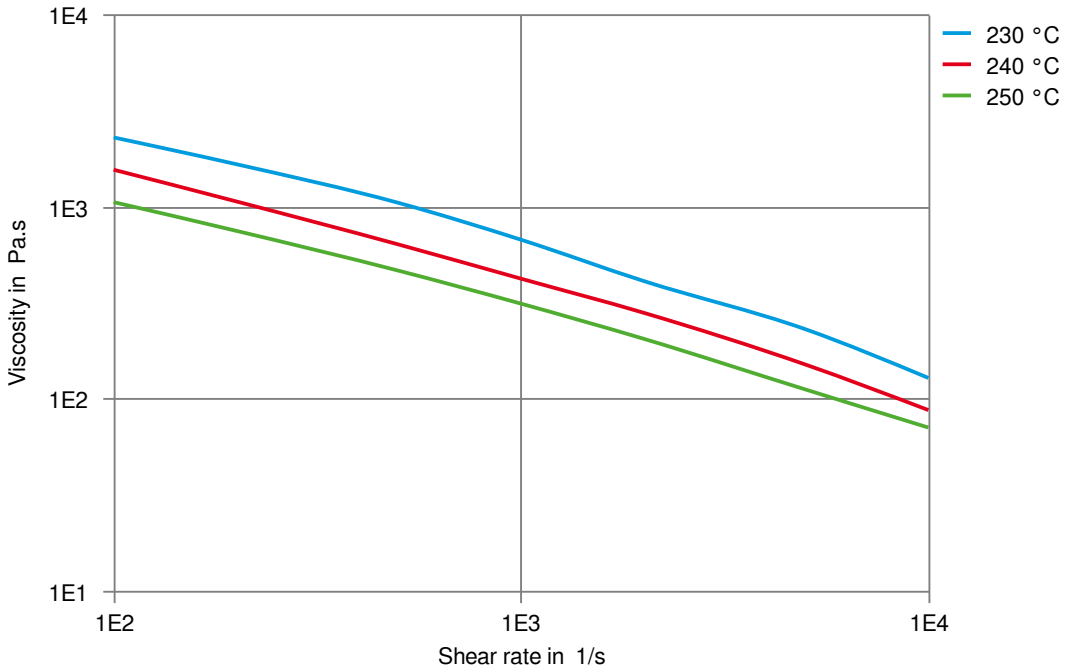
Viscosity-shear rate



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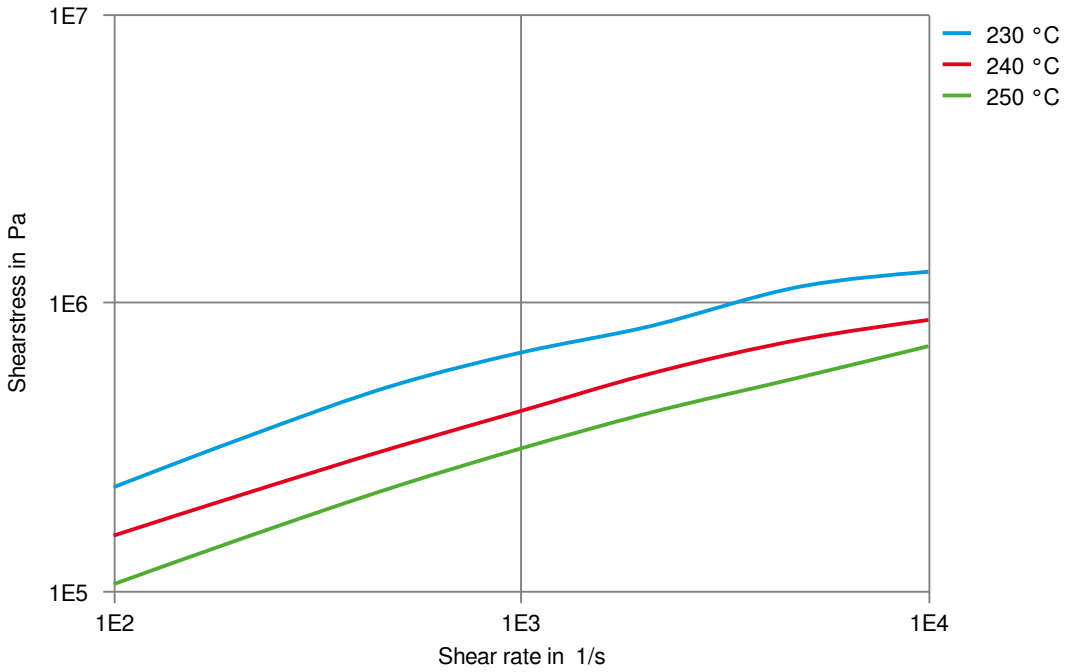
Shearstress-shear rate



