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Hytrel® 5526

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 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® 5526 is a medium modulus Hytrel® grade with nominal durometer hardness of 55D. It contains non-discoloring stabilizer. It is specially recommended for injection molding applications requiring high flow properties.

Typical applications:

Seals, packing and gaskets; gears and bearings.

Product information

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

Rheological properties

Melt volume-flow rate	18	cm^3/10min	ISO 1133
Temperature	220	°C	
Load	2.16	kg	
Melt mass-flow rate	18	g/10min	ISO 1133
Melt mass-flow rate, Temperature	220	°C	
Melt mass-flow rate, Load	2.16	kg	
Moulding shrinkage, parallel	1.4	%	ISO 294-4, 2577
Moulding shrinkage, normal	1.4	%	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	190	MPa	ISO 527-1/-2
Tensile stress at yield	15	MPa	ISO 527-1/-2
Tensile strain at yield	35	%	ISO 527-1/-2
Stress at 5% strain	6.9	MPa	ISO 527-1/-2
Stress at 10% strain	11	MPa	ISO 527-1/-2
Tensile stress at 50% strain, 1BA	14	MPa	ISO 527-1/-2
Tensile stress at break	40	MPa	ISO 527-1/-2
Nominal strain at break	780	%	ISO 527-1/-2
Tensile strain at break	>300	%	ISO 527-1/-2
Flexural modulus	200	MPa	ISO 178
Shear Modulus	65	MPa	ISO 6721

Celanese
The chemistry inside innovation™

Hytrel® 5526

THERMOPLASTIC POLYESTER ELASTOMER

Tensile creep modulus, 1h	170	MPa	ISO 899-1
Tensile creep modulus, 1000h	130	MPa	ISO 899-1
Charpy impact strength, 23°C	N	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	N	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	N	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	150[P]	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -40°C	30	kJ/m²	ISO 179/1eA
Tensile notched impact strength, 23°C	270	kJ/m²	ISO 8256/1
Izod notched impact strength, -40°C	115.0	kJ/m²	ISO 180/1A
Poisson's ratio	0.48		
Brittleness temperature	-98	°C	ISO 974
Shore D hardness, 15s	51		ISO 48-4 / ISO 868
Shore D hardness, max	55		ISO 868
Tear strength, parallel	130	kN/m	ISO 34-1
Tear strength, normal	130	kN/m	ISO 34-1
Abrasion resistance	120	mm³	ISO 4649

[P]: Partial Break

Thermal properties

Melting temperature, 10°C/min	203	°C	ISO 11357-1/-3
Glass transition temperature, 1 Hz	-25	°C	ISO 6721
Temperature of deflection under load, 1.8 MPa	45	°C	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	65	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h 50N	75	°C	ISO 306
Vicat softening temperature, 50°C/h 10N	180	°C	ISO 306
Coeff. of linear therm. expansion, parallel, -40-23°C	180	E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	200	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal, -40-23°C	170	E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	200	E-6/K	ISO 11359-1/-2
Thermal conductivity of melt	0.19	W/(m K)	ISO 22007-2
Effective thermal diffusivity, flow	9E-8	m²/s	ISO 22007-4
Specific heat capacity of melt	2110	J/(kg K)	ISO 22007-4
RTI, electrical, 1.5mm	85	°C	UL 746B
RTI, electrical, 3.0mm	85	°C	UL 746B
RTI, impact, 1.5mm	85	°C	UL 746B
RTI, impact, 3.0mm	85	°C	UL 746B
RTI, strength, 1.5mm	75	°C	UL 746B
RTI, strength, 3.0mm	80	°C	UL 746B

Flammability

Burning Behav. at 1.5mm nom. thickn.	HB	class	IEC 60695-11-10
Thickness tested	1.5	mm	IEC 60695-11-10
UL recognition	yes		UL 94
Burning Behav. at thickness h	HB	class	IEC 60695-11-10
Thickness tested	3	mm	IEC 60695-11-10
UL recognition	yes		UL 94
Oxygen index	21	%	ISO 4589-1/-2

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Hytrel® 5526

THERMOPLASTIC POLYESTER ELASTOMER

FMVSS Class	SE/B		ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	28	mm/min	ISO 3795 (FMVSS 302)

Electrical properties

Relative permittivity, 100Hz	4.9		IEC 62631-2-1
Relative permittivity, 1MHz	4.6		IEC 62631-2-1
Dissipation factor, 100Hz	90	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	375	E-4	IEC 62631-2-1
Volume resistivity	4E11	Ohm.m	IEC 62631-3-1
Surface resistivity	>1E15	Ohm	IEC 62631-3-2
Electric strength	20	kV/mm	IEC 60243-1
Comparative tracking index	600		IEC 60112

Physical/Other properties

Humidity absorption, 2mm	0.2	%	Sim. to ISO 62
Water absorption, 2mm	0.6	%	Sim. to ISO 62
Water absorption, Immersion 24h	0.6	%	Sim. to ISO 62
Density	1190	kg/m³	ISO 1183
Density of melt	1040	kg/m³	

VDA Properties

Odour	5	class	VDA 270
Fogging, G-value (condensate)	0.1	mg	ISO 6452

Injection

Drying Recommended	yes	
Drying Temperature	100	°C
Drying Time, Dehumidified Dryer	2 - 3	h
Processing Moisture Content	≤0.08	%
Melt Temperature Optimum	230	°C
Min. melt temperature	220	°C
Max. melt temperature	250	°C
Mold Temperature Optimum	50	°C
Min. mould temperature	45	°C
Max. mould temperature	55	°C
Ejection temperature	134	°C

Characteristics

Processing	Injection Moulding, Thermoforming
Delivery form	Pellets
Special characteristics	Light stabilised or stable to light

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THERMOPLASTIC POLYESTER ELASTOMER

Additional information

Injection molding

PREPROCESSING

Drying recommended = Yes
Drying temperature = 100 °C
Drying time, dehumidified dryer = 2-3 h
Processing moisture content = <0.08 %

