

CABELEC® CA4857

General Purpose Polystyrene

Cabot Corporation

Message:

CABELEC® 4857 is an electrically conductive compound based on conductive carbon black dispersed in a modified styrenic resin. The electrical properties are permanent and are not dependent on atmospheric conditions.

CABELEC® 4857 has been specially designed for packaging and electronic product handling where freedom from the hazard of electrostatic discharge is necessary. Examples of use are in handling of explosives, electronic components and pigments.

General Information			
Additive	Carbon Black		
Features	Electrically Conductive		
Uses	Electrical Parts		
	Packaging		
Agency Ratings	EC 1907/2006 (REACH)		
Appearance	Black		
Forms	Pellets		
Processing Method	Extrusion		
Physical	Nominal Value	Unit	Test Method
Specific Gravity ¹	1.09	g/cm ³	Internal Method
Melt Mass-Flow Rate (MFR) ²			ISO 1133
200°C/10.0 kg	6.0	g/10 min	
200°C/21.6 kg	67	g/10 min	
200°C/5.0 kg	1.0	g/10 min	
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness ³ (Shore D, 15 sec)	73		ASTM D2240
Mechanical	Nominal Value	Unit	Test Method
Tensile Stress ⁴			ISO 527-2
Yield	25.8	MPa	
Break	20.4	MPa	
Tensile Strain ⁵ (Break)	25	%	ISO 527-2
Flexural Modulus ⁶	2020	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact Strength ⁷ (23°C)	9.0	kJ/m ²	ISO 180
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature ⁸ (1.8 MPa, Unannealed)	67.0	°C	ISO 75-2/A
Vicat Softening Temperature ⁹	100	°C	ISO 306/A
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity ¹⁰	5.0E+3	ohms	Internal Method

Volume Resistivity ¹¹	1.0E+2	ohms·cm	Internal Method
Surface Resistance ¹² (400.0 μm)	1000	ohms	Internal Method
Extrusion	Nominal Value	Unit	
Drying Temperature	80.0	°C	
Drying Time	2.0 to 4.0	hr	
Cylinder Zone 1 Temp.	170 to 200	°C	
Cylinder Zone 2 Temp.	170 to 200	°C	
Cylinder Zone 3 Temp.	170 to 200	°C	
Cylinder Zone 4 Temp.	170 to 200	°C	
Cylinder Zone 5 Temp.	170 to 200	°C	
Melt Temperature	< 230	°C	

NOTE

1.	CTM E023
2.	CTM E005
3.	CTM E030
4.	CTM E041
5.	CTM E041
6.	CTM E040A
7.	CTM E044A
8.	CTM E038
9.	CTM E039
10.	CTM E042E
11.	CTM E043B
12.	CTM E042D, Extruded Tape

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Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China



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