



Hytrel[®] HTR6108

THERMOPLASTIC POLYESTER ELASTOMER

Hytrel® HTR6108 is a 61 Shore D High Performance Polyester Elastomer with Low Permeability to Fuels and Oils

Product information			
Resin Identification	TPC-ET		ISO 1043
Part Marking Code	>TPC-ET<		ISO 11469
Rheological properties			
Melt mass-flow rate	5.1	g/10min	ISO 1133
Melt mass-flow rate, Temperature	190		
Melt mass-flow rate, Load	2.16	kg	
Moulding shrinkage, parallel	0.3	%	ISO 294-4, 2577
Moulding shrinkage, normal	0.7	%	ISO 294-4, 2577
Typical mechanical properties			
Tensile modulus	190	MPa	ISO 527-1/-2
Stress at 10% strain		MPa	ISO 527-1/-2
Tensile stress at break	32	MPa	ISO 527-1/-2
Tensile strain at break	290	%	ISO 527-1/-2
Flexural modulus	170	MPa	ISO 178
Charpy notched impact strength, -30°C	4.5	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -40°C		kJ/m²	ISO 179/1eA
Izod notched impact strength, -40°C	4.0	kJ/m²	ISO 180/1A
Poisson's ratio	0.48		
Brittleness temperature	-65	°C	ISO 974
Shore D hardness, 15s	55		ISO 48-4 / ISO 868
Shore D hardness, max	61		ISO 868
Tear strength, parallel		kN/m	ISO 34-1
Tear strength, normal	180	kN/m	ISO 34-1
Thermal properties			
Melting temperature, 10°C/min	165	°C	ISO 11357-1/-3
Temperature of deflection under load, 0.45 MPa	47	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h 10N	130	°C	ISO 306
Flammability			
FMVSS Class	В		ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	<80	mm/min	ISO 3795 (FMVSS 302)
Physical/Other properties			
Density	1250	kg/m³	ISO 1183

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Film Properties

WVTR, 23°C/85%r.h.	120 g/(m ² *d)	DIS 15106-1/-2
Oxygen transmission rate, 23°C/85%r.h.	1000 cm ³ /(m ² *d*bar)	DIS 15105-1/-2
Thickness of specimen	0.025 mm	

Injection

Drying Recommended	yes
Drying Temperature	90 °C
Drying Time, Dehumidified Dryer	2-3 h
Processing Moisture Content	≤0.08 %
Melt Temperature Optimum	200 °C
Min. melt temperature	185 °C
Max. melt temperature	215 °C
Mold Temperature Optimum	45 °C
Min. mould temperature	40 °C
Max. mould temperature	55 °C
Ejection temperature	45 °C

Extrusion

Drying Temperature	100	°C
Drying Time, Dehumidified Dryer	2 - 3	h
Processing Moisture Content	≤0.06	%
Melt Temperature Optimum	230	°C
Melt Temperature Range	175 - 190	°C

Characteristics

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

Coatable, Thermoforming

Delivery form Pellets

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

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Alcohols

- ✓ Isopropyl alcohol, 23°C
- ✓ Methanol, 23°C
- ✓ 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
- ★ SAE 10W40 multigrade motor oil, 130°C
- X SAE 80/90 hypoid-gear oil, 130 °C
- ✓ Insulating Oil, 23°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

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
- X Hydrogen peroxide, 23°C
- X 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

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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).

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