

# Quadrant EPP Duratron® XP (CM)

Polyamide

Quadrant Engineering Plastic Products

Message:

Duratron XP is a compression-molded polyimide that offers high purity, high strength, high heat resistance, and good machinability. These properties, combined with its chemical resistance and dimensional stability, make Duratron XP ideal for components in semiconductor manufacturing and test equipment.

General Information			
Features	Acid Resistant		
	Alcohol Resistant		
	Good Chemical Resistance		
	Good Dimensional Stability		
	High Heat Resistance		
	High Purity		
	High Strength		
	Hydrocarbon Resistant		
	Machinable		
	Solvent Resistant		
Uses	Semiconductor Molding Compounds		
Processing Method	Compression Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.40	g/cm <sup>3</sup>	ASTM D792
Water Absorption			ASTM D570
24 hr	0.40	%	
Saturation	1.3	%	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale)	110		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	4020	MPa	ASTM D638
Tensile Strength (Ultimate)	110	MPa	ASTM D638
Tensile Elongation (Break)	4.0	%	ASTM D638
Flexural Modulus	4140	MPa	ASTM D790
Flexural Strength (Yield)	138	MPa	ASTM D790
Compressive Modulus	3100	MPa	ASTM D695
Compressive Strength (10% Strain)	165	MPa	ASTM D695
Coefficient of Friction (vs. Steel - Static)	0.23		Internal Method
Wear Factor	100	10 <sup>-8</sup> mm <sup>3</sup> /N · m	ASTM D3702
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact	75	J/m	ASTM D256A

Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Unannealed)	360	°C	ASTM D648
Maximum Use Temperature - Long Term, Air	304	°C	
Limiting Pressure Velocity <sup>1</sup>	1.14	MPa·m/s	Internal Method
Glass Transition Temperature	323	°C	ASTM D3418
CLTE - Flow <sup>2</sup> (-40 to 149°C)	4.9E-5	cm/cm/°C	ASTM E831
Thermal Conductivity	0.22	W/m/K	ASTM F433
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity <sup>3</sup>	> 1.0E+13	ohms	Internal Method
Dielectric Strength <sup>4</sup>	28	kV/mm	ASTM D149
Dielectric Constant (1 MHz)	3.41		ASTM D150
Dissipation Factor (1 MHz)	3.8E-3		ASTM D150
Flammability	Nominal Value	Unit	Test Method
Flame Rating (3.18 mm, Estimated Rating)	V-0		UL 94
NOTE			
1.	4:1 safety factor		
2.	68°F		
3.	EOS/ESD S11.11		
4.	Method A (Short-Time)		

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