Hytrel® ECO 5556B

TPC Celanese

Product Texts

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® ECO 5556B is a medium modulus Hytrel® grade with nominal durometer hardness of 55D. It contains non-discoloring stabilizer. It can be processed by many conventional thermoplastic processing techniques like injection moulding and extrusion. It has same performance and processing properties as Hytrel® 5556.

Hytrel® ECO 5556B belongs to the Hytrel® ECO B family. The products of this family are partially produced using bio-feedstock derived from waste*. This results in reduced lifecycle greenhouse gas emissions and lower fossil resource use.

*certified bio-circular according to ISCC Plus mass balance approach.

Typical applications: Hose and tubing, wire and cable, film and sheeting, belting.

2-Pagers

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
[C] Melt volume-flow rate, MVR	**7**	cm³/10min	ISO 1133
Temperature	**220**	°C	-
Load	**2.16**	kg	-
[C] Molding shrinkage, parallel	**1.4**	%	ISO 294-4, 2577
[C] Molding shrinkage, normal	**1.4**	%	ISO 294-4, 2577
[C] Density of melt	**1030**	kg/m³	-
[C] Thermal conductivity of melt	**0.16**	W/(m K)	-
[C] Spec. heat capacity of melt	**2110**	J/(kg K)	-
[C] Eff. thermal diffusivity	**7E-8**	m²/s	-

[C]: CAMPUS

Mechanical properties	Value	Unit	Test Standard
ISO Data			
[C] Tensile Modulus	**180**	MPa	ISO 527
[C] Tensile creep modulus, 1h	**170**	MPa	ISO 899-1
[C] Tensile creep modulus, 1000h	**133**	MPa	ISO 899-1
[C] Charpy impact strength, +23°C	**N**	kJ/m²	ISO 179/1eU
[C] Charpy impact strength, -30°C	**N**	kJ/m²	ISO 179/1eU
[C] Charpy notched impact strength, +23°C	**N**	kJ/m²	ISO 179/1eA
[C] Charpy notched impact strength, -30°C	**145**	kJ/m²	ISO 179/1eA
[C] Tensile notched impact strength, +23°C	**320**	kJ/m²	ISO 8256/1
[C] Puncture - maximum force, +23°C	**2400**	N	ISO 6603-2
[C] Puncture - maximum force, -30°C	**3700**	N	ISO 6603-2
[C] Puncture energy, +23°C	**27**	J	ISO 6603-2
[C] Puncture energy, -30°C	**43**	J	ISO 6603-2
[C] Stress at 10% elongation	**11**	MPa	ISO 527

[C] Stress at 100% elongation	**16**	MPa	ISO 527
[C] Stress at break TPE	**40**	MPa	ISO 527
[C] Strain at break TPE	**>300**	%	ISO 527
[C] Abrasion resistance	**120**	mm³	ISO 4649
[C] Shore D hardness	**51**	-	ISO 7619-1

[C]: CAMPUS

Thermal properties	Value	Unit	Test Standard
ISO Data			
[C] Melting temperature, 10°C/min	**201**	°C	ISO 11357-1/-3
[C] Glass transition temperature, 10°C/min	**-25**	°C	ISO 11357-1/-2
[C] Temp. of deflection under load, 1.80 MPa	**45**	°C	ISO 75-1/-2
[C] Temp. of deflection under load, 0.45 MPa	**70**	°C	ISO 75-1/-2
[C] Vicat softening temperature, B	**75**	°C	ISO 306
[C] Coeff. of linear therm. expansion, parallel	**180**	E-6/K	ISO 11359-1/-2
[C] Coeff. of linear therm. expansion, normal	**180**	E-6/K	ISO 11359-1/-2
[C] Burning Behav. at 1.5 mm nom. thickn.	**HB**	class	IEC 60695-11-10
Thickness tested	**1.5**	mm	-
Yellow Card available	**yes**	-	-
[C] Burning Behav. at thickness h	**HB**	class	IEC 60695-11-10
Thickness tested	**3.0**	mm	-
Yellow Card available	**yes**	-	-
[C] Oxygen index	**20**	%	ISO 4589-1/-2

[C]: CAMPUS

Electrical properties	Value	Unit	Test Standard
ISO Data			
[C] Relative permittivity, 100Hz	**4.8**	-	IEC 62631-2-1
[C] Relative permittivity, 1MHz	**4.4**	-	IEC 62631-2-1
[C] Dissipation factor, 100Hz	**90**	E-4	IEC 62631-2-1
[C] Dissipation factor, 1MHz	**375**	E-4	IEC 62631-2-1
[C] Volume resistivity	**4E11**	Ohm*m	IEC 62631-3-1
[C] Surface resistivity	**>1E15**	Ohm	IEC 62631-3-2
[C] Electric strength	**19**	kV/mm	IEC 60243-1
[C] Comparative tracking index	**600**	-	IEC 60112

[C]: CAMPUS

Other properties	Value	Unit	Test Standard
[C] Water absorption	**0.6**	%	Sim. to ISO 62
[C] Humidity absorption	**0.2**	%	Sim. to ISO 62
[C] Density	**1190**	kg/m³	ISO 1183

[C]: CAMPUS

Film Properties	Value	Unit	Test Standard
ISO Data			
[C] WVTR, 23°C/85%r.h.	**300**	g/(m²*d)	ISO 15106-1/-2
[C] Oxygen transmission rate, 23°C/85%r.h.	**6000**	cm³/(m²*d*bar)	ISO 15105-1/-2
[C] Thickness of specimen	**0.025**	mm	-

[C]: CAMPUS

Characteristics

Processing

Injection Molding, Film Extrusion, Profile Extrusion, Sheet Extrusion, Other Extrusion, Coating, Casting, Thermoforming

Features

Color Stability

Delivery form
Pellets

Special Characteristics
Light stabilized or stable to light

Certifications
Contains renewable resources, ISCC Plus