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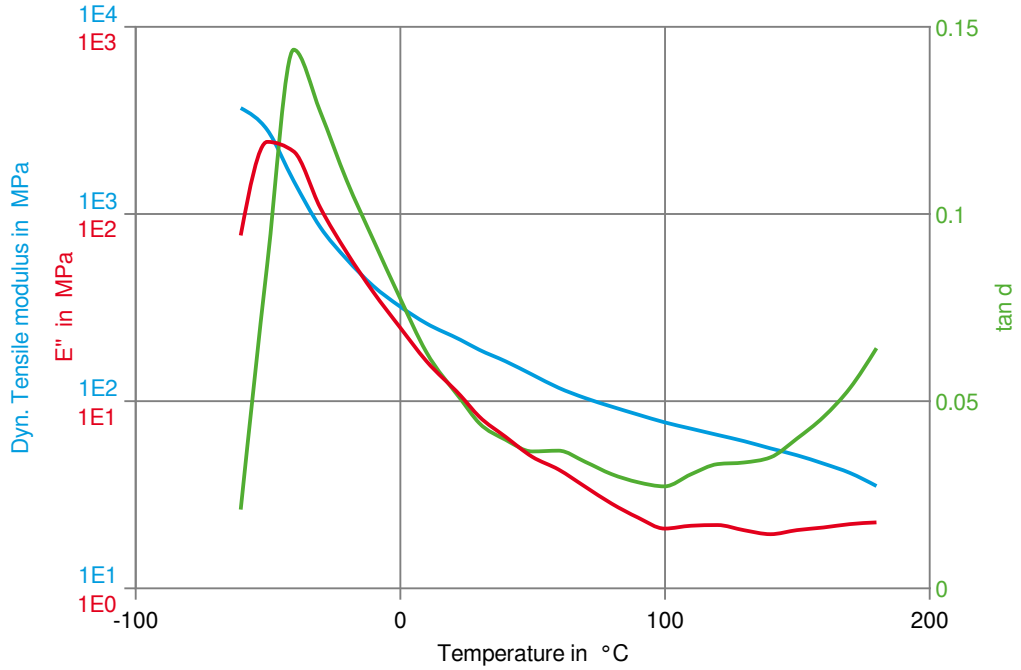
Dynamic Tensile modulus-temperature



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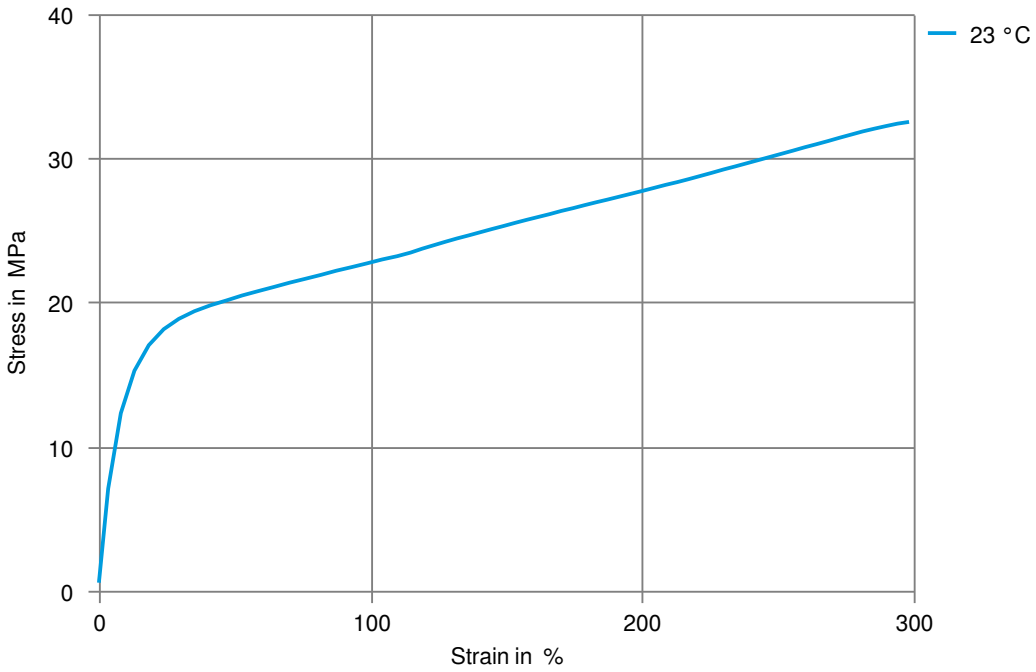
Stress-Strain (Flexible Materials)



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Chemical Media Resistance

Mineral oils

- ✔ Insulating Oil, 23 °C

Other

- ✔ Water, 23 °C
- ✘ Water, 90 °C

Symbols used:

✔ possibly resistant
Defined as: Supplier has sufficient indication that contact with chemical can be potentially accepted under the intended use conditions and expected service life. Criteria for assessment have to be indicated (e.g. surface aspect, volume change, property change).

✘ not recommended - see explanation
Defined as: Not recommended for general use. However, short-term exposure under certain restricted conditions could be acceptable (e.g. fast cleaning with thorough rinsing, spills, wiping, vapor exposure).