SABIC Innovative Plastics Ultem DH1004F PEI (Europe-Africa-Middle East)

Category : Polymer , Thermoplastic , Polyetherimide (PEI)

Material Notes:

High Temperature, Transparent, Polyetherimide Blend with Improved Ductility and Enhanced Hydrostability. US FDA and EU Food Contact compliant.This data was supplied by SABIC-IP for the Europe-Africa-Middle East region.

Order this product through the following link:
http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Ultem-DH1004F-PEI-Europe-Africa-Middle-East.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.28 g/cc	1.28 g/cc	ASTM D 792
Density	1.28 g/cc	0.0462 lb/inÂ³	ISO 1183
Linear Mold Shrinkage, Flow	0.0050 - 0.0070 cm/cm @Thickness 3.20 mm	0.0050 - 0.0070 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	10 g/10 min @Load 6.60 kg, Temperature 337 Â°C	10 g/10 min @Load 14.6 lb, Temperature 639 Â°F	ASTM D 1238
	14 g/10 min @Load 5.00 kg, Temperature 360 Â°C	14 g/10 min @Load 11.0 lb, Temperature 680 Â°F	[cm^3/10 min] Melt Volume Rate; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	80.0 MPa	11600 psi	50 mm/min; ISO 527
	90.0 MPa	13100 psi	Type I, 5 mm/min; ASTM D 638
Tensile Strength, Yield	95.0 MPa	13800 psi	Type I, 5 mm/min; ASTM D 638
	97.0 MPa	14100 psi	50 mm/min; ISO 527
Elongation at Break	80 %	80 %	50 mm/min; ISO 527
	85 %	85 %	Type I, 5 mm/min; ASTM D 638
Elongation at Yield	7.0 %	7.0 %	Type I, 5 mm/min; ASTM D 638
	7.0 %	7.0 %	50 mm/min; ISO 527
Tensile Modulus	2.90 GPa	421 ksi	5 mm/min; ASTM D 638
Flexural Yield Strength	136 MPa	19700 psi	2 mm/min; ISO 178
	140 MPa	20300 psi	1.3 mm/min, 50 mm span; ASTM D 790

Mechanical Properties	Metric	English	Comments
Flexural Modulus	2.80 GPa	406 ksi	2 mm/min; ISO 178
	3.00 GPa	435 ksi	1.3 mm/min, 50 mm span; ASTM D 790
Izod Impact, Notched	0.700 J/cm @Temperature 23.0 Â°C	1.31 ft-lb/in @Temperature 73.4 Â°F	ASTM D 256
	33.0 J/cm @Thickness 3.20 mm	61.8 ft-lb/in @Thickness 0.126 in	reverse notched; ASTM D 256
Izod Impact, Notched (ISO)	6.00 kJ/mÂ² @Temperature 23.0 Â°C	2.86 ft-lb/inÂ² @Temperature 73.4 Â°F	80*10*4; ISO 180/1A
	6.00 kJ/mÂ² @Temperature -30.0 Â°C	2.86 ft-lb/inÂ² @Temperature -22.0 Â°F	80*10*4; ISO 180/1A
Izod Impact, Unnotched (ISO)	NB @Temperature 23.0 Â°C	NB @Temperature 73.4 Â°F	80*10*4; ISO 180/1U
	NB @Temperature -30.0 Â°C	NB @Temperature -22.0 Â°F	80*10*4; ISO 180/1U
Charpy Impact, Notched	1.10 J/cmÂ² @Temperature 23.0 Â°C	5.23 ft-lb/inÂ² @Temperature 73.4 Â°F	ISO 179/2C
Impact Test	88.0 J @Temperature 23.0 Â°C	64.9 ft-lb @Temperature 73.4 Â°F	Instrumented Impact Total Energy; ASTM D 3763
	88.0 J @Temperature -20.0 Â°C	64.9 ft-lb @Temperature -4.00 Â°F	Instrumented Impact Total Energy; ASTM D 3763
	99.0 J @Temperature 0.000 Â°C	73.0 ft-lb @Temperature 32.0 Â°F	Instrumented Impact Total Energy; ASTM D 3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	50.0 Âµm/m-Â°C @Temperature 23.0 - 150 Â°C	27.8 Âµin/in-Â°F @Temperature 73.4 - 302 Â°F	ISO 11359-2

Thermal Properties	Metric	English	Comments
	56.0 Âµm/m-Â°C @Temperature -20.0 - 150 Â°C	31.1 Âµin/in-Â°F @Temperature -4.00 - 302 Â°F	ASTM E 831
CTE, linear, Transverse to Flow	50.0 Âµm/m-Â°C @Temperature 23.0 - 150 Â°C	27.8 Âµin/in-Â°F @Temperature 73.4 - 302 Â°F	ISO 11359-2
	55.0 Âµm/m-Â°C @Temperature -20.0 - 150 Â°C	30.6 Âµin/in-Â°F @Temperature -4.00 - 302 Â°F	ASTM E 831
Thermal Conductivity	0.190 W/m-K	1.32 BTU-in/hr-ftÂ²-Â°F	ASTM C 177
Deflection Temperature at 0.46 MPa (66 psi)	205 Â°C	401 Â°F	Edgew 120*10*4 sp=100mm; ISO 75/Be
	214 Â°C @Thickness 6.40 mm	417 Â°F @Thickness 0.252 in	unannealed; ASTM D 648
Deflection Temperature at 1.8 MPa (264 psi)	190 Â°C	374 Â°F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
	204 Â°C @Thickness 6.40 mm	399 Â°F @Thickness 0.252 in	unannealed; ASTM D 648
Vicat Softening Point	212 Â°C	414 Â°F	Rate B/50; ISO 306
	212 Â°C	414 Â°F	Rate B/120; ISO 306
	219 Â°C	426 Â°F	Rate A/50; ISO 306
Flammability, UL94	V-0 @Thickness 0.750 mm	V-0 @Thickness 0.0295 in	UL 94
NBS Smoke Density	0.70 @Time 240 sec	0.70 @Time 0.0667 hour	Flaming, Ds; ASTM E 662
Oxygen Index	46 %	46 %	LOI; ASTM D 2863

Optical Properties	Metric	English	Comments
Transmission, Visible	90 %	90 %	transparent; thickness not quantified

Descriptive Properties	Value	Comments
Instrumented Impact Ductility, 0Â°C, %	100	ASTM D 3763
Instrumented Impact Ductility, -20Â°C, %	90	ASTM D 3763

Descriptive Properties	Value	Comments
Instrumented Impact Ductility, 23Â°C, %	100	ASTM D 3763

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