

DURACON® ES-5

Acetal (POM) Copolymer

Polyplastics Co., Ltd.

Message:

DURACON® ES-5 is a polyoxymethylene (POM) copolymer product. It can be processed by injection molding and is available in North America, Europe or the Asia-Pacific region. Typical application areas are: automotive industry.

Features include:

flame retardant/rated flame

Conductivity

Antistatic

carbon black

General Information			
UL YellowCard	E45034-235719		
Additive	Antistatic property		
	Carbon black (5%)		
Features	Conductivity		
	Antistatic property		
UL File Number	E45034		
Forms	Particle		
Processing Method	Injection molding		
Part Marking Code (ISO 11469)	>POM-CD5		
Physical	Nominal Value	Unit	Test Method
Density	1.41	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	9.0	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (190°C/2.16 kg)	8.00	cm ³ /10min	ISO 1133
Water Absorption (23°C, 24 hr)	1.3	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale)	90		ISO 2039-2
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2850	MPa	ISO 527-2
Tensile Stress	49.0	MPa	ISO 527-2
Tensile Strain (Break)	7.5	%	ISO 527-2
Flexural Modulus	2600	MPa	ISO 178
Flexural Stress	84.0	MPa	ISO 178
Coefficient of Friction			JIS K7218
Dynamic ¹	0.43		JIS K7218
With steel-dynamic ²	0.47		JIS K7218
Wear Factor			JIS K7218

0.98 MPa, 0.30 m/sec ³	< 1.0	10 ⁻⁸ mm ³ /N·m	JIS K7218
0.060 MPa, 0.15 m/sec ⁴	40	10 ⁻⁸ mm ³ /N·m	JIS K7218
0.98 MPa, 0.30 m/sec ⁵	80	10 ⁻⁸ mm ³ /N·m	JIS K7218
0.060 MPa, 0.15 m/sec ⁶	1200	10 ⁻⁸ mm ³ /N·m	JIS K7218
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength	3.0	kJ/m ²	ISO 179/1eA
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (1.8 MPa, Unannealed)	109	°C	ISO 75-2/A
Linear thermal expansion coefficient			Internal method
Flow: 23 to 55°C	1.1E-4	cm/cm/°C	Internal method
Lateral: 23 to 55°C	1.1E-4	cm/cm/°C	Internal method
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	5.0E+2	ohms	Internal method
Volume Resistivity	1.0E+2	ohms·cm	Internal method
Flammability	Nominal Value	Unit	Test Method
Flame Rating	HB		UL 94
Additional Information	Nominal Value		
Color Number	CD3501		
Injection	Nominal Value	Unit	
Drying Temperature	80.0 - 90.0	°C	
Drying Time	3.0 - 4.0	hr	
Processing (Melt) Temp	190 - 210	°C	
Mold Temperature	60.0 - 80.0	°C	
Injection Pressure	49.0 - 98.0	MPa	
Screw Speed	100 - 150	rpm	
Injection instructions			
Injection speed: 5-50 mm/sInjection Holding pressure: Gate sealing time + alphaCooling: Plasticizing time or ejection capable time			
NOTE			
1.	vs. M90-44, 0.06 MPa, 15 cm/s		
2.	0.98 MPa, 30 cm/s		
3.	vs C-Steel, Steel Side		
4.	vs M90-44, M90-44 Side		
5.	vs C-Steel, Material Side		
6.	vs M90-44, Material Side		

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