



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® G4774 is a medium modulus grade with nominal hardness of 47D. It contains discoloring stabilizer. It can be processed by many conventional thermoplastic processing techniques like injection molding and extrusion.

Typical applications:

Hose and tubing, wire and cable jackets, film and sheeting, profiles and moulded products. Not suited for light-colored finished products.

Product information

Resin Identification	TPC-ET	ISO 1043
Part Marking Code	>TPC-ET<	ISO 11469
Rheological properties		
Melt volume-flow rate	11 cm ³ /10min	ISO 1133
Temperature	230 °C	
Load	2.16 kg	
Melt mass-flow rate	11 g/10min	ISO 1133
Melt mass-flow rate, Temperature	230 °C	
Melt mass-flow rate, Load	2.16 kg	
Moulding shrinkage, parallel	1.5 %	ISO 294-4, 2577
Moulding shrinkage, normal	1.2 %	ISO 294-4, 2577
Typical mechanical properties		
Tensile modulus	110 MPa	ISO 527-1/-2
Stress at 10% strain	7 MPa	ISO 527-1/-2
Tensile stress at 50% strain, 1BA	12 MPa	ISO 527-1/-2
Tensile stress at break	17 MPa	ISO 527-1/-2
Nominal strain at break	400 %	ISO 527-1/-2
Tensile strain at break	200 %	ISO 527-1/-2
Flexural modulus	111 MPa	ISO 178
Shear Modulus	39 MPa	ISO 6721
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

Printed: 2025-05-30 Page: 1 of 11





THERMOPLASTIC POLYESTER ELASTOMER

Charpy notched impact strength, -30 °C		kJ/m²	ISO 179/1eA
Charpy notched impact strength, -40 °C		kJ/m ²	ISO 179/1eA
Tensile notched impact strength, 23°C		kJ/m ²	ISO 8256/1
Izod notched impact strength, 23°C		kJ/m²	ISO 180/1A
Izod notched impact strength, -40°C		kJ/m²	ISO 180/1A
Brittleness temperature		°C	ISO 974
Shore D hardness, 15s	43		ISO 48-4 / ISO 868
Shore D hardness, max	48		ISO 868
Tear strength, parallel		kN/m	ISO 34-1
Tear strength, normal		kN/m	ISO 34-1
Abrasion resistance	33	mm ³	ISO 4649
Thermal properties			
Melting temperature, 10°C/min	208	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	-45	°C	ISO 11357-1/-3
Temperature of deflection under load, 0.45 MPa	60	°C	ISO 75-1/-2
Vicat softening temperature, 50 °C/h 10N	165		ISO 306
Coefficient of linear thermal expansion		E-6/K	ISO 11359-1/-2
(CLTE), parallel			
Coefficient of linear thermal expansion (CLTE),	190	E-6/K	ISO 11359-1/-2
normal			
Thermal conductivity of melt	0.16	W/(m K)	ISO 22007-2
Effective thermal diffusivity, flow	5.44E-8	` ,	ISO 22007-4
Specific heat capacity of melt	2100	J/(kg K)	ISO 22007-4
RTI, electrical, 0.75mm		°C	UL 746B
RTI, electrical, 1.5mm		°C	UL 746B
RTI, electrical, 3.0mm		°C	UL 746B
RTI, impact, 0.75mm		°C	UL 746B
RTI, impact, 1.5mm		°C	UL 746B
RTI, impact, 3.0mm		°C	UL 746B
RTI, strength, 0.75mm		°C	UL 746B
RTI, strength, 1.5mm		°C	UL 746B
RTI, strength, 3.0mm		°C	UL 746B
TGA curve	available	J	ISO 11359-1/-2
Tartoure	avanabic		100 11003 1/ 2
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
Glow Wire Flammability Index, 2.0mm	700	°C	IEC 60695-2-12
Glow Wire Ignition Temperature, 2.0mm	675	°C	IEC 60695-2-13
Glow Wire Temperature, No Flame, 2mm	650	°C	IEC 60335-1
FMVSS Class	В		ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	33	mm/min	ISO 3795 (FMVSS 302)
· · · · · · · · · · · · · · · · · · ·			,

Printed: 2025-05-30 Page: 2 of 11





THERMOPLASTIC POLYESTER ELASTOMER

Electrical properties

Relative permittivity, 1MHz	4.7	IEC 62631-2-1
Volume resistivity	1E12 Ohm.m	IEC 62631-3-1
Comparative tracking index	600 ^[1]	IEC 60112
Comparative tracking index, 3.0mm	0 PLC	UL 746A

[1]: Thickness = 3.0mm

Physical/Other properties

Water absorption, Immersion 24h	2.5 %	Sim. to ISO 62
Density	1190 kg/m³	ISO 1183
Density of melt	1010 kg/m³	

