(+) 18816996168
Ponciplastics.com

Celanese
The chemistry inside innovation™

Hytrel® SC976 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® SC976 NC010 is a high modulus grade with nominal hardness of 72D, 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	12	cm^3/10min	ISO 1133
Temperature	240	°C	
Load	2.16	kg	
Melt mass-flow rate	13	g/10min	ISO 1133
Moulding shrinkage, parallel	1.6	%	ISO 294-4, 2577
Moulding shrinkage, normal	1.6	%	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	550	MPa	ISO 527-1/-2
Stress at 5% strain	14	MPa	ISO 527-1/-2
Stress at 10% strain	23	MPa	ISO 527-1/-2
Tensile stress at 50% strain, 1BA	24	MPa	ISO 527-1/-2
Tensile stress at break	50	MPa	ISO 527-1/-2
Nominal strain at break	530	%	ISO 527-1/-2
Tensile strain at break	>300	%	ISO 527-1/-2
Flexural modulus	550	MPa	ISO 178
Tensile creep modulus, 1h	360	MPa	ISO 899-1
Tensile creep modulus, 1000h	310	MPa	ISO 899-1
Charpy notched impact strength, 23°C	33	kJ/m^2	ISO 179/1eA
Charpy notched impact strength, -30°C	10	kJ/m^2	ISO 179/1eA
Charpy notched impact strength, -40°C	7	kJ/m^2	ISO 179/1eA

(+) 18816996168
Ponciplastics.com

Celanese
The chemistry inside innovation™

Hytrel® SC976 NC010

THERMOPLASTIC POLYESTER ELASTOMER

Tensile notched impact strength, 23 °C	300	kJ/m²	ISO 8256/1
Izod notched impact strength, 23 °C	38	kJ/m²	ISO 180/1A
Izod notched impact strength, -40 °C	7.0	kJ/m²	ISO 180/1A
Poisson's ratio	0.47		
Brittleness temperature	-97	°C	ISO 974
Shore D hardness, 15s	64		ISO 48-4 / ISO 868
Shore D hardness, max	68		ISO 868
Tear strength, parallel	180	kN/m	ISO 34-1
Abrasion resistance	100	mm³	ISO 4649

Thermal properties

Melting temperature, 10 °C/min	218	°C	ISO 11357-1/-3
Glass transition temperature, 10 °C/min	25	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	50	°C	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	100	°C	ISO 75-1/-2
Vicat softening temperature, 50 °C/h 50N	140	°C	ISO 306
Vicat softening temperature, 50 °C/h 10N	205	°C	ISO 306
Coefficient of linear thermal expansion (CLTE), parallel	180	E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	180	E-6/K	ISO 11359-1/-2
Thermal conductivity of melt	0.15	W/(m K)	ISO 22007-2
Specific heat capacity of melt	2150	J/(kg K)	ISO 22007-4

Flammability

Burning Behav. at 1.5mm nom. thickn.	HB	class	IEC 60695-11-10
Thickness tested	1.5	mm	IEC 60695-11-10

Physical/Other properties

Humidity absorption, 2mm	0.2	%	Sim. to ISO 62
Water absorption, 2mm	0.6	%	Sim. to ISO 62
Water absorption, Immersion 24h	0.3	%	Sim. to ISO 62
Density	1260	kg/m³	ISO 1183
Density of melt	1110	kg/m³	

Injection

Drying Recommended	yes	
Drying Temperature	110	°C
Drying Time, Dehumidified Dryer	2 - 3	h
Processing Moisture Content	≤0.08	%
Melt Temperature Optimum	245	°C
Min. melt temperature	240	°C
Max. melt temperature	260	°C
Mold Temperature Optimum	45	°C
Min. mould temperature	45	°C
Max. mould temperature	55	°C

(+) 18816996168
Ponciplastics.com

Celanese
The chemistry inside innovation™

Hytrel® SC976 NC010

THERMOPLASTIC POLYESTER ELASTOMER

Extrusion

Drying Temperature	100 - 120	°C
Drying Time, Dehumidified Dryer	2 - 3	h
Processing Moisture Content	≤0.06	%
Melt Temperature Optimum	235	°C
Melt Temperature Range	225 - 245	°C

Characteristics

Processing	Injection Moulding, Film Extrusion, Extrusion, Sheet Extrusion, Other Extrusion, Casting, Thermoforming
Delivery form	Pellets
Special characteristics	Light stabilised or stable to light

Revised: 2025-04-19 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 cause significant variations in data values. Properties of moulded parts can be influenced by a wide variety of factors including, but not limited to, material selection, additives, part design, 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 seek and adhere to the manufacturer's current instructions for handling each material they use, and entrust the handling of such material to adequately trained personnel only. Please call the telephone numbers listed for additional technical information. Call Customer Services for the appropriate Materials Safety Data Sheets (MSDS) before attempting to process our products.
© 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.