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Datasheet AE1000PEIBL



AE1000PEIBL is a high strength amorphous thermoplastic polymer and performs in continuous use up to 170 °C paired with an excellent flame resistance (UL 94 V-0) and low smoke generation.AE1000PEIBL is also resistant to gamma radiation. It excels in medical reusable applications requiring repeated sterilization and dimensional stability and low creep. Good impact resistance, although chemical attack under stress might lead to cracking.

Application

Load-bearing components, structural probes, microwave applications, replacing glass in medical lamps, reusable medical devices, manifolds resistant to daily sanitation, high voltage circuitbreaker housings, electrical insulators, electrical hardware components, integrated-circuit chip carriers for accelerated testing at high temperatures, non-combustible plenum connectors, high-temperature bobbins, coils and fuse blocks, under the hood automotive components, connector clamps for printedwiring boards, jet-engine components.

Material

Availablity

	Value	Unit
Rod diameters	6-200	mm
Tube inside diameter	on request	
Tube outside diameter	on request	
Length standard	3000	mm
Sheet thickness	6-100	mm
Sheet size	1000x2000	mm





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AE1000PEIBL - Specifications

Physical properties

	Test standard	Value	Unit
Density	ISO 1183	1,27	g/cm³
Thermal conductivity	Method A	0,24	W/m°K
Specific heat capacity		on request	
Moisture absorption at 23°C, 50% RH	ISO 62	0,7	%
Water absorption at 23 °C	ISO 62	1,25	%
Flammability	UL 94	V-0	[-]

Mechanical properties

	Test standard	Value	Unit
Yield stress	ISO 527	105	MPa
Elongation at break	ISO 527	30	%
Modulus of elasticity in tension	ISO 527	3200	MPa
Bending modulus	Flexural test	3300	MPa
Flexural strength	ISO 178	160	MPa
Charpy impact strength +23°C	ISO 179/1eU	no break	kJ/m²
Charpy notched impact strength +23°C	ISO 179/1eA	10	kJ/m²
Ball indentation hardness	ISO 2039-1	140	N/mm²
Compressive modulus		on request	

Thermal properties

	Test standard	Value	Unit
Min. working temperature		-50	°C
Max. working temperature		170	°C
Intermittent working temperature		200	°C
Heat distortion temperature	Method A ISO 75	190	°C
Melting temperature		on request	
Thermal coefficient of linear expansion	DIN 53752	5	1/K.10-5

Friction properties

	Test standard	Value	Unit

Electrical properties

	Test standard	Value	Unit
Dielectric constant		on request	
Dielectric loss factor		on request	
Surface resistrance	IEC 93	$>10^{15}$	Ω
Dielectric strength		on request	
Dielectric constant at 1MHZ	IEC 250	3	[-]
Volume resistivity	IEC 93	10^{15}	Ω.cm

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Electrical properties

Surface resistivity	IEC 93	$> 10^{15}$	Ω
Resistance to tracking (CTI)		on request	

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