

General Information

General

Material Status	<ul style="list-style-type: none"> Commercial: Active
Availability	<ul style="list-style-type: none"> Africa Asia Australia Europe Latin America Middle East North America Pacific Rim South America
Test Standards Available	<ul style="list-style-type: none"> ASTM ISO 10350
Features	<ul style="list-style-type: none"> Copolymer Impact Resistance, Good Purity, High Thermal Stability, Good UV Resistance, Good
Forms	<ul style="list-style-type: none"> Pellets
Processing Method	<ul style="list-style-type: none"> Extrusion Injection Molding
Multi-Point Data	<ul style="list-style-type: none"> Isothermal Stress vs. Strain (ISO 11403-1) Secant Modulus vs. Strain (ISO 11403-1) Shear Modulus vs. Temperature (ISO 11403-2) Specific Volume vs Temperature (ISO 11403-2) Viscosity vs. Shear Rate (ISO 11403-2)

ASTM and ISO Properties ¹

Physical	Nominal Value Unit	Test Method
Density -Specific Gravity	1.79 sp gr 23/23°C	ASTM D792
Melt Mass-Flow Rate (MFR) (230°C/12.5 kg)	4.0 g/10 min	ASTM D1238
Mold Shrink, Linear-Flow	0.010 to 0.025 in/in	ASTM D955
Water Absorption @ 24 hrs (68 °F)	0.055 %	ASTM D570
Mechanical	Nominal Value Unit	Test Method
Tensile Modulus (73 °F)	70000 psi	ASTM D638
Tensile Strength @ Yield (73 °F)	30500 psi	ASTM D638
Tensile Strength @ Break (73 °F)	3650 psi	ASTM D638
Tensile Elongation @ Yld (73 °F)	15 %	ASTM D638
Tensile Elongation @ Brk (73 °F)	300 %	ASTM D638
Flexural Modulus (73 °F)	53500 psi	ASTM D790
Flexural Strength (73 °F)	2750 psi	ASTM D790
Compressive Strength (73 °F)	4000 psi	ASTM D695
Coef. of Friction (vs. Steel - Dynamic) (vs. Steel - Static)	0.54 0.55	ASTM D1894
Taber Abrasion Resistance (1000 Cycles) ²	23.0 mg	ASTM D1044
Impact	Nominal Value Unit	Test Method
Notched Izod Impact (73 °F)	No Break ft-lb/in	ASTM D256
Unnotched Izod Impact (73 °F)	No Break ft-lb/in	ASTM D256
Hardness	Nominal Value Unit	Test Method
Durometer Hardness (D Scale)	65	ASTM D2240
Thermal	Nominal Value Unit	Test Method
DTUL @66psi - Unannealed	135 °F	ASTM D648
DTUL @264psi - Unannealed	110 °F	ASTM D648

Glass Transition Temp	-42.0 °F	DSC
Melting Point	270 °F	DSC
CLTE, Flow	0.00010 in/in/°F	ASTM D696
Specific Heat	0.320 Btu/lb/°F	ASTM C351
Thermal Conductivity	1.1 Btu-in/hr/ft²/°F	ASTM C177

Electrical	Nominal Value Unit	Test Method
Volume Resistivity	2.0E+14 ohm-cm	ASTM D257
Dielectric Strength (73 °F)	1200 V/mil	ASTM D149
Dielectric Constant		ASTM D150
(73 °F, 100 Hz)	11.30	
(73 °F, 1000 Hz)	10.15	
(73 °F, 10000 Hz)	9.200	
(73 °F, 100000 Hz)	8.800	
(73 °F, 1E+6 Hz)	7.800	
(73 °F, 1E+8 Hz)	4.250	
Dissipation Factor		ASTM D150
(73 °F, 100 Hz)	0.070	
(73 °F, 1000 Hz)	0.045	
(73 °F, 10000 Hz)	0.075	
(73 °F, 100000 Hz)	0.11	
(73 °F, 1E+6 Hz)	0.18	
(73 °F, 1E+8 Hz)	0.22	

Flammability	Nominal Value Unit	Test Method
Flame Rating - UL	V-0	UL 94
Limiting Oxygen Index	42 %	ASTM D2863

Optical	Nominal Value Unit	Test Method
Refractive Index	1.410	ASTM D542

Fill Analysis	Nominal Value Unit	Test Method
Melt Viscosity (450 °F, 100 sec ⁻¹)	2000 Pa-s	ASTM D3835

Additional Properties

The value listed as Thermal Conductivity, ASTM C177, was tested in accordance with ASTM D433.

