

DURACON® M450S

Acetal (POM) Copolymer

Polyplastics Co., Ltd.

Message:

DURACON® M450S 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.

Features include:

flame retardant/rated flame

high liquidity

Rapid Prototyping Cycle

General Information			
UL YellowCard	E45034-235766		
Features	Fast molding cycle		
	High liquidity		
UL File Number	E45034		
Forms	Particle		
Processing Method	Injection molding		
Part Marking Code (ISO 11469)	>POM		
Physical	Nominal Value	Unit	Test Method
Density	1.41	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	45	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (190°C/2.16 kg)	38.0	cm ³ /10min	ISO 1133
Water Absorption (23°C, 24 hr)	0.60	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale)	80		ISO 2039-2
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2800	MPa	ISO 527-2
Tensile Stress	63.0	MPa	ISO 527-2
Nominal Tensile Strain at Break	27	%	ISO 527-2
Flexural Modulus	2550	MPa	ISO 178
Flexural Stress	89.0	MPa	ISO 178
Coefficient of Friction			JIS K7218
Dynamic ¹	0.37		JIS K7218
With steel-dynamic ²	0.23		JIS K7218
Wear Factor			JIS K7218
0.98 MPa, 0.30 m/sec ³	< 1.0	10 ⁻⁸ mm ³ /N·m	JIS K7218
0.98 MPa, 0.30 m/sec ⁴	20	10 ⁻⁸ mm ³ /N·m	JIS K7218
Impact	Nominal Value	Unit	Test Method

Charpy Notched Impact Strength	5.0	kJ/m ²	ISO 179/1eA
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (1.8 MPa, Unannealed)	100	°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	1.0E+16	ohms	IEC 60093
Volume Resistivity	1.0E+14	ohms·cm	IEC 60093
Dielectric Strength (3.00 mm)	19	kV/mm	IEC 60243-1
Flammability	Nominal Value	Unit	Test Method
Flame Rating	HB		UL 94
Additional Information	Nominal Value		
Color Number	CF2001/CD3069		
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 C-Steel, Material Side		

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