



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 Part Marking Code	TPC-ET >TPC-ET<		ISO 1043 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/m ²	ISO 179/1eA
Charpy notched impact strength, -40°C	N	kJ/m ²	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	_
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

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

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

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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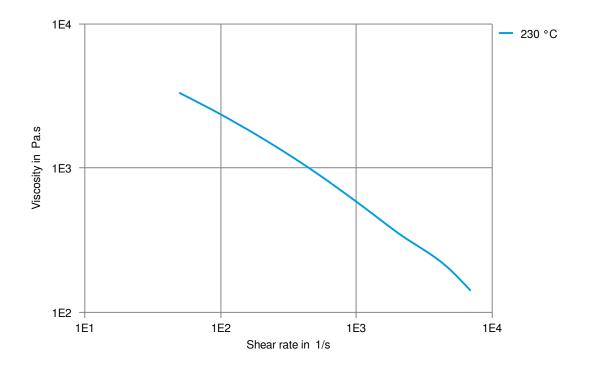
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 VW Group
 TL 522 81-A TPC-ET

 VW Group
 TL 522 81-B TPC-ET

 VW Group
 TL 522 81-C TPC-ET

Viscosity-shear rate



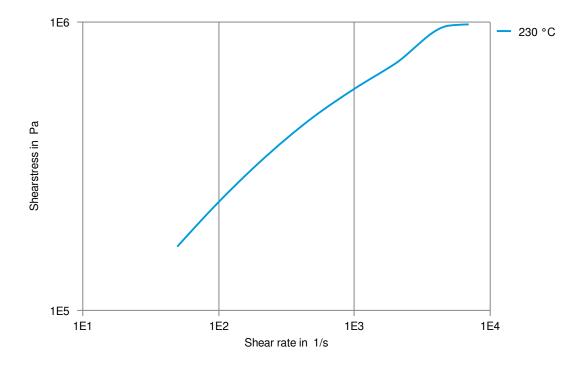
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Shearstress-shear rate



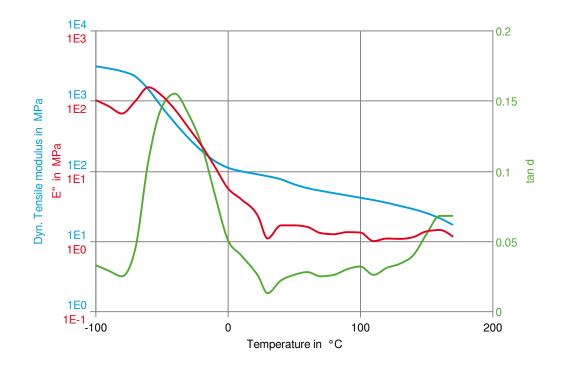
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Dynamic Tensile modulus-temperature



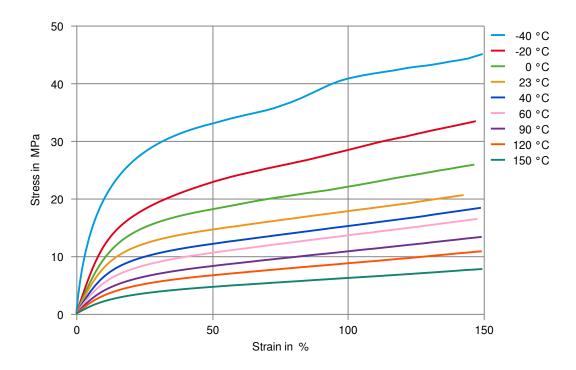
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Stress-Strain (Flexible Materials)



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Revised: 2025-04-22 Source: Celanese Materials Database

NOTICE TO USERS: Values shown are based on testing of laboratory test specimens and represent data that fall within the standard range of properties for natural material. These values alone do not represent a sufficient basis for any part design and are not intended for use in establishing maximum, minimum, or ranges of values for specification purposes. Colourants or other additives may cause significant variations in data values. Properties of moulded parts can be influenced by a wide variety of factors including, but not limited to, material selection, additives, part design, processing conditions and environmental exposure. Other than those products expressly identified as medical grade (including by MT® product designation or otherwise), Celanese's products are not intended for use in medical or dental implants. Regardless of any such product designation, any determination of the suitability of a particular material and part design for any use contemplated by the users and the manner of such use is the sole responsibility of the users, who must assure themselves that the material as subsequently processed meets the needs of their particular product or use. To the best of our knowledge, the information contained in this publication is accurate; however, we do not assume any liability whatsoever for the accuracy and completeness of such information. The information contained in this publication should not be construed as a promise or guarantee of specific properties of our products. It is the sole responsibility of the users to investigate whether any existing patents are infringed by the use of the materials mentioned in this publication. Moreover, there is a need to reduce human exposure to many materials to the lowest practical limits in view of possible adverse effects. To the extent that any hazards may have been mentioned in this publication, we neither suggest nor guarantee that such hazards are the only ones that exist. We recommend that persons intending to rely on any recommendation or to use any e

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