

TYPICAL ROOM TEMPERATURE PROPERTIES OF POLYAMIDE-IMIDE (PAI)

Ranges indicate properties dependent on grade.

— TEST METHOD —		Property	VALUE	
ISO	ASTM		SI	English
1183	D792	Specific gravity	1.4-1.6	1.4-1.6
527	D638	Tensile strength	68-162 MPa	10-23 kpsi
527	D638	Elongation at break (%)	3-15	3-15
527	D638	Tensile modulus	3-17 GPa	0.4-2.5 Mpsi
178	D790	Flexural modulus	4-17 GPa	0.6-2.5 Mpsi
604	D695	Compressive modulus	3-7 GPa	0.4-1.0 Mpsi
180/1A	D256	Notched Izod impact	27-133 J/m	0.5-2.5 ft-lb/in ²
2039-2	D785	Hardness, Rockwell	E66-E94	E66-E94
—	—	Coefficient of friction dynamic	0.2-0.35	0.2-0.35
—	E831 (TMA)	Coefficient of linear thermal expansion × 10⁻⁵	1.4-3.6 mm/mm-°C	0.8-2.0 in/in-°F
75	D648	Heat deflection temperature At 1.8 MPa (264 psi)	271-282°C	520-540°F
—	E1356	Glass transition temperature	275°C	527°F
—	—	Continuous service temperature in air	260°C	500°F
—	UL 94	Flammability At 3.1 mm (0.125") estimated	V-0	V-0
IEC243	D149	Dielectric strength	conductive – 30 kV/mm	conductive – 750 V/mil
IEC93	D257	Volume resistancy	conductive – 2×10 ¹⁷ ohm-cm	conductive – 8×10 ¹⁶ ohm-in
IEC250	D150	Dielectric constant At 1 MHz	conductive – 4.2-6.0	conductive – 4.2-6.0
IEC250	D150	Dissipation factor At 1 MHz	conductive – 0.026-0.071	conductive – 0.026-0.071
62	D570	Water absorption, 24 h, 1/8-in thk (%)	0.17-0.35	0.17-0.35

Taken from *Engineering Plastic Products – Stock Shapes for Machining*, Quadrant Engineering Plastic Products, 1996.