

ForTii® TX1

PPA—GF30 FR(40)

30% Glass Reinforced, PA4T, Electro-friendly, Halogen free and free of red phosphorous, Certified V-0 at 0.35mm

ForTii® TX1 has robust mechanical & JEDEC Level 2 performance, enabling SMT process without deformation and low risk on blistering. TX1 has stable processing behavior and is suitable for typical consumer electronics connector manufacturing such as I/O, FPC and WTB connectors.

PROPERTIES	TYPICAL DATA	UNIT	TEST METHOD
RHEOLOGICAL PROPERTIES			
	DRY / COND		
Molding shrinkage (parallel)	0.35 / *	%	ISO 294-4
Molding shrinkage (normal)	1.2 / *	%	ISO 294-4
MECHANICAL PROPERTIES			
	DRY / COND		
Tensile modulus	11500 / 12000	MPa	ISO 527-1/-2
Tensile modulus (120°C)	8000 / –	MPa	ISO 527-1/-2
Tensile modulus (160°C)	5000	MPa	ISO 527-1/-2
Stress at break	150 / 140	MPa	ISO 527-1/-2
Stress at break (120°C)	95 / –	MPa	ISO 527-1/-2
Stress at break (160°C)	65	MPa	ISO 527-1/-2
Strain at break	2 / 1.9	%	ISO 527-1/-2
Strain at break (120°C)	2.5 / –	%	ISO 527-1/-2
Strain at break (160°C)	3.6	%	ISO 527-1/-2
Flexural modulus	11000 / 11500	MPa	ISO 178
Flexural strength	240 / 220	MPa	ISO 178
Charpy impact strength (+23°C)	47 / 47	kJ/m²	ISO 179/1eU
Charpy notched impact strength (+23°C)	7 / 7	kJ/m²	ISO 179/1eA
THERMAL PROPERTIES			
	DRY / COND		
Melting temperature (10°C/min)	325 / *	°C	ISO 11357-1/-3

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PROPERTIES	TYPICAL DATA	UNIT	TEST METHOD
Temp. of deflection under load (1.80 MPa)	305 / *	°C	ISO 75-1/-2
Coeff. of linear therm. expansion (parallel)	0.2 / *	E-4/°C	ISO 11359-1/-2
Coeff. of linear therm. expansion (normal)	0.65 / *	E-4/°C	ISO 11359-1/-2
Coeff. of linear therm. expansion (parallel)	0.3	E-4/°C	ASTM D696
Coeff. of linear therm. expansion (normal)	0.35	E-4/°C	ASTM D696
Burning Behav. at 1.5 mm nom. thickn.	V-0 / *	class	IEC 60695-11-10
Thickness tested	1.5 / *	mm	IEC 60695-11-10
UL recognition	Yes / *	—	—
Burning Behav. at 3.0 mm nom. thickn.	V-0 / *	class	IEC 60695-11-10
Thickness tested	3 / *	mm	IEC 60695-11-10
UL recognition	Yes / *	—	—
Relative Temperature Index – electrical	130	°C	UL746B
RTI electrical (Thickness (1) tested)	0.75	mm	UL746B

ELECTRICAL PROPERTIES	DRY / COND		
Electric strength	33 / 33	kV/mm	IEC 60243-1
Comparative tracking index	600 / –	V	IEC 60112
Comparative Tracking Index (above 600V)	≥800V	V	Sim. to IEC 60112
Relative permittivity (100Hz)	4.2 / 4.2	—	IEC 62631-2-1
Relative permittivity (1 MHz)	3.9 / 3.9	—	IEC 62631-2-1
Relative permittivity (1GHz)	3.8 / 3.9	—	IEC 61189-2-721

OTHER PROPERTIES	DRY / COND		
Humidity absorption	1.6 / *	%	Sim. to ISO 62
Density	1460 / –	kg/m³	ISO 1183