

TECHNICAL DATA SHEET

ForTii® MX3

Envalior
PPA-GF50

Processing

Injection molding

Delivery Form

Pellets

Additives

Lubricants, Release agent

Special Characteristics

Heat stabilized or stable to heat

Applications

Automotive

Product Text

Product Information

50% Glass Reinforced, PA4T, Heat Stabilized, for Automotive applications

ISO 1043 PPA-GF50

ForTii® MX3 is a high Tg PPA that outperforms in dimensional stability at elevated temperatures due to the high heat deflection temperature (HDT). MX3 has excellent fatigue performance and good chemical resistance.

Processing/Physical Characteristics	Value	Unit	Standard
Molding shrinkage, parallel	0.35	%	ISO 294-4, 2577
Molding shrinkage, normal	0.9	%	ISO 294-4, 2577
Mechanical Properties	Value	Unit	Standard
Tensile modulus	18000	MPa	ISO 527
Stress at break	260	MPa	ISO 527
Strain at break	2.1	%	ISO 527
Poisson's ratio	0.35		ISO 527
Charpy impact strength, +23°C	90	kJ/m ²	ISO 179/1eU
Charpy impact strength, -30°C	75	kJ/m ²	ISO 179/1eU
Charpy notched impact strength, +23°C	12	kJ/m ²	ISO 179/1eA
Charpy notched impact strength, -30°C	11	kJ/m ²	ISO 179/1eA

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Thermal Properties	Value	Unit	Standard
Melting temperature, 10°C/min	325	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	125	°C	ISO 11357-1/-2
Temp. of deflection under load, 1.80 MPa	305	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	318	°C	ISO 75-1/-2
Coeff. of linear therm. expansion, parallel	15	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	50	E-6/K	ISO 11359-1/-2

Electrical Properties	Value	Unit	Standard
Relative permittivity, 100Hz	5.1		IEC 62631-2-1
Relative permittivity, 1MHz	4.8		IEC 62631-2-1
Dissipation factor, 100Hz	54	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	160	E-4	IEC 62631-2-1
Volume resistivity	>1E13	Ohm*m	IEC 62631-3-1
Surface resistivity	>1E15	Ohm	IEC 62631-3-2
Electric strength	35	kV/mm	IEC 60243-1
Comparative tracking index	425		IEC 60112

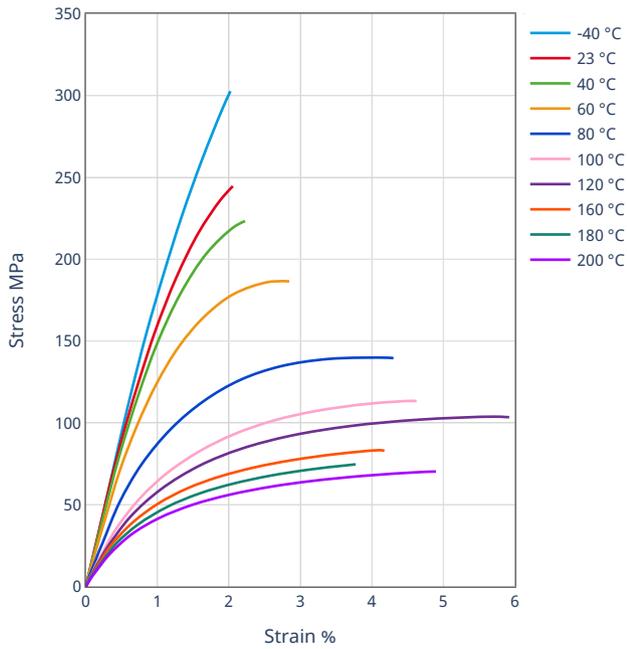
Other Properties	Value	Unit	Standard
Water absorption	4	%	Sim. to ISO 62
Humidity absorption	1.5	%	Sim. to ISO 62
Density	1650	kg/m ³	ISO 1183

