

PEI-1000 Properties

Parameter table

Property	Testing items		Rated value	Unit	Test method
Physical properties	proportion		1.30	g/m^3	ASTM D792
	Melt flow rate (295°C/6.6kg)		2.4	g/10min	ASTM D1238
	Shrinkage rate	Flow:3.20mm	0.5-0.7	%	Internal method
		Lateral flow:3.20mm	0.5-0.7		
Mechanical properties	Tensile modulus		3310	Mpa	ASTM D638
	Tensile strength		96.5	Mpa	ASTM D638
	Elongation		85	%	ASTM D638
	Flexural modulus		3240	Mpa	ASTM D790
	Flexural strength	Yield, 100mm Span	145	Mpa	ASTM D790
		fracture, 100mm Span	141		
Impact performance	Cantilever beam notched impact strength (23°C)		69	J/m	ASTM D256
	Reverse-Notch Impact (3.20 mm)		2100	J/m	ASTM D256
	Falling-weight impact (23°C)		35.3	J	ASTM D3029
Thermal properties	Heat deflection temperature under load (1.8 MPa, unannealed, 6.40 mm)		189	°C	ASTM D648
Flammability	FAA Flammability		SECT A-1		FAR 25.853
	Halogen Content		0		Internal method
	Total heat release of OSU		10.0	KW min/m ²	FAR 25.853
	Vertical Burn Test	Test a(60s), passed	1.0	sec	FAR 25.853
		Test b(12s), passed	0.0		

★ The numerical values are representative values, not standard values.

PEI-G1030 Properties

Parameter table

Property	Testing items		Rated value	Unit	Test method
Physical properties	density		1.5	g/m^3	ISO 1183
	Melt volume-flow rate (360°C/5.0kg)		6.00	$cm^3/10min$	ISO 1183
	Shrinkage rate-flow		0.20-0.40	%	Internal method
	Water absorption rate	Saturation, 23°C	0.90	%	ISO 62
		Balance, 23°C, 50%RH	0.50		
hardness	Ball indentation hardness (H 358/30)		165	Mpa	ISO 2039-1
Mechanical properties	Tensile modulus		9500	Mpa	ISO527-2/1
	Tensile stress (at break)		165	Mpa	ISO527-2/5
	Tensile strain (at break)		2.0	%	ISO527-2/5
	Flexural modulus		8500	Mpa	ISO 178
	Bending stress		225	Mpa	ISO 178
	Taber Abrasion Resistance (1000 cycles, 1000 g, CS-17 wheels)		20.0	mg	Internal method
Impact performance	Cantilever beam notched impact strength (23°C)		10	kJ/m^2	ISO179/2C
	Unnotched Charpy impact strength	-30°C	40	kJ/m^2	ISO/179/1eU
		23°C			
	Unnotched Izod impact strength	-30°C	40	kJ/m^2	ISO 180/1U
		23°C			
Thermal properties	Heat deflection temperature	0.45 MPa, unannealed, 100 mm span	215	°C	ISO 75-2/Be
		1.8 MPa, unannealed, 100 mm span	210		ISO 75-2/Ae
	Vicat softening temperature		225	°C	ISO 306/A50
			213		ISO 306/B50
			220		ISO 306-8120
	Ball Pressure Test (125°C)		2.0E-5		IEC60695-10-2

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Thermal properties	Coefficient of linear thermal expansion	Flow:23-150°C	6.0E-5	cm/cm/°C	ISO 11359-2
		Horizontal:23-150°C	pass		
	Thermal conductivity		0.29	W/m/K	ISO 8302
	RTI elec		180	°C	UL 746
	RTI Imp		170	°C	UL 746
Electrical performance	Surface resistivity		> 1.0E+15	Ohms	IEC 60093
	Volume resistivity		1.0E+15	Ohms cm	IEC 60093
	Dielectric strength	0.800 mm, in oil	35	KV/mm	IEC 60243-1
		1.60 mm, in oil	26	KV/mm	
		3.20 mm, in oil	15	KV/mm	
	Relative permittivity	50Hz	3.30		IEC 60250
		60Hz	3.30		
		1MHz	3.10		
	Dissipation factor	50Hz	1.6E-3		IEC 60250
		60Hz	1.6E-3		
		1MHz	2.3E-3		
		2.45GHz	5.3E-3		
	Comparative tracking index	-	150	V	IEC 60112
		Solution	100	V	
Flammability	UL Flame Retardant Rating	0.250mm	V-0		UL 94
		1.20mm	5VA		
	Glow Wire Flammability Index (3.20 mm)		960	°C	IEC 60695-2-12
	Limiting Oxygen Index		48	%	ISO 4589-2

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