Hytrel® 5553FG NC010

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® 5553FG NC010 is a high performance thermoplastic polyester elastomer developed for applications in contact with food.

FOOD CONTACT

This product is manufactured according to Good Manufacturing Practice (GMP) principles and generally accepted in food contact applications in Europe and the USA when meeting applicable use conditions. For details, individual compliance statements are available from our representative.

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] Eff. thermal diffusivity	**5.44E-8**	m²/s	-

[C]: CAMPUS

Mechanical properties	Value	Unit	Test Standard
ISO Data			
[C] Tensile Modulus	**170**	MPa	ISO 527
[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] Stress at 10% elongation	**10.2**	MPa	ISO 527
[C] Stress at 100% elongation	**15**	MPa	ISO 527
[C] Stress at break TPE	**40**	MPa	ISO 527
[C] Strain at break TPE	**>300**	%	ISO 527
[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] Burning Behav. at 1.5 mm nom. thickn.	**HB**	class	IEC 60695-11-10
Thickness tested	**1.5**	mm	-
[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	**1200**	kg/m³	ISO 1183

[C]: CAMPUS

Characteristics

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

Delivery form
Pellets, Natural Color

Certifications
Food contact

Regional Availability
North America, Europe, Asia Pacific, South and Central America

Other text information

Profile extrusion

PREPROCESSING

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

PROCESSING

Melt temperature optimum = 225°C
Melt temperature range = 215-235°C