PROCESSING

Melt temperature optimum = 230 °C
Melt temperature range = 220-250 °C
Mold temperature optimum = 45 °C
Mold temperature range = 45-55 °C

Automotive

OEM	STANDARD	ADDITIONAL INFORMATION
General Motors	GMW17327P-TPC-ET-Type 3M1	
Hyundai	MS220-24 Type D	
Mercedes-Benz	DBL5562 AA39 TPC	
Mercedes-Benz	DBL5562.50 TPC-ET	
Stellantis - Chrysler	MS-DB-448 / CPN-2232	Natural
Stellantis - Chrysler	MS-DB-448 / CPN-2313	Black
Stellantis - Chrysler	MS-DB-448 / CPN-4477	Natural
Stellantis - Chrysler	MS-DB-448 / CPN-4843	Natural
VW Group	VW 50123	

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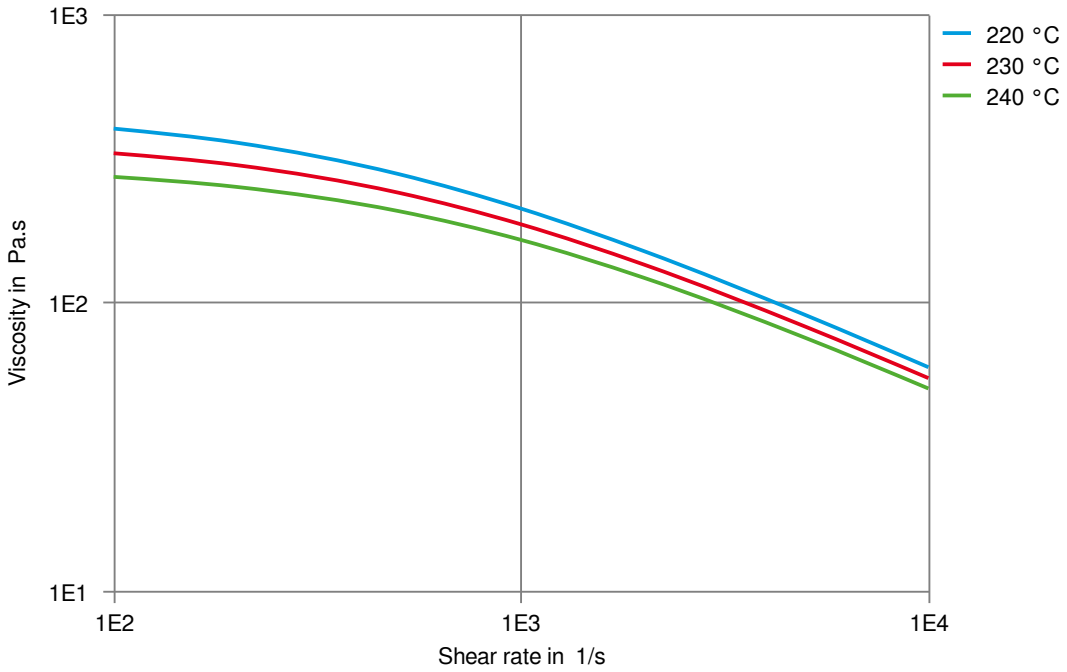
Viscosity-shear rate



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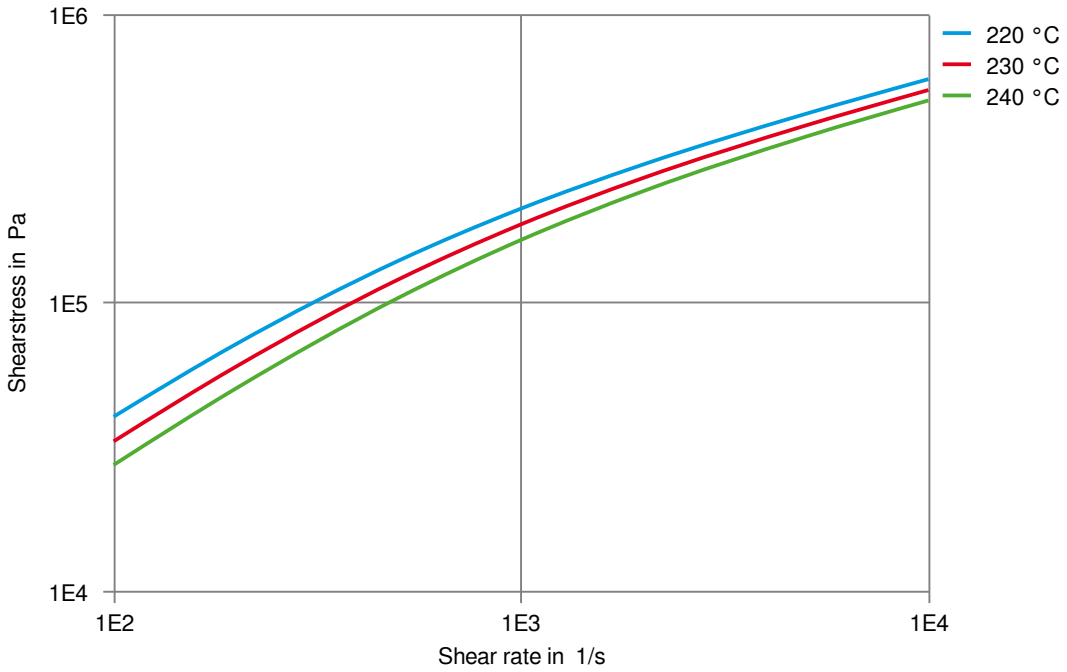
Shearstress-shear rate