VDA Properties

Emission of organic compounds	18 μgC/g	VDA 277
Odour	5 class	VDA 270

Injection

Drying Recommended	yes
Drying Temperature	100 °C
Drying Time, Dehumidified Dryer	2-3 h
Processing Moisture Content	≤0.08 %
Melt Temperature Optimum	240 °C
Min. melt temperature	235 °C
Max. melt temperature	260 °C
Mold Temperature Optimum	45 °C
Min. mould temperature	35 °C
Max. mould temperature	46 °C
Ejection temperature	129 °C

Extrusion

Drying Temperature	100	$^{\circ}C$
Drying Time, Dehumidified Dryer	2 - 3	h
Processing Moisture Content	≤0.06	%
Melt Temperature Optimum	230	°C
Melt Temperature Range	225 - 240	°C

Characteristics

Processing Injection Moulding, Film Extrusion, Extrusion, Sheet Extrusion, Other Extrusion,

Casting, Thermoforming

Delivery form Pellets

Special characteristics Heat stabilised or stable to heat

Printed: 2025-05-30 Page: 3 of 11





THERMOPLASTIC POLYESTER ELASTOMER

Automotive

VW Group

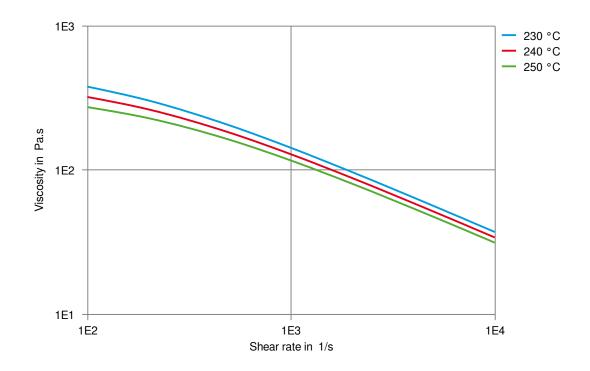
OEM STANDARD ADDITIONAL INFORMATION

General Motors GMW17187P-TPC-ET-Type 3

Stellantis - ChryslerMS-DB-448 / CPN-3098BlackStellantis - ChryslerMS-DB-448 / CPN-3355Natural