The value listed as Specific Heat, ASTM C351, was tested in accordance with DSC Method.

The value listed as Flexural Strength, ASTM D790, was tested @ 5% strain.

Thermal Decomposition TGA, 1% wt. loss/ in air: 707°F

Thermal Decomposition TGA, 1% wt. loss/ in nitrogen: 770°F

Thermal Decomposition TGA, Ash weight %/ in air: 0 - 5%

Limiting Oxygen Index, ASTM D2863, product available with higher LOI: 42/95 %O₂

ISO 10350 Properties ³

Rheological properties	Nominal Value Unit	Test Method
Melt volume-flow rate (230°C/5.0 kg)	0.116 in ³ /10min	ISO 1133

Mechanical properties 23°C/50%r.h.	Nominal Value Unit	Test Method
Tensile modulus	69600 psi	ISO 527-1, -2
Yield stress	2900 psi	ISO 527-1, -2
Yield strain	16 %	ISO 527-1, -2
Nominal strain at break	> 50.0 %	ISO 527-1, -2
Charpy notched impact strength (+23°C)	56.1 ft-lb/in ²	ISO 179 /1eA
Charpy notched impact strength (-30°C)	2.86 ft-lb/in ²	ISO 179 /1eA

Thermal properties	Nominal Value Unit	Test Method
Melting temperature (10°C/min)	275 °F	ISO 11357-1, -3
Glass transition temperature (10°C/min)	-29 °F	ISO 11357-1, -2
Vicat softening temperature (50°C/h 50N)	142 °F	ISO 306
Coeff.of linear therm. expansion (parallel)	0.000098 in/in/°F	ISO 11359-1, -2

Burning Behav. at 1.6mm nom. thickn. (0.06 in)	V-0	ISO 1210
Burning Behav. at thickness h (0.0315 in)	V-0	ISO 1210
Oxygen index	49 %	ISO 4589-1, -2
Electrical properties 23°C/50%r.h.	Nominal Value Unit	Test Method
Relative permittivity (100 Hz)	11.5	IEC 60250
Relative permittivity (1 MHz)	7.00	IEC 60250
Dissipation factor (100 Hz)	0.024	IEC 60250
Volume resistivity	7.9E+13 ohm-in	IEC 60093
Other properties	Nominal Value Unit	Test Method
Density	0.0643 lb/in ³	ISO 1183
Test specimen production	Nominal Value Unit	Test Method
Injection Molding, melt temperature	464 °F	ISO 294
Injection Molding, mold temperature	194 °F	ISO 10724
Injection Molding, injection velocity	0 in/sec	ISO 294
Injection Molding, pressure at hold	1890 psi	ISO 294

Processing Information

Injection	Nominal Value Unit
Rear Temperature	320 to 360 °F
Middle Temperature	330 to 380 °F
Front Temperature	330 to 400 °F
Nozzle Temperature	350 to 420 °F
Mold Temperature	100 to 180 °F
Extrusion	Nominal Value Unit
Cylinder Zone 1 Temp.	310 to 360 °F
Cylinder Zone 3 Temp.	330 to 360 °F
Cylinder Zone 5 Temp.	330 to 360 °F
Adapter Temperature	330 to 400 °F
Die Temperature	350 to 420 °F

Notes

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

² 1000 gm, CS-17 Wheel

³ Typical properties: these are not to be construed as specifications. Additional ISO 10350 data and disclaimer information may be found on ISO 10350 Data Sheet.

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