

# ForTii<sup>®</sup> TX1

## PPA–GF30 FR(40)

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

Print Date: 2024–09–17

ForTii<sup>®</sup> 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
<b>RHEOLOGICAL PROPERTIES</b>			
	<b>DRY / COND</b>		
Molding shrinkage (parallel)	0.35 / *	%	ISO 294–4
Molding shrinkage (normal)	1.2 / *	%	ISO 294–4
<b>MECHANICAL PROPERTIES</b>			
	<b>DRY / COND</b>		
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/m <sup>2</sup>	ISO 179/1eU
Charpy notched impact strength (+23°C)	7 / 7	kJ/m <sup>2</sup>	ISO 179/1eA
<b>THERMAL PROPERTIES</b>			
	<b>DRY / COND</b>		
Melting temperature (10°C/min)	325 / *	°C	ISO 11357–1/–3

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## Property Data

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<i>PROPERTIES</i>	<i>TYPICAL DATA</i>	<i>UNIT</i>	<i>TEST METHOD</i>
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/m <sup>3</sup>	ISO 1183

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