TL 526 83 TPC-ET

Viscosity-shear rate



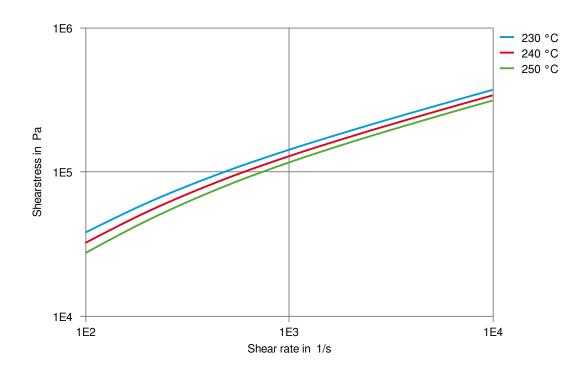
Printed: 2025-05-30 Page: 4 of 11





THERMOPLASTIC POLYESTER ELASTOMER

Shearstress-shear rate



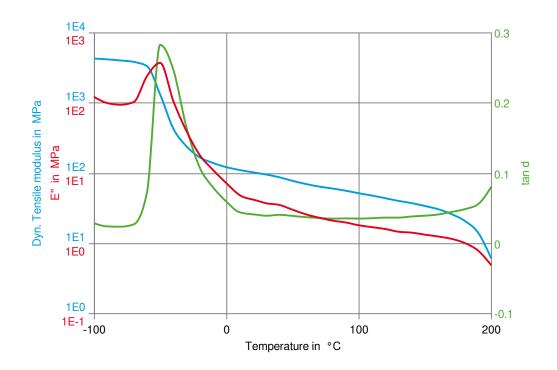
Printed: 2025-05-30 Page: 5 of 11





THERMOPLASTIC POLYESTER ELASTOMER

Dynamic Tensile modulus-temperature



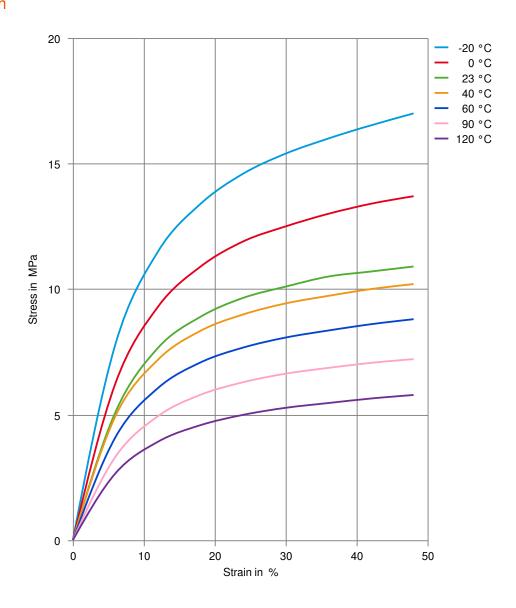
Printed: 2025-05-30 Page: 6 of 11





THERMOPLASTIC POLYESTER ELASTOMER

Stress-strain



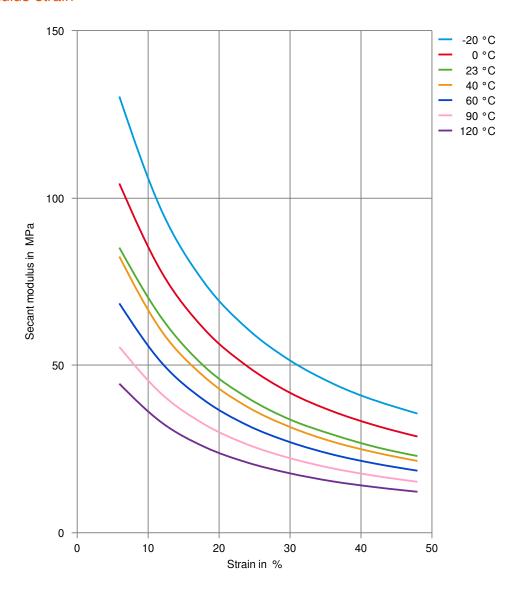
Printed: 2025-05-30 Page: 7 of 11





THERMOPLASTIC POLYESTER ELASTOMER

Secant modulus-strain



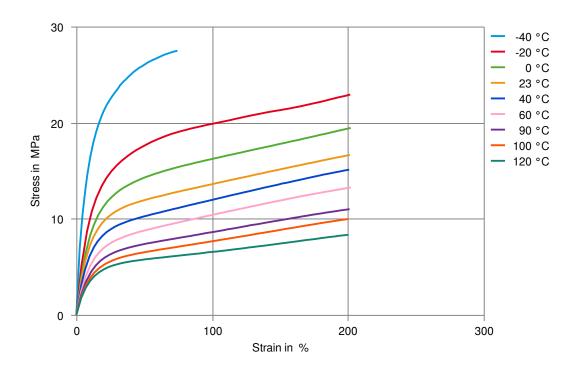
Printed: 2025-05-30 Page: 8 of 11





THERMOPLASTIC POLYESTER ELASTOMER

Stress-Strain (Flexible Materials)



Printed: 2025-05-30 Page: 9 of 11

(+) 18816996168 Ponciplastics.com



Hytrel® G4774

THERMOPLASTIC POLYESTER ELASTOMER

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
- X Hydrochloric Acid (36% by mass), 23°C
- X Nitric Acid (40% by mass), 23°C
- X Sulfuric Acid (38% by mass), 23°C
- ✓ Sulfuric Acid (5% by mass), 23°C
- X 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
- X Ethanol, 23°C

Hydrocarbons

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

Ketones

X Acetone, 23°C

Ethers

X Diethyl ether, 23°C

Mineral oils

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

Standard Fuels

- X ISO 1817 Liquid 1 E5, 60°C
- X ISO 1817 Liquid 2 M15E4, 60°C
- X ISO 1817 Liquid 3 M3E7, 60°C
- X 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

Printed: 2025-05-30 Page: 10 of 11

(+) 18816996168 Ponciplastics.com



Hytrel® G4774

THERMOPLASTIC POLYESTER ELASTOMER

Salt solutions

- ✓ Sodium Chloride solution (10% by mass), 23°C
- X 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
- X Hydrogen peroxide, 23°C
- ✗ DOT No. 4 Brake fluid, 130°C
- **★** Ethylene Glycol (50% by mass) in water, 108°C
- √ 1% nonylphenoxy-polyethyleneoxy ethanol in water, 23°C
- ✓ 50% Oleic acid + 50% Olive Oil, 23°C
- ✓ Water, 23°C
- X 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).

x 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).

Printed: 2025-05-30 Page: 11 of 11

Revised: 2025-04-30 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 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 equipment, processing technique or material mentioned in this publication should satisfy themselves that they can meet all applicable safety and health standards. We strongly recommend that users

© 2025 Celanese or its affiliates. All rights reserved. Celanese®, registered C-ball design and all other trademarks identified herein with ®, TM, SM, unless otherwise noted, are trademarks of Celanese or its affiliates. Fortron is a registered trademark of Fortron Industries LLC.