Property Data

Envalior
Imagine the Future

ForTii® K11

PPA–GF30

30% Glass Reinforced, PA4T, Good Flow, Electro–friendly

Print Date: 2024–09–17

ForTii® K11 combines excellent mechanical properties with low warpage for miniature applications such as Audio Jack and Camera Holder.

PROPERTIES	TYPICAL DATA	UNIT	TEST METHOD
RHEOLOGICAL PROPERTIES	DRY / COND		
Molding shrinkage (parallel)	0.4 / *	%	ISO 294–4
Molding shrinkage (normal)	1.3 / *	%	ISO 294–4
MECHANICAL PROPERTIES	DRY / COND		
Tensile modulus	11300 / 11500	MPa	ISO 527–1/–2
Tensile modulus (120°C)	8000 / –	MPa	ISO 527–1/–2
Tensile modulus (160°C)	4500	MPa	ISO 527–1/–2
Tensile modulus (200°C)	4000	MPa	ISO 527–1/–2
Stress at break	190 / 170	MPa	ISO 527–1/–2
Stress at break (120°C)	125 / –	MPa	ISO 527–1/–2
Stress at break (160°C)	85	MPa	ISO 527–1/–2
Stress at break (200°C)	70	MPa	ISO 527–1/–2
Strain at break	2 / 1.9	%	ISO 527–1/–2
Strain at break (120°C)	3.5 / –	%	ISO 527–1/–2
Strain at break (160°C)	5	%	ISO 527–1/–2
Strain at break (200°C)	5.5	%	ISO 527–1/–2
Flexural modulus	10500 / 11000	MPa	ISO 178
Flexural strength	290 / 260	MPa	ISO 178
Flexural modulus (120°C)	7500	MPa	ISO 178
Flexural modulus (160°C)	4500	MPa	ISO 178

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PROPERTIES	TYPICAL DATA	UNIT	TEST METHOD
Flexural modulus (200°C)	4000	MPa	ISO 178
Charpy impact strength (+23°C)	60 / 50	kJ/m²	ISO 179/1eU
Charpy notched impact strength (+23°C)	10 / 9	kJ/m²	ISO 179/1eA
THERMAL PROPERTIES	**DRY / COND**		
Melting temperature (10°C/min)	325 / *	°C	ISO 11357–1/–3
Temp. of deflection under load (1.80 MPa)	305 / *	°C	ISO 75–1/–2
Coeff. of linear therm. expansion (parallel)	0.3	E–4/°C	ASTM D696
Coeff. of linear therm. expansion (normal)	0.5	E–4/°C	ASTM D696
Burning Behav. at 3.0 mm nom. thickn.	HB / *	class	IEC 60695–11–10
Thickness tested	3 / *	mm	IEC 60695–11–10
UL recognition	Yes / *	–	–
Thermal Index 5000 hrs	174	°C	IEC 60216/ISO 527–1/–2
ELECTRICAL PROPERTIES	**DRY / COND**		
Volume resistivity	>1E13 / >1E13	Ohm*m	IEC 62631–3–1
Electric strength	33 / 33	kV/mm	IEC 60243–1
Comparative tracking index	600 / 600	V	IEC 60112
Relative permittivity (100Hz)	5 / 5	–	IEC 62631–2–1
Relative permittivity (1 MHz)	4.5 / 4.5	–	IEC 62631–2–1
Relative permittivity (1GHz)	3.9 / 4	–	IEC 61189–2–721
Relative permittivity (10GHz)	3.8 / 3.9	–	IEC 61189–2–721
OTHER PROPERTIES	**DRY / COND**		
Humidity absorption	2 / *	%	Sim. to ISO 62
Density	1430 / –	kg/m³	ISO 1183