

PEI Data Sheet 물성표

HIGH PERFORMANCE MATERIAL



PROPERTIES	Test methods	Units	PEI Natural	PEI ESD
Color - 색상	-	-	Brown	Black
Density - 비중	ISO 1183-1	g/cm ³	1.27	1.41
Water absorption: - 물흡수율				
- after 24/96 h immersion in water of 23 °C	ISO 62	mg	16 / 34	-
	ISO 62	%	0.19 / 0.40	-
- at saturation in air of 23 °C / 50 % RH	-	%	0.70	0.60
- at saturation in water of 23°C	-	%	1.30	1.10
Thermal Properties				
Melting temperature (DSC, 10 °C/min) - 녹는점	ISO 11357-1/-3	°C	NA	NA
Glass transition temperature (DSC, 20 °C/min) - 유리전이온도	ISO 11357-1/-2	°C	215	215
Thermal conductivity at 23 °C - 열전도도	-	W/(K.m)	0.24	0.35
Coefficient of linear thermal expansion - 열팽창계수				
- average value between 23 and 100 °C	-	m/(m.K)	50 x 10 ⁻⁶	40 x 10 ⁻⁶
- average value between 23 and 150 °C	-	m/(m.K)	50 x 10 ⁻⁶	40 x 10 ⁻⁶
- average value above 150 °C	-	m/(m.K)	60 x 10 ⁻⁶	45 x 10 ⁻⁶
Temperature of deflection under load - 하중변형온도				
- method A: 1.8 MPa	ISO 75-1/-2	°C	195	200
Max. allowable service temperature in air - 최대사용온도				
- for short periods (4)	-	°C	200	200
- continuously : for min. 20,000 h	-	°C	170	170
Min. service temperature - 최저사용온도	-	°C	-50	-20
Flammability - 타는 정도				
- "Oxygen Index"	ISO 4589-1/-2	%	47	47
- according to UL 94 (1.5 / 3 mm thickness)	-	-	V-0 / V-0	V-0 / V-0
Mechanical Properties at 23 °C				
Tension test - 인장 테스트				
- tensile stress at yield / tensile stress at break	ISO 527-1/-2	MPa	129 / -	NYP / 62
- tensile strength	ISO 527-1/-2	MPa	129	62
- tensile strain at yield	ISO 527-1/-2	%	7	NYP
- tensile strain at break	ISO 527-1/-2	%	13	2
- tensile modulus of elasticity	ISO 527-1/-2	MPa	3500	5850
Compression test - 압축 테스트				
- compressive stress at 1 / 2 / 5 % nominal strain	ISO 604	MPa	31 / 61 / 137	44 / 76 / 114
Charpy impact strength - unnotched - 충격강도	ISO 179-1/1eU	kJ/m ²	no break	20
Charpy impact strength - notched - 충격강도	ISO 179-1/1eA	kJ/m ²	3.5	4
Ball indentation hardness - 경도	ISO 2039-1	N/mm ²	165	-
Rockwell hardness - 경도	ISO 2039-2	-	M 115	M 115
Electrical Properties at 23 °C				
Electric strength - 절연파괴 강도	IEC 60243-1	kV/mm	27	-
Volume resistivity - 체적저항	IEC 60093	Ohm.cm	> 10 ¹⁴	10 ⁴ - 10 ⁶
Surface resistivity - 표면저항	ANSI/ESD STM 11.11	Ohm/sq.	> 10 ¹³	10 ⁴ - 10 ⁶
Relative permittivity ε _r : - at 100 Hz - 비투전율	IEC 60250	-	3.0	-
Relative permittivity ε _r : - at 1 MHz	IEC 60250	-	3.0	3.0
Dielectric dissipation factor tan δ: - at 100 Hz - 유전손실율	IEC 60250	-	0.002	-
Dielectric dissipation factor tan δ: - at 1 MHz	IEC 60250	-	0.002	0.002
Comparative tracking index (CTI) - 비교추적계수	IEC 60112	-	175	-