ForTii®

ForTii® MX2

PPA-GF40

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

Print Date: 2019-10-15

ForTii® MX2 outperforms in dimensional stability at elevated temperatures due to the high heat deflection temperature under load.

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	14000 / 14200	MPa	ISO 527-1/-2
Tensile modulus (-40°C)	14300 / 14500	MPa	ISO 527-1/-2
Tensile modulus (40°C)	13700 / 13500	MPa	ISO 527-1/-2
Tensile modulus (80°C)	13800 / 8800	MPa	ISO 527-1/-2
Tensile modulus (100°C)	12500 / 6500	MPa	ISO 527-1/-2
Tensile modulus (120°C)	9500 / -	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 / 220	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)	180 / 90	MPa	ISO 527-1/-2
Stress at break (120°C)	130 / -	MPa	ISO 527-1/-2
Stress at break (150°C)	100	MPa	ISO 527-1/-2

Property Data

ForTii® MX2

Print Date: 2019-10-15

Properties	Typical Data	Unit	Test Method
Stress at break (160°C)	95	MPa	ISO 527-1/-2
Stress at break (180°C)	90	MPa	ISO 527-1/-2
Stress at break (200°C)	82	MPa	ISO 527-1/-2
Strain at break	2.1 / 2	%	ISO 527-1/-2
Strain at break (-40°C)	2.1 / 2	%	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 / -	%	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	14200 / -	MPa	ISO 178
Flexural strength	340 / -	MPa	ISO 178
Flexural modulus (120°C)	9800	MPa	ISO 178
Flexural modulus (160°C)	6000	MPa	ISO 178
Charpy impact strength (+23°C)	65 / 55	kJ/m²	ISO 179/1eU
Charpy impact strength (-30°C)	55 / 45	kJ/m²	ISO 179/1eU
Charpy notched impact strength (+23°C)	10 / 9	kJ/m²	ISO 179/1eA
Charpy notched impact strength (-30°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)	0.35	E-4/°C	ASTM D696

Electrical properties

	dry / cond		
Volume resistivity	>1E13 / >1E13	Ohm*m	IEC 60093

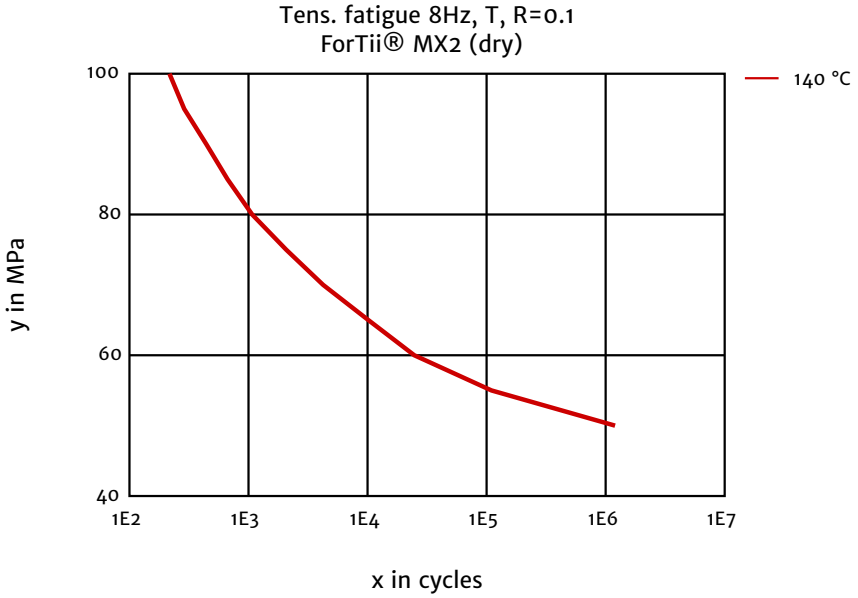
Property Data

ForTii® MX2

Print Date: 2019-10-15

Properties	Typical Data	Unit	Test Method
Relative permittivity (100Hz)	4.9 / 5.7	-	IEC 60250
Relative permittivity (1 MHz)	4.6 / 4.8	-	IEC 60250
Other properties	dry / cond		
Humidity absorption	1.6 / *	%	Sim. to ISO 62
Density	1550 / -	kg/m³	ISO 1183

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



WO20542