Hytrel® ECO 4068B

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 4068B is a low modulus Hytrel® grade with nominal durometer hardness of 40D. It contains non-discoloring stabilizer. It can be processed by many conventional thermoplastic processing techniques like injection molding and extrusion. It has same performance and processing properties as Hytrel® 4068.

Hytrel® ECO 4068B 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:
Moulded products, hose and tubing, wire and cable jackets, film and sheeting, belting and seals.

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
[C] Melt volume-flow rate, MVR	**8.8**	cm³/10min	ISO 1133
Temperature	**220**	°C	-
Load	**2.16**	kg	-
[C] Molding shrinkage, parallel	**1.0**	%	ISO 294-4, 2577
[C] Molding shrinkage, normal	**0.9**	%	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	**2140**	J/(kg K)	-
[C] Eff. thermal diffusivity	**5.44E-8**	m²/s	-

[C]: CAMPUS

Mechanical properties	Value	Unit	Test Standard
ISO Data			
[C] Tensile creep modulus, 1000h	**21**	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	**N**	kJ/m²	ISO 179/1eA
[C] Tensile notched impact strength, +23°C	**145**	kJ/m²	ISO 8256/1
[C] Puncture - maximum force, -30°C	**2100**	N	ISO 6603-2
[C] Puncture energy, -30°C	**30**	J	ISO 6603-2
[C] Stress at 10% elongation	**3.2**	MPa	ISO 527
[C] Stress at 100% elongation	**7.5**	MPa	ISO 527
[C] Stress at break TPE	**29**	MPa	ISO 527
[C] Strain at break TPE	**>300**	%	ISO 527
[C] Abrasion resistance	**180**	mm³	ISO 4649
[C] Shore D hardness	**33**	-	ISO 7619-1

[C]: CAMPUS

Thermal properties	Value	Unit	Test Standard
ISO Data			
[C] Melting temperature, 10°C/min	**193**	°C	ISO 11357-1/-3

[C] Glass transition temperature, 10°C/min	**-50**	°C	ISO 11357-1/-2
[C] Coeff. of linear therm. expansion, parallel	**230**	E-6/K	ISO 11359-1/-2
[C] Coeff. of linear therm. expansion, normal	**230**	E-6/K	ISO 11359-1/-2
[C] Burning Behav. at thickness h	**HB**	class	IEC 60695-11-10
Thickness tested	**3.0**	mm	-
Yellow Card available	**yes**	-	-

[C]: CAMPUS

Electrical properties	Value	Unit	Test Standard
ISO Data			
[C] Relative permittivity, 100Hz	**4.8**	-	IEC 62631-2-1
[C] Relative permittivity, 1MHz	**4.7**	-	IEC 62631-2-1
[C] Electric strength	**18**	kV/mm	IEC 60243-1
[C] Comparative tracking index	**600**	-	IEC 60112

[C]: CAMPUS

Other properties	Value	Unit	Test Standard
[C] Water absorption	**0.7**	%	Sim. to ISO 62
[C] Humidity absorption	**0.3**	%	Sim. to ISO 62
[C] Density	**1110**	kg/m³	ISO 1183

[C]: CAMPUS

Characteristics

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

Delivery form
Pellets

Special Characteristics
Light stabilized or stable to light

Features
Color Stability

Certifications
Contains renewable resources, ISCC Plus

Other text information

Injection molding

PREPROCESSING

Drying recommended = Yes
Drying temperature = 100°C
Drying time, dehumidified dryer = 2-3 h
Processing moisture content = <0.08 %

PROCESSING

Melt temperature range = 220-250°C
Melt temperature optimum = 225°C
Mold temperature optimum = 40°C
Mold temperature range = 30-40°C

Profile extrusion

PREPROCESSING

Drying temperature = 100°C
Drying time, dehumidified dryer = 2-3 h
Processing moisture content = <0.06 %

PROCESSING

Melt termperature range = 205-230°C
Melt temperature optimum = 215°C