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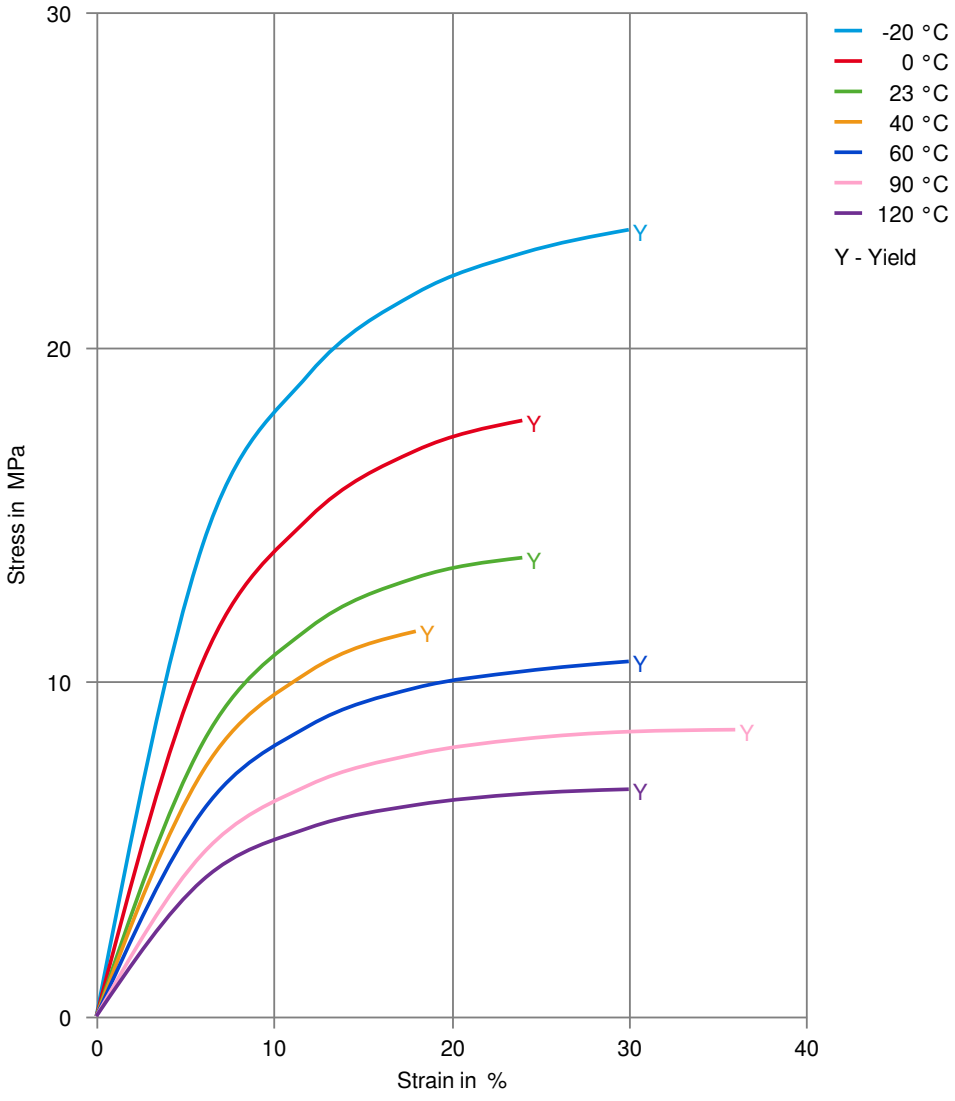
Stress-strain



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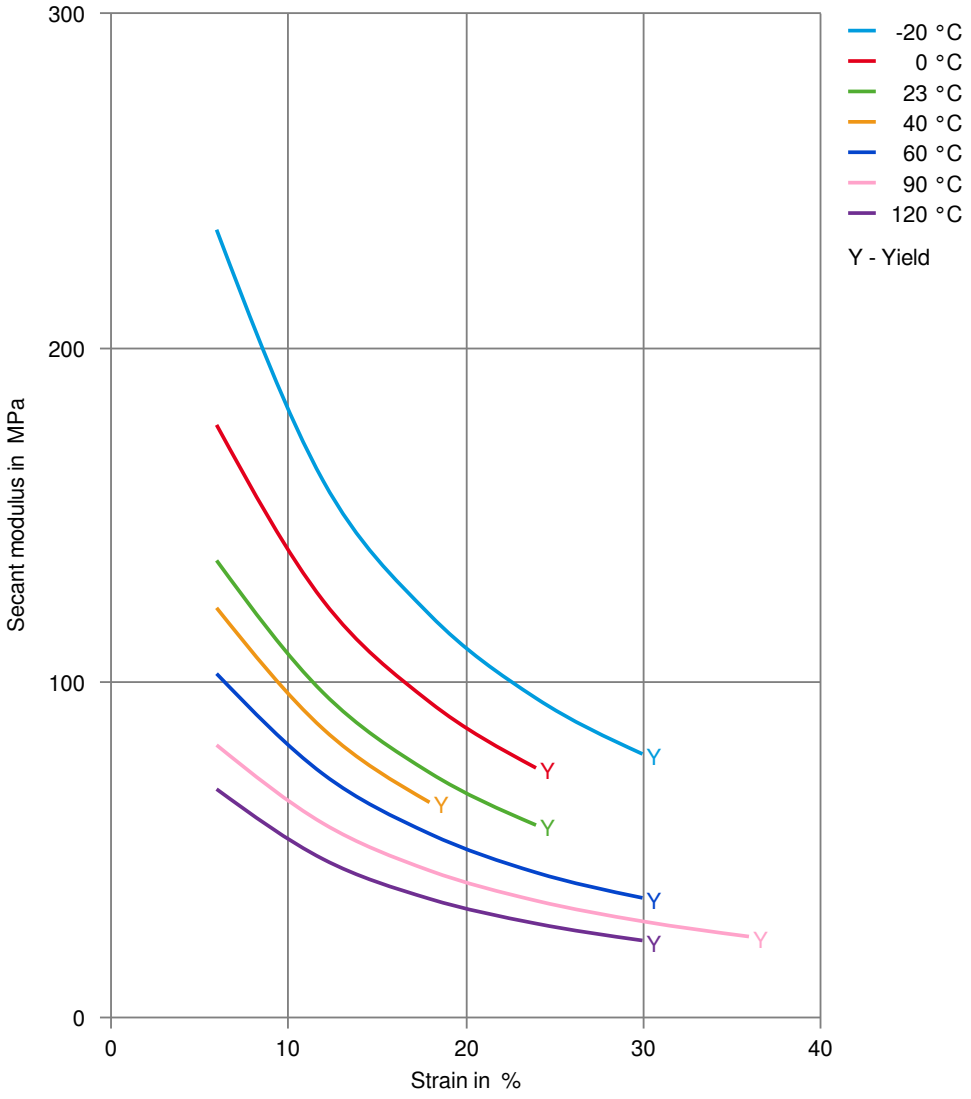
THERMOPLASTIC POLYESTER ELASTOMER

