

Quadrant EPP Semitron® CMP XL20

Polyamide-imide

Quadrant Engineering Plastic Products

Message:

Semitron CMP XL20: Enhanced imidized product for the longest life in CMP retaining ring applications. Superior life in all CMP processes tested, up to 20 times better than standard products. High strength and stiffness makes it equally suitable for reinforced and unreinforced designs.

General Information			
Features	High Stiffness		
	High Strength		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.40	g/cm ³	ASTM D792
Water Absorption			ASTM D570
24 hr	0.40	%	
Saturation	1.7	%	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ASTM D785
E-Scale	80		
M-Scale	120		
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	3960	MPa	ASTM D638
Tensile Strength (Ultimate)	138	MPa	ASTM D638
Tensile Elongation (Break)	10	%	ASTM D638
Flexural Modulus	4140	MPa	ASTM D790
Flexural Strength (Yield)	165	MPa	ASTM D790
Compressive Modulus	2760	MPa	ASTM D695
Compressive Strength (10% Strain,23°C)	165	MPa	ASTM D695
Shear Strength	110	MPa	ASTM D732
Coefficient of Friction (vs. Steel - Static)	0.35		Internal Method
Wear Factor	> 2000	10 ⁻⁸ mm ³ /N · m	Internal Method
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact	110	J/m	ASTM D256A
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Unannealed)	278	°C	ASTM D648
Continuous Use Temperature ¹	260	°C	
Glass Transition Temperature	275	°C	ASTM D3418
CLTE - Flow ² (-40 to 149°C)	3.1E-5	cm/cm/°C	ASTM E831
Thermal Conductivity	0.26	W/m/K	
Electrical	Nominal Value	Unit	Test Method

Surface Resistivity ³	> 1.0E+16	ohms	Internal Method
Dielectric Strength ⁴	23	kV/mm	ASTM D149
Dielectric Constant (1 MHz)	4.20		ASTM D150
Dissipation Factor (1 MHz)	0.026		ASTM D150
Flammability	Nominal Value	Unit	Test Method
Flame Rating (3.18 mm, Estimated Rating)	V-0		UL 94
Additional Information	Nominal Value	Unit	Test Method
Limiting Pressure Velocity ⁵	0.140	MPa·m/s	Internal Method
NOTE			
1.	Air		
2.	68°F		
3.	EOS/ESD S11.11		
4.	Method A (Short-Time)		
5.	4:1 safety factor		

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