Property Data

Envalior
Imagine the Future

ForTii® MX2

PPA–GF40

40% Glass Fiber Reinforced, PA4T, Heat Stabilized, for Automotive applications

Print Date: 2025–10–04

ForTii® MX2 is a high Tg PPA that outperforms in dimensional stability at elevated temperatures due to the high heat deflection temperature (HDT). MX2 has excellent fatigue performance and good chemical resistance.

PROPERTIES	TYPICAL DATA	UNIT	TEST METHOD
RHEOLOGICAL PROPERTIES	**DRY / COND**		
Molding shrinkage (parallel)	0.35 / *	%	ISO 294–4
Molding shrinkage (normal)	1 / *	%	ISO 294–4
MECHANICAL PROPERTIES	**DRY / COND**		
Tensile modulus	14500 / 14800	MPa	ISO 527–1/–2
Tensile modulus (–40°C)	14800 / 15000	MPa	ISO 527–1/–2
Tensile modulus (40°C)	14200 / 14000	MPa	ISO 527–1/–2
Tensile modulus (80°C)	13500 / 8800	MPa	ISO 527–1/–2
Tensile modulus (100°C)	12800 / 7000	MPa	ISO 527–1/–2
Tensile modulus (120°C)	9500 / 6300	MPa	ISO 527–1/–2
Tensile modulus (150°C)	6700	MPa	ISO 527–1/–2
Tensile modulus (160°C)	6300	MPa	ISO 527–1/–2
Tensile modulus (180°C)	5500	MPa	ISO 527–1/–2
Tensile modulus (200°C)	5300	MPa	ISO 527–1/–2
Stress at break	230 / 210	MPa	ISO 527–1/–2
Stress at break (–40°C)	250 / 250	MPa	ISO 527–1/–2
Stress at break (40°C)	220 / 190	MPa	ISO 527–1/–2
Stress at break (80°C)	200 / 115	MPa	ISO 527–1/–2
Stress at break (100°C)	170 / 100	MPa	ISO 527–1/–2
Stress at break (120°C)	140 / 90	MPa	ISO 527–1/–2

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Stress at break (150°C)	105	MPa	ISO 527–1/–2
Stress at break (160°C)	95	MPa	ISO 527–1/–2
Stress at break (180°C)	85	MPa	ISO 527–1/–2
Stress at break (200°C)	78	MPa	ISO 527–1/–2
Strain at break	2.3 / 2.2	%	ISO 527–1/–2
Strain at break (–40°C)	2.2 / 2.1	%	ISO 527–1/–2
Strain at break (40°C)	2.2 / 2.1	%	ISO 527–1/–2
Strain at break (80°C)	2.5 / 4.5	%	ISO 527–1/–2
Strain at break (100°C)	3 / 5	%	ISO 527–1/–2
Strain at break (120°C)	5.1 / 6	%	ISO 527–1/–2
Strain at break (150°C)	6.9	%	ISO 527–1/–2
Strain at break (160°C)	7	%	ISO 527–1/–2
Strain at break (180°C)	7	%	ISO 527–1/–2
Strain at break (200°C)	7	%	ISO 527–1/–2
Flexural modulus	14000 / 14500	MPa	ISO 178
Flexural strength	350 / 290	MPa	ISO 178
Flexural modulus (120°C)	9800	MPa	ISO 178
Flexural modulus (160°C)	6000	MPa	ISO 178
Flexural modulus (180°C)	5400	MPa	ISO 178
Flexural modulus (200°C)	5000	MPa	ISO 178
Charpy impact strength (+23°C)	70 / 60	kJ/m²	ISO 179/1eU
Charpy impact strength (–30°C)	65 / 55	kJ/m²	ISO 179/1eU
Charpy notched impact strength (+23°C)	11 / 9	kJ/m²	ISO 179/1eA
Charpy notched impact strength (–30°C)	10 / 8	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)	0.17 / *	E–4/°C	ISO 11359–1/–2

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Coeff. of linear therm. expansion (normal)	0.55 / *	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
Thermal Index 5000 hrs	175	°C	IEC 60216/ISO 527-1/-2

ELECTRICAL PROPERTIES	DRY / COND		
Volume resistivity	>1E13 / >1E13	Ohm*m	IEC 62631-3-1
Relative permittivity (100Hz)	4.9 / 5.7	-	IEC 62631-2-1
Relative permittivity (1 MHz)	4.6 / 4.8	-	IEC 62631-2-1

OTHER PROPERTIES	DRY / COND		
Humidity absorption	1.8 / *	%	Sim. to ISO 62
Density	1550 / -	kg/m³	ISO 1183

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Tens. fatigue 8Hz, T, R=0.1 , dry