



Hytrel® SC956 NC010

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® SC956 NC010 is a medium modulus grade with nominal hardness of 55D, contains a non-discoloring stabilizer and processed by many conventional thermoplastic processing techniques. Developed for applications such as parts for the healthcare industry.

SPECIAL CONTROL for HEALTHCARE APPLICATIONS

This product is manufactured according to Good Manufacturing Practice (GMP) principles and generally accepted in food contact applications in the USA when meeting applicable use conditions. This product is also tested against ISO 10993-5 and -11 and selected parts of USP Class VI. For details, individual compliance statements are available from our representative.

Product information

Resin Identification Part Marking Code	TPC-ET >TPC-ET<		ISO 1043 ISO 11469
Rheological properties			
Melt volume-flow rate Temperature Load	7 220 2.16	-	ISO 1133
Melt mass-flow rate	8	g/10min	ISO 1133
Moulding shrinkage, parallel	1.4	%	ISO 294-4, 2577
Moulding shrinkage, normal	1.4	%	ISO 294-4, 2577
Typical mechanical properties			
Tensile modulus	180	MPa	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 100% strain	16	MPa	ISO 527-1/-2
Tensile stress at break	40	MPa	ISO 527-1/-2
Nominal strain at break	600	%	ISO 527-1/-2
Tensile strain at break	>300	%	ISO 527-1/-2
Flexural modulus	180	MPa	ISO 178
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

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Charpy impact strength, -30°C Charpy notched impact strength, 23°C Charpy notched impact strength, -30°C Charpy notched impact strength, -40°C Tensile notched impact strength, 23°C Poisson's ratio Shore D hardness, 15s Shore D hardness, max Tear strength, parallel Abrasion resistance [P]: Partial Break	N 150 ^[P] 145 300 0.48 51 55 140	kJ/m² kJ/m² kJ/m² kJ/m² kJ/m² kJ/m³	ISO 179/1eU ISO 179/1eA ISO 179/1eA ISO 179/1eA ISO 8256/1 ISO 48-4 / ISO 868 ISO 868 ISO 34-1 ISO 4649
Thermal properties			
Melting temperature, 10°C/min Glass transition temperature, 10°C/min Temperature of deflection under load, 1.8 MPa Temperature of deflection under load, 0.45 MPa Vicat softening temperature, 50°C/h 50N Vicat softening temperature, 50°C/h 10N Coefficient of linear thermal expansion (CLTE), parallel	70 75 180	°C °C °C	ISO 11357-1/-3 ISO 11357-1/-3 ISO 75-1/-2 ISO 75-1/-2 ISO 306 ISO 306 ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	180	E-6/K	ISO 11359-1/-2
Flammability			
Burning Behav. at 1.5mm nom. thickn. Thickness tested		class mm	IEC 60695-11-10 IEC 60695-11-10
Physical/Other properties			
Humidity absorption, 2mm Water absorption, 2mm Density Density of melt			Sim. to ISO 62 Sim. to ISO 62 ISO 1183
Injection			
Drying Recommended Drying Temperature Drying Time, Dehumidified Dryer Processing Moisture Content Melt Temperature Optimum Min. melt temperature Max. melt temperature Mold Temperature Optimum Min. mould temperature Max. mould temperature	45	h % °C °C	

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Extrusion

Characteristics

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

Coatable, Transfer Moulding, Casting, Thermoforming

Delivery form Pellets

Special characteristics Light stabilised or stable to light

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