Secant modulus-strain



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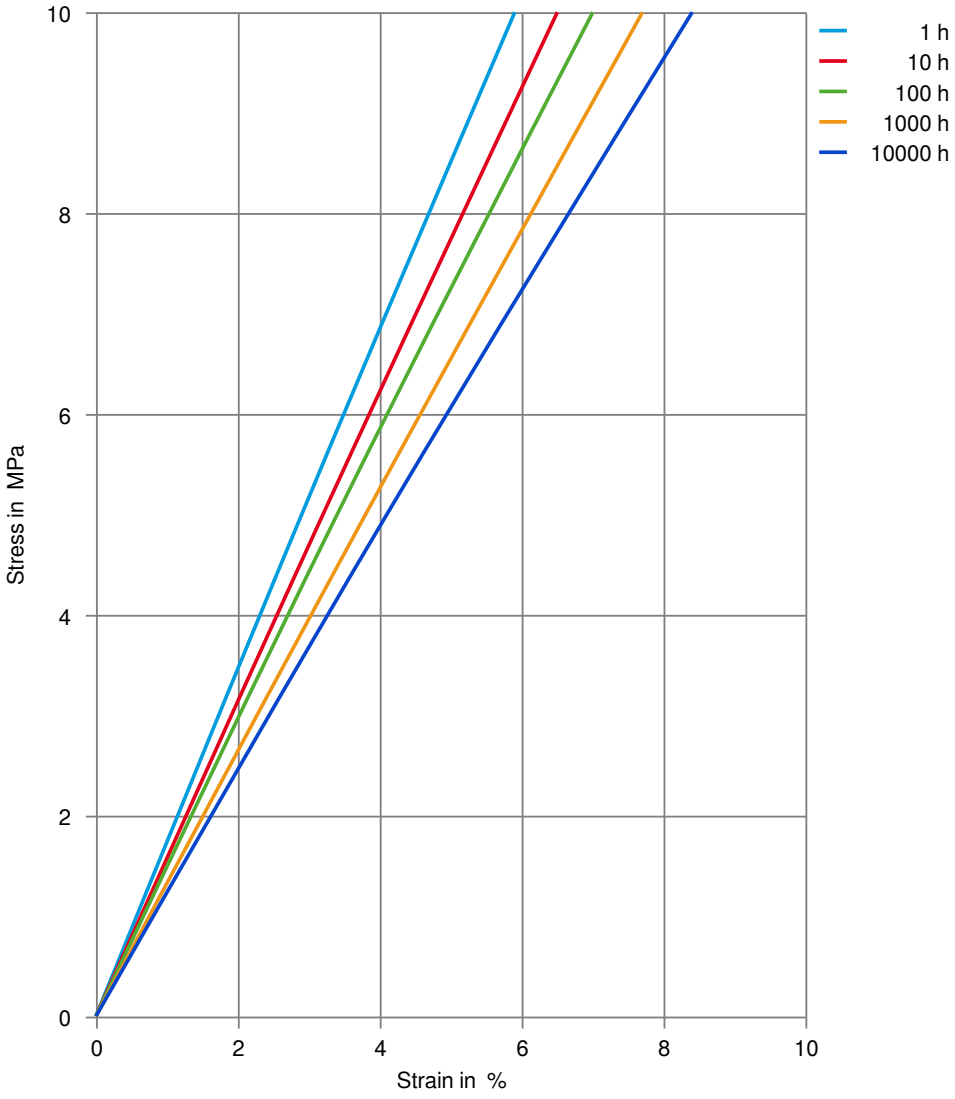
THERMOPLASTIC POLYESTER ELASTOMER

Stress-strain (isochronous) 23 °C



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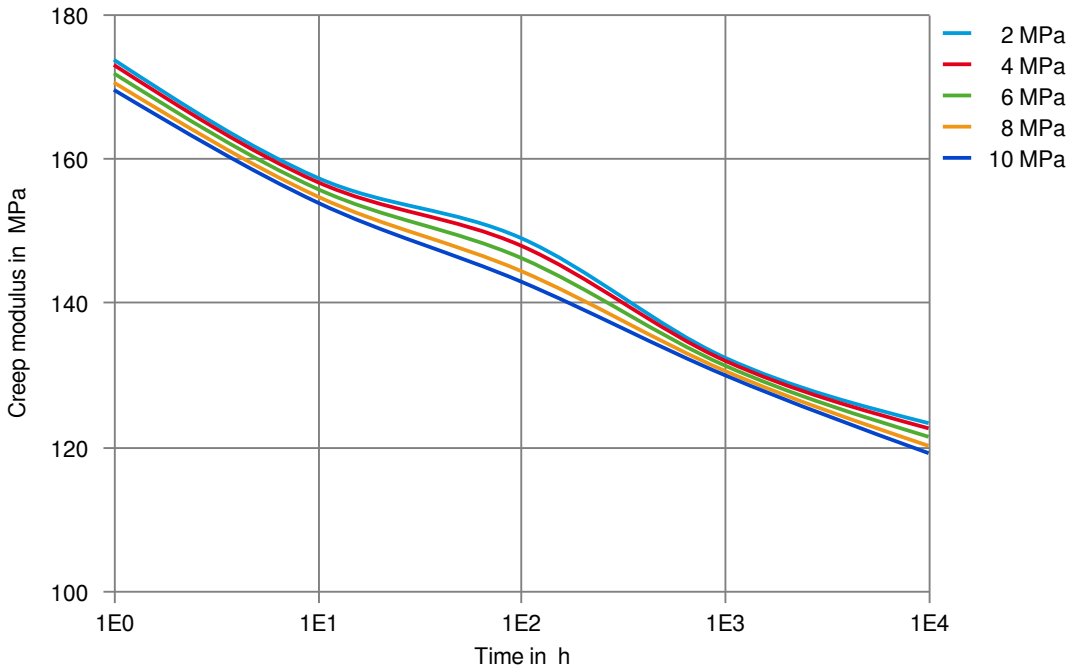
THERMOPLASTIC POLYESTER ELASTOMER

