

Quadrant EPP CELAZOLE® PBI

Polybenzimidazole
Quadrant Engineering Plastic Products

Message:
Celazole® is a registered trademark of PBI Performance Products.

General Information			
Recycled Content	Yes		
Features	Good Chemical Resistance		
	Good Compressive Strength		
	Good Thermal Stability		
	Good Wear Resistance		
	High Heat Resistance		
Uses	Aerospace Applications		
	Aircraft Applications		
	Bushings		
	Electrical Parts		
	High Temperature Applications		
	Insulation Shield		
	Sealing Devices		
	Seals		
	Valves/Valve Parts		
Appearance	Black		
Forms	Customizable Forms		
	Disc		
	Preformed Parts		
	Rod		
	Sheet		
	Tubing		
Processing Method	Compression Molding		
Physical	Nominal Value	Unit	Test Method
Density	1.30	g/cm ³	ISO 1183
Water Absorption			ISO 62
23°C, 24 hr, 3.00 mm	0.50	%	
Saturation, 23°C	14	%	
Water Absorption ¹ (23°C, 3.00 mm)	38.0	mg	ISO 62
Hardness	Nominal Value	Unit	Test Method

Rockwell Hardness (E-Scale, 10.0 mm)	105		ISO 2039-2
Ball Indentation Hardness (10.0 mm)	375	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	5800	MPa	ISO 527-2/1B/1
Tensile Stress (Break)	140	MPa	ISO 527-2/1B/5
Tensile Strain (Break)	3.0	%	ISO 527-2/1B/5
Compressive Stress			ISO 604/1
2% Strain	82.0	MPa	
1% Strain	42.0	MPa	
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength	3.5	kJ/m ²	ISO 179/1eA
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (1.8 MPa, Unannealed)	425	°C	ISO 75-2/A
Continuous Use Temperature			
-- ²	310	°C	
-- ³	500	°C	
Glass Transition Temperature	425	°C	
CLTE - Flow			
23 to 100°C	2.5E-5	cm/cm/°C	
23 to 150°C	2.5E-5	cm/cm/°C	
> 150°C	2.5E-5	cm/cm/°C	
Thermal Conductivity (23°C)	0.40	W/m/K	
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+13	ohms	IEC 60093
Volume Resistivity	> 1.0E+14	ohms·cm	IEC 60093
Electric Strength (1.00 mm)	22	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
100 Hz	3.30		
1 MHz	3.20		
Dissipation Factor (100 Hz)	1.0E-3		IEC 60250
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
1.50 mm	V-0		
3.00 mm	V-0		
Oxygen Index	58	%	ISO 4589-2
NOTE			
1.	Weight, 24 hrs		
2.	20000 hrs		
3.	Short periods		

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