Diagrams

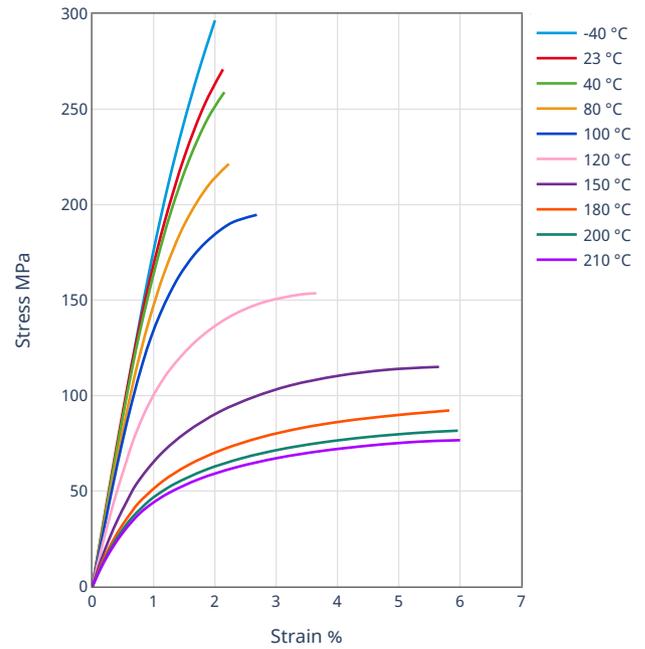
ForTii® MX3

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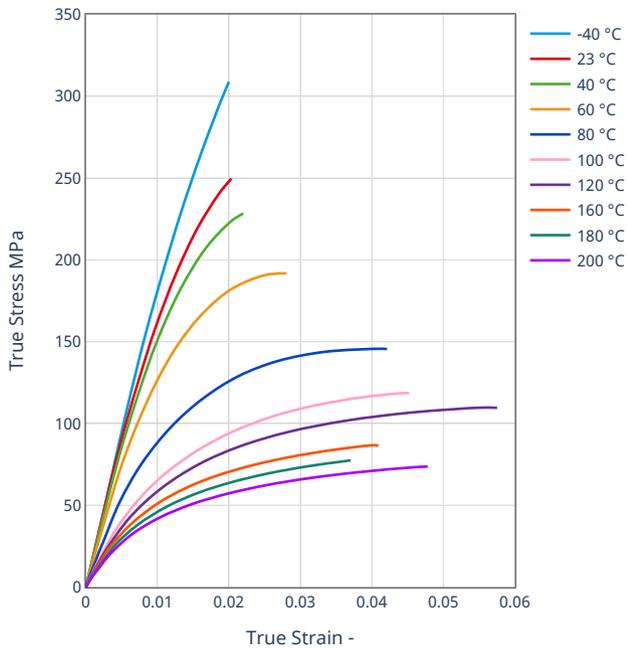
Stress-strain