Creep modulus-time 23 °C



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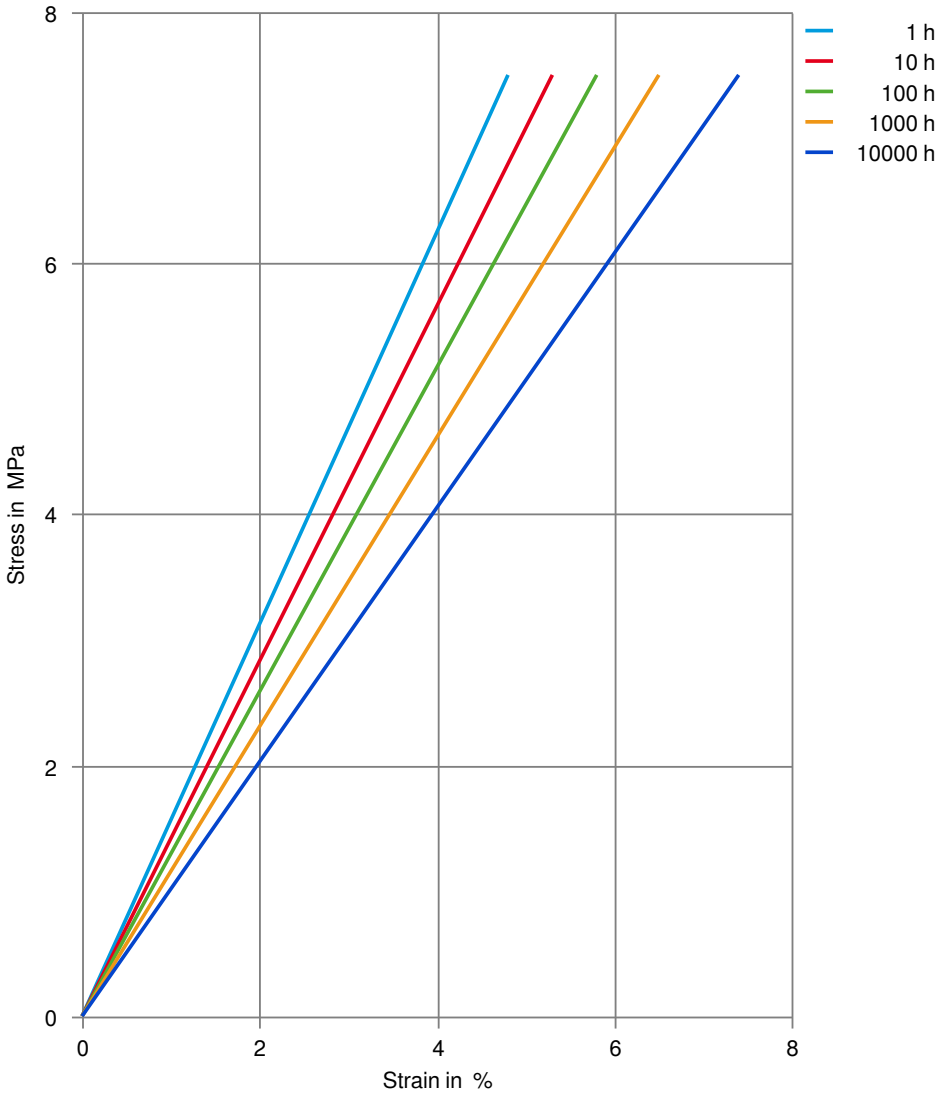
THERMOPLASTIC POLYESTER ELASTOMER

Stress-strain (isochronous) 40 °C



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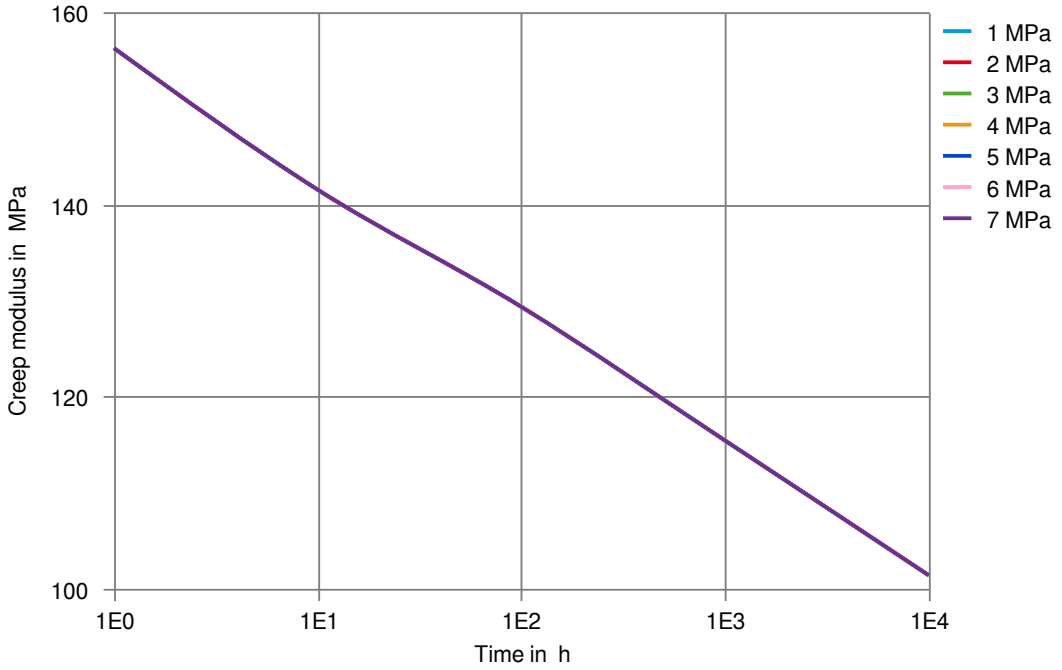
THERMOPLASTIC POLYESTER ELASTOMER

