

Quadrant EPP CESTILENE HD 500

High Molecular Weight Polyethylene

Quadrant Engineering Plastic Products

Message:

Quadrant EPP CESTILENE HD 500 is a High Molecular Weight Polyethylene product. It is available in Europe. Applications of Quadrant EPP CESTILENE HD 500 include engineering/industrial parts, electrical/electronic applications and food contact applications.

Characteristics include:

- Flame Rated
- Wear Resistant
- Food Contact Acceptable
- Good Stiffness
- Good Toughness

General Information			
Features	Food Contact Acceptable		
	Good Abrasion Resistance		
	Good Stiffness		
	Good Toughness		
	Good Wear Resistance		
	Weldable		
Uses	Electrical/Electronic Applications		
	Industrial Parts		
	Machine/Mechanical Parts		
	Non-specific Food Applications		
Appearance	Black		
	White		
Forms	Disc		
	Preformed Parts		
	Rod		
	Sheet		
Physical	Nominal Value	Unit	Test Method
Density	0.960	g/cm ³	ISO 1183
Water Absorption (Saturation, 23°C, 1.00 mm)	0.010	%	ISO 62
Molecular Weight	500000	g/mol	
Service Temperature - Minimum	-100	°C	
Relative Weight Loss			Internal Method
-- 1	350		
-- 2	1200		

Hardness	Nominal Value	Unit	Test Method
Shore Hardness			ISO 868
Shore D, 3 sec	66		
Shore D, 15 sec	64		
Ball Indentation Hardness	45.0	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	1350	MPa	ISO 527-2/1B/1
Tensile Stress (Yield)	28.0	MPa	ISO 527-2/1B/50
Tensile Strain (Yield)	10	%	ISO 527-2/1B/50
Nominal Tensile Strain at Break	> 50	%	ISO 527-2/1B/50
Compressive Stress			ISO 604/1
5% Strain	23.0	MPa	
2% Strain	15.0	MPa	
1% Strain	9.00	MPa	
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			
-- ³	> 25	kJ/m ²	Internal Method
Partial Break	110	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength	No Break		ISO 179/1eU
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (1.8 MPa, Unannealed)	44.0	°C	ISO 75-2/A
Continuous Use Temperature			
-- ⁴	80.0	°C	
-- ⁵	120	°C	
Vicat Softening Temperature	80.0	°C	ISO 306/B
Melting Temperature	130 to 135	°C	ISO 11357-3
CLTE - Flow (23 to 100°C)	1.5E-4	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, in Oil)	45	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
100 Hz	2.40		
1 MHz	2.40		
Dissipation Factor			IEC 60250
100 Hz	2.0E-4		
1 MHz	2.0E-4		
Comparative Tracking Index	600	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating (1.60 mm)	HB		UL 94

Oxygen Index	< 20	%	ISO 4589-2
NOTE			
1.	Wear test in sand/water slurry		
2.	Wear test on plastics pin on rotating steel disk-tribo system		
3.	Double 15° notch, DIS 11542-2		
4.	20000 hrs		
5.	Short periods		

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