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Hytrel® 4068FG

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DuPont Performance Polymers - Thermoplastic Copolyester Elastomer

General Information

Product Description			
40 Shore D High Performance Polyester Elastomer Developed for Food Contact Applications			
General			
Material Status	• Commercial: Active		
Additive	• UV Stabilizer		
Features	• Food Contact Acceptable	• UV Stabilized	
Uses	• Non-specific Food Applications		
RoHS Compliance	• Contact Manufacturer		
Forms	• Pellets		
Processing Method	• Casting • Extrusion • Film Extrusion	• Injection Molding • Profile Extrusion • Sheet Extrusion	• Thermoforming
Multi-Point Data	• Isothermal Stress vs. Strain (ISO 11403-1)	• Isothermal Stress vs. Strain (TPE) (ISO 11403-1)	
Part Marking Code (ISO 11469)	• >TPC-ET<		
Resin ID (ISO 1043)	• TPC-ET		

ASTM and ISO Properties [1]

Physical	Nominal Value	Unit	Test Method
Density	1.11	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR) (220°C/2.16 kg)	8.5	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (220°C/2.16 kg)	8.80	cm³/10min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow	0.90	%	
Flow	1.0	%	
Water Absorption (Saturation, 23°C, 2.00 mm)	0.70	%	ISO 62
Water Absorption (Equilibrium, 23°C, 2.00 mm, 50% RH)	0.30	%	ISO 62
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	45.0	MPa	ISO 527-2
Tensile Stress (Break)	29.0	MPa	ISO 527-2
Tensile Stress			ISO 527-2
5.0% Strain	2.40	MPa	
10% Strain	3.50	MPa	
50% Strain	6.70	MPa	
Tensile Strain (Break)	> 300	%	ISO 527-2
Nominal Tensile Strain at Break	800	%	ISO 527-2
Tensile Creep Modulus (1 hr)	28.0	MPa	ISO 899-1
Tensile Creep Modulus (1000 hr)	21.0	MPa	ISO 899-1
Flexural Modulus	47.0	MPa	ISO 178
Abrasion Resistance	180	mm³	ISO 4649

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Elastomers	Nominal Value	Unit	Test Method
Tear Strength			ISO 34-1
Across Flow	100	kN/m	
Flow	100	kN/m	
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength			ISO 179/1eA
-30°C	No Break		
23°C	No Break		
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	No Break		
23°C	No Break		
Notched Izod Impact Strength			ISO 180/1A
-40°C	No Break		
-30°C	No Break		
23°C	No Break		
Tensile Impact Strength (23°C)	145	kJ/m²	ISO 8256/1
Hardness	**Nominal Value**	**Unit**	**Test Method**
Shore Hardness			ISO 7619
Shore D	37		
Shore D, 15 sec	33		
Thermal	**Nominal Value**	**Unit**	**Test Method**
Glass Transition Temperature [2]	-55.0	°C	ISO 11357-2
Melting Temperature [2]	193	°C	ISO 11357-3
CLTE - Flow	2.3E-4	cm/cm/°C	ISO 11359-2
CLTE - Transverse	2.3E-4	cm/cm/°C	ISO 11359-2
Effective Thermal Diffusivity	5.44E-8	m²/s	
Electrical	**Nominal Value**	**Unit**	**Test Method**
Electric Strength	18	kV/mm	IEC 60243-1
Relative Permittivity			IEC 62631-2-1
1 MHz	4.70		
100 Hz	4.80		
Comparative Tracking Index	600	V	IEC 60112
Flammability	**Nominal Value**	**Unit**	**Test Method**
Burning Rate [3] (1.00 mm)	< 100	mm/min	ISO 3795
FMVSS Flammability	B		FMVSS 302
Additional Information	**Nominal Value**	**Unit**	**Test Method**
Emission of Organic Compounds	10.0	µgC/g	VDA 277
Odor	4.00		VDA 270

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	100	°C
Drying Time - Desiccant Dryer	2.0 to 3.0	hr
Suggested Max Moisture	0.080	%
Processing (Melt) Temp	220 to 250	°C
Melt Temperature, Optimum	225	°C
Mold Temperature	30 to 40	°C
Mold Temperature, Optimum	40	°C
Drying Recommended	yes	

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Extrusion	Nominal Value	Unit
Drying Temperature	90 to 110	°C
Drying Time	2.0 to 3.0	hr
Suggested Max Moisture	0.060	%
Melt Temperature	210 to 225	°C
Extrusion Melt Temperature, Optimum	215	°C

Notes

[1] Typical properties: these are not to be construed as specifications.

[2] 10°C/min

[3] FMVSS 302