Creep modulus-time 40 °C



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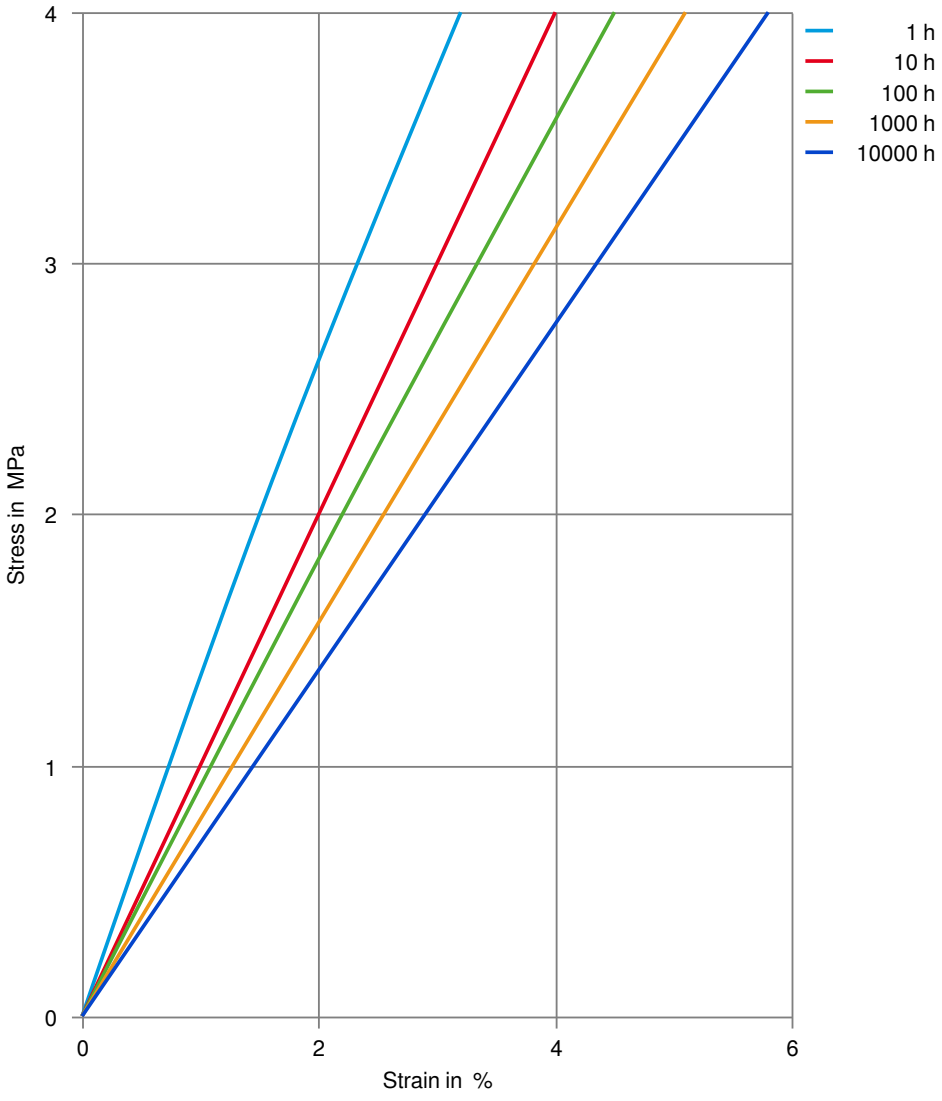
THERMOPLASTIC POLYESTER ELASTOMER

Stress-strain (isochronous) 90 °C



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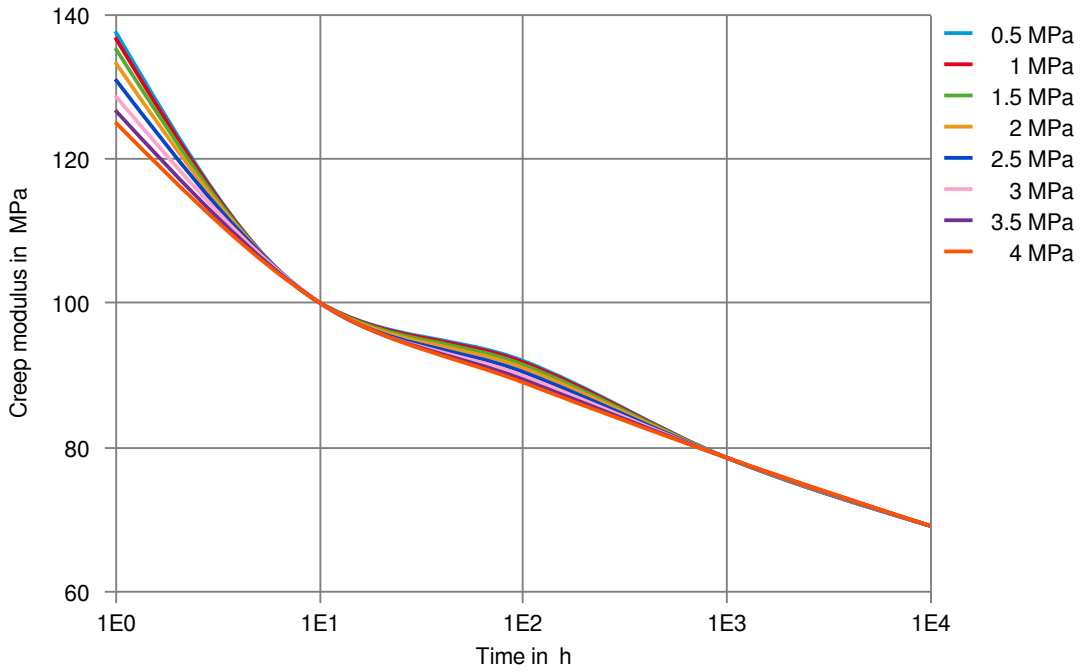
THERMOPLASTIC POLYESTER ELASTOMER