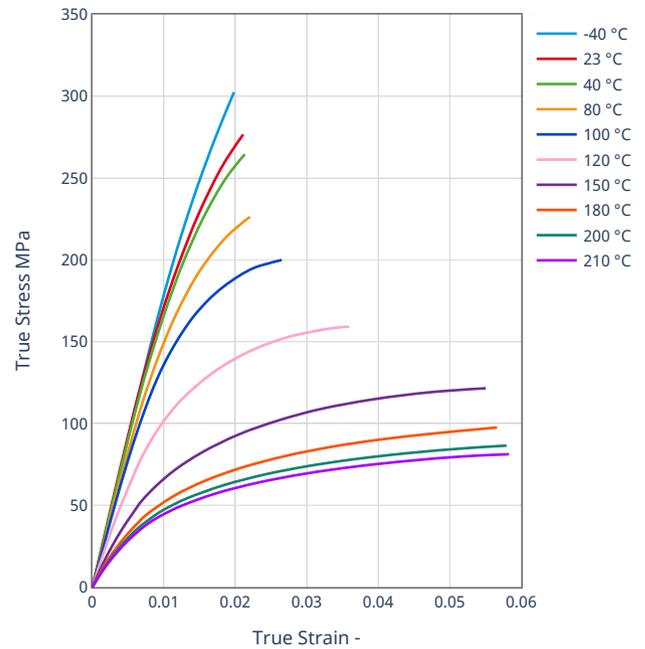
Stress-strain



True stress-true strain



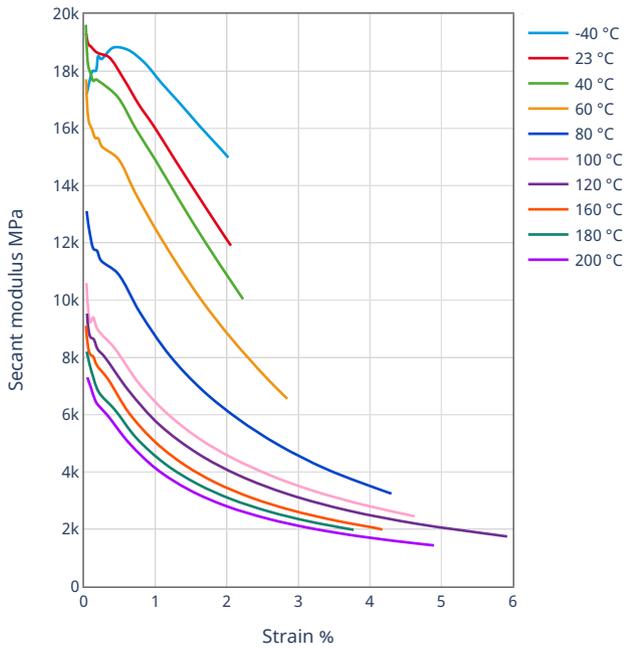
True stress-true strain



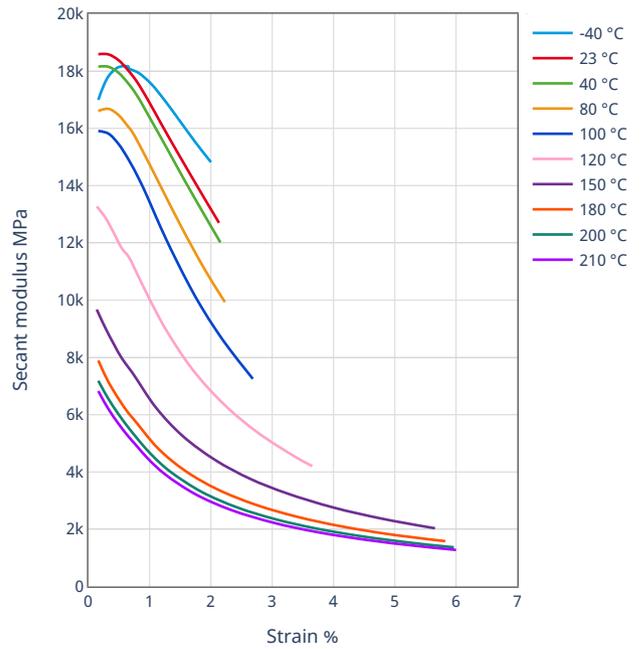
ForTii® MX3

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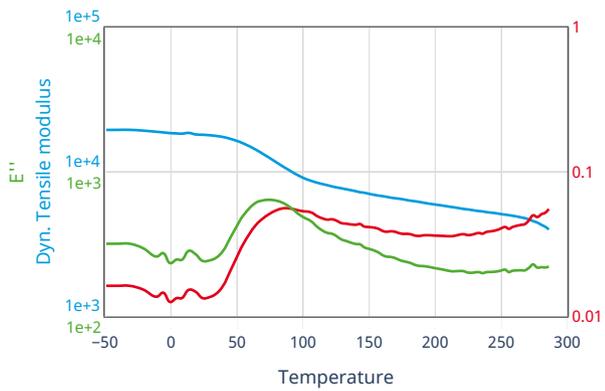
Secant modulus-strain



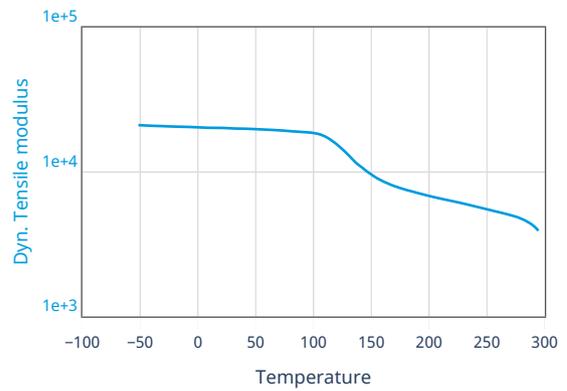
Secant modulus-strain



Dynamic tensile modulus-temperature



Dynamic tensile modulus-temperature



Processing Information

Injection molding

Injection Molding Recommendations

Hot runner recommendations for molding high heat performance Engineering Materials

Steel recommendations for molds screws and barrels

Trouble shooting guideline for injection molding