Celanese
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Hytrel® HTR8855 NC010 (PRELIMINARY)

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® HTR8855 NC010 is a medium modulus Hytrel® grade with nominal durometer hardness of 55D. It is specially stabilized for long term high temperature service applications.
Typical applications: Hose and tubing, wire and cable, film and sheeting, belting.

Rheological properties

Temperature	220	°C	
Load	2.16	kg	
Melt mass-flow rate	7.1	g/10min	ISO 1133

Typical mechanical properties

Tensile modulus	170	MPa	ISO 527-1/-2
Stress at 5% strain	7.2	MPa	ISO 527-1/-2
Stress at 10% strain	11	MPa	ISO 527-1/-2
Tensile stress at 50% strain, 1BA	15	MPa	ISO 527-1/-2
Tensile stress at break	34	MPa	ISO 527-1/-2
Tensile strain at break	>300	%	ISO 527-1/-2
Flexural modulus	165	MPa	ISO 178
Flexural stress at 3.5%	5.7	MPa	ISO 178
Charpy impact strength, 23°C	N	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	N	kJ/m²	ISO 179/1eA
Poisson's ratio	0.49		
Shore D hardness, 15s	52		ISO 48-4 / ISO 868
Shore D hardness, max	54		ISO 868

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Thermal properties

Melting temperature, 10°C/min	200	°C	ISO 11357-1/-3
Vicat softening temperature, 50°C/h 10N	176	°C	ISO 306

Physical/Other properties

Density	1190	kg/m³	ISO 1183

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	45	°C
Min. mould temperature	45	°C
Max. mould temperature	55	°C

Extrusion

Drying Temperature	90 - 110	°C
Drying Time, Dehumidified Dryer	2 - 3	h
Processing Moisture Content	≤0.06	%
Melt Temperature Optimum	225	°C
Melt Temperature Range	220 - 235	°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

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