Creep modulus-time 90 °C



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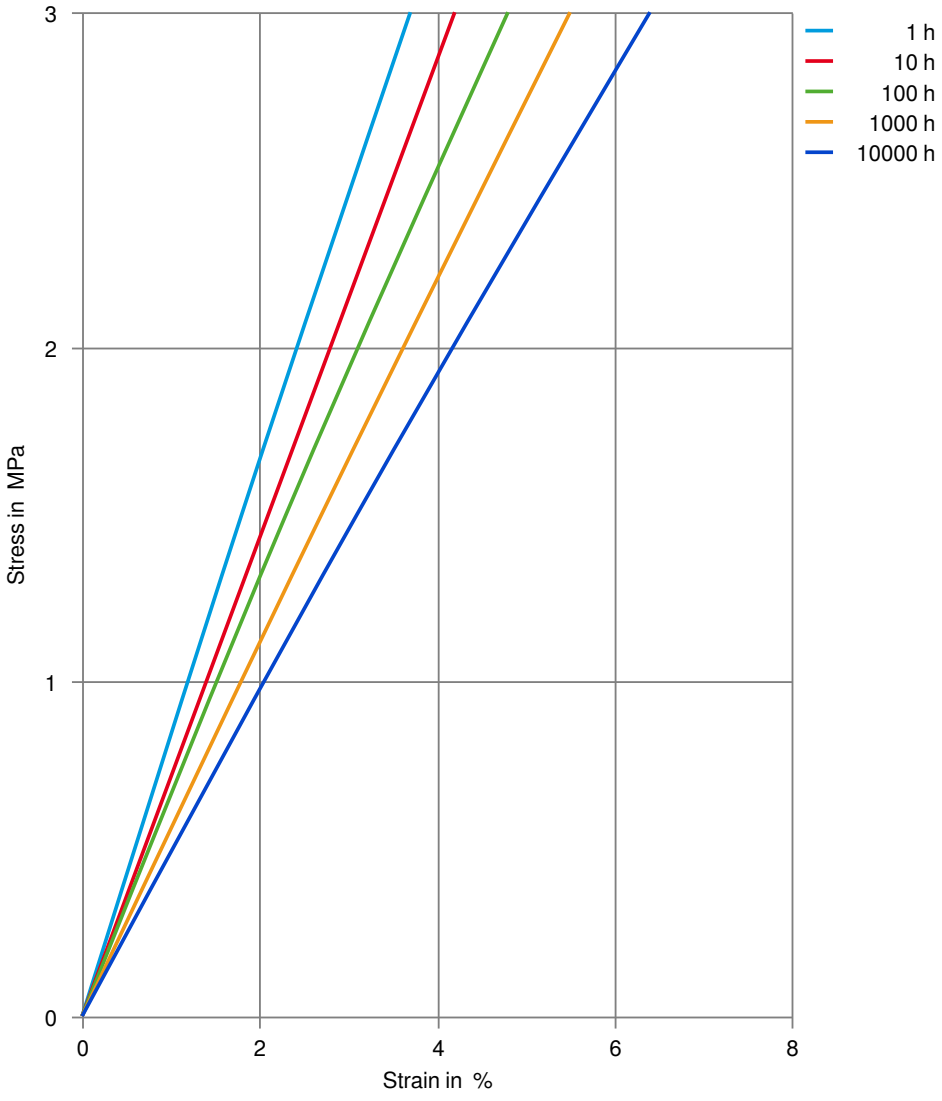
THERMOPLASTIC POLYESTER ELASTOMER

Stress-strain (isochronous) 110 °C



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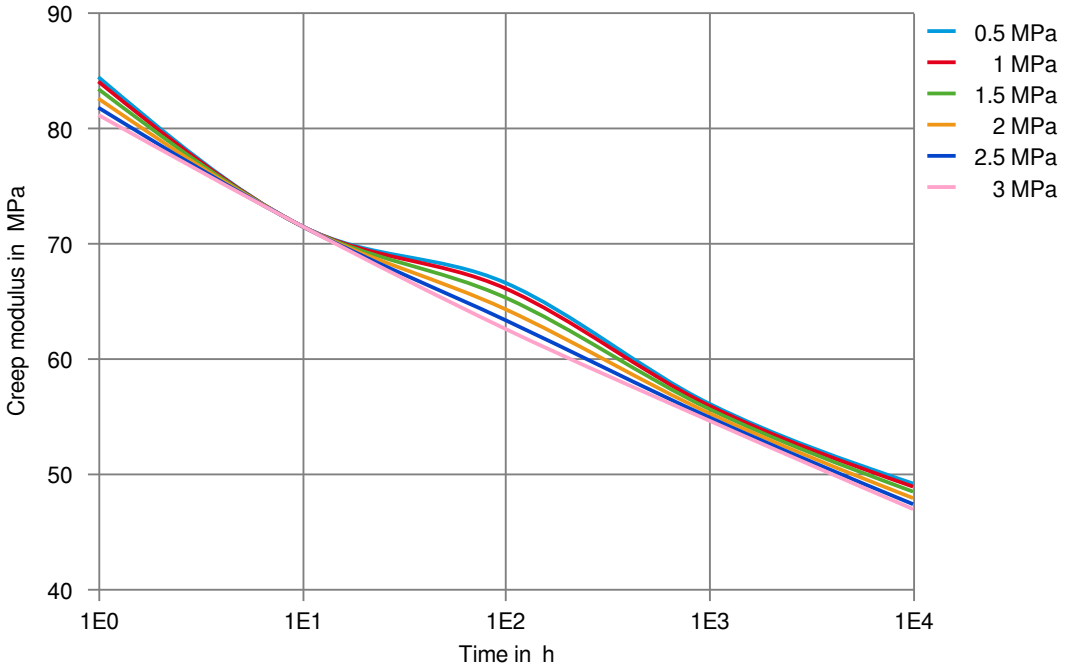
THERMOPLASTIC POLYESTER ELASTOMER

