



### Hytrel® SC969 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® SC969 NC010 is a medium modulus grade with nominal hardness of 63D, contains a non-discoloring stabilizer and can be processed by various 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	TPC-ET		ISO 1043
Part Marking Code	>TPC-ET<		ISO 11469
Rheological properties			
Melt volume-flow rate	8.5	cm <sup>3</sup> /10min	ISO 1133
Temperature	230	°C	
Load	2.16	kg	
Melt mass-flow rate	9	g/10min	ISO 1133
Moulding shrinkage, parallel	1.5	%	ISO 294-4, 2577
Moulding shrinkage, normal	1.5	%	ISO 294-4, 2577
Typical mechanical properties			
Tensile modulus	260	MPa	ISO 527-1/-2
Stress at 5% strain	12	MPa	ISO 527-1/-2
Stress at 10% strain	15	MPa	ISO 527-1/-2
Tensile stress at break	41	MPa	ISO 527-1/-2
Tensile strain at break	>300	%	ISO 527-1/-2
Charpy impact strength, 23°C		kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	120 <sup>[P]</sup>	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	25	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -40°C	15	kJ/m <sup>2</sup>	ISO 179/1eA

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Izod notched impact strength, 23°C Izod notched impact strength, -40°C Poisson's ratio Brittleness temperature Shore D hardness, 15s Shore D hardness, max Tear strength, parallel [P]: Partial Break	19.0 0.48 -100 58 63	kJ/m² kJ/m² °C kN/m	ISO 180/1A ISO 180/1A ISO 974 ISO 48-4 / ISO 868 ISO 868 ISO 34-1
Thermal properties			
Melting 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 Thermal conductivity of melt Effective thermal diffusivity, flow Specific heat capacity of melt	85 100 195 0.14 5.44E-8	°C °C °C °C W/(m K)	ISO 11357-1/-3 ISO 75-1/-2 ISO 75-1/-2 ISO 306 ISO 306 ISO 22007-2 ISO 22007-4 ISO 22007-4
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	
Extrusion			
Drying Temperature Drying Time, Dehumidified Dryer Processing Moisture Content Melt Temperature Optimum Melt Temperature Range	90 - 110 2 - 3 ≤0.06 230 225 - 240	h % °C	

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#### Characteristics

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

Casting

Delivery form Pellets

Special characteristics Light stabilised or stable to light

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