Creep modulus-time 110 °C



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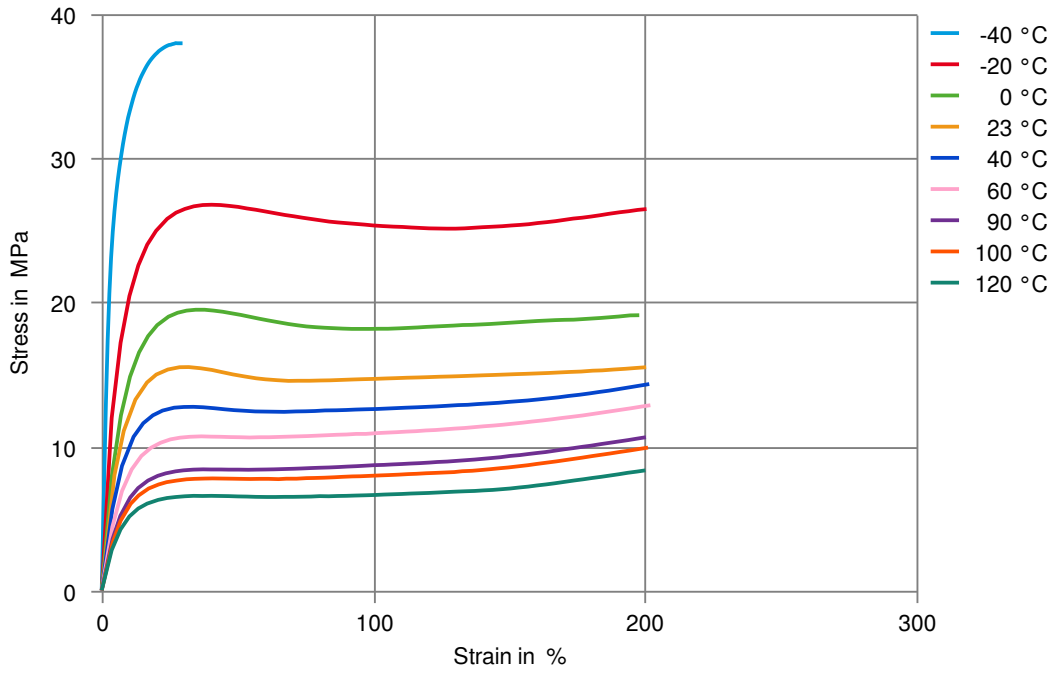
Stress-Strain (Flexible Materials)



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Chemical Media Resistance

Acids

- ✔ Acetic Acid (5% by mass), 23°C
- ✔ Citric Acid solution (10% by mass), 23°C
- ✔ Lactic Acid (10% by mass), 23°C
- ✘ Hydrochloric Acid (36% by mass), 23°C
- ✘ Nitric Acid (40% by mass), 23°C
- ✘ Sulfuric Acid (38% by mass), 23°C
- ✔ Sulfuric Acid (5% by mass), 23°C
- ✘ Chromic Acid solution (40% by mass), 23°C

Bases

- ✔ Sodium Hydroxide solution (35% by mass), 23°C
- ✔ Sodium Hydroxide solution (1% by mass), 23°C
- ✔ Ammonium Hydroxide solution (10% by mass), 23°C

Alcohols

- ✔ Isopropyl alcohol, 23°C
- ✔ Methanol, 23°C
- ✔ Ethanol, 23°C

Hydrocarbons

- ✔ n-Hexane, 23°C
- ✔ Toluene, 23°C
- ✔ iso-Octane, 23°C

Ketones

- ✘ Acetone, 23°C

Ethers

- ✘ Diethyl ether, 23°C

Mineral oils

- ✔ SAE 10W40 multigrade motor oil, 23°C
- ✘ SAE 10W40 multigrade motor oil, 130°C
- ✘ SAE 80/90 hypoid-gear oil, 130°C
- ✔ Insulating Oil, 23°C
- ✘ Motor oil OS206 304 Ref.Eng.Oil, ISP, 135°C
- ✘ Automatic hypoid-gear oil Shell Donax TX, 135°C
- ✘ Hydraulic oil Pentosin CHF 202, 125°C

Standard Fuels

- ✘ ISO 1817 Liquid 1 - E5, 60°C
- ✘ ISO 1817 Liquid 2 - M15E4, 60°C
- ✘ ISO 1817 Liquid 3 - M3E7, 60°C
- ✘ ISO 1817 Liquid 4 - M15, 60°C
- ✔ Standard fuel without alcohol (pref. ISO 1817 Liquid C), 23°C
- ✔ Standard fuel with alcohol (pref. ISO 1817 Liquid 4), 23°C
- ✔ Diesel fuel (pref. ISO 1817 Liquid F), 23°C
- ✔ Diesel fuel (pref. ISO 1817 Liquid F), 90°C
- ✘ Diesel fuel (pref. ISO 1817 Liquid F), >90°C

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THERMOPLASTIC POLYESTER ELASTOMER

Salt solutions

- ✔ Sodium Chloride solution (10% by mass), 23°C
- ✘ Sodium Hypochlorite solution (10% by mass), 23°C
- ✔ Sodium Carbonate solution (20% by mass), 23°C
- ✔ Sodium Carbonate solution (2% by mass), 23°C
- ✔ Zinc Chloride solution (50% by mass), 23°C

Other

- ✔ Ethyl Acetate, 23°C
- ✘ Hydrogen peroxide, 23°C
- ✘ DOT No. 4 Brake fluid, 130°C
- ✘ Ethylene Glycol (50% by mass) in water, 108°C
- ✔ 50% Oleic acid + 50% Olive Oil, 23°C
- ✔ Water, 23°C
- ✔ Water, 90°C
- ✔ Phenol solution (5% by mass), 23°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).

Revised: 2025-04-17 Source: Celanese Materials Database