

Celcon® M450

Acetal (POM) Copolymer

Celanese Corporation

Message:

Celcon® acetal copolymer grade M450 is an extremely low viscosity grade for optimal cycle performance in very thin walls or long, narrow flow paths in injection molding.

Chemical abbreviation according to ISO 1043-1: POM

General Information			
UL YellowCard	E38860-239311	E38860-101305515	
Features	Low viscosity		
	Fast molding cycle		
Uses	Thin wall parts		
RoHS Compliance	Contact manufacturer		
Processing Method	Injection molding		
Resin ID (ISO 1043)	POM		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.41	g/cm³	ASTM D792, ISO 1183
Melt Volume-Flow Rate (MVR) (190°C/2.16 kg)	39.0	cm³/10min	ISO 1133
Molding Shrinkage			
Flow	2.2	%	ASTM D955
Transverse flow	1.8	%	ASTM D955
Vertical flow direction	2.0	%	ISO 294-4
Flow direction	2.2	%	ISO 294-4
Water Absorption			
Saturated, 23°C	0.75	%	ISO 62
Equilibrium, 23°C, 50% RH	0.20	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2900	MPa	ISO 527-2/1A/1
Tensile Strength			
Yield, -40°C	94.5	MPa	ASTM D638
Yield, 23°C	60.7	MPa	ASTM D638
Yield, 71°C	34.5	MPa	ASTM D638
Yield	66.0	MPa	ISO 527-2/1A/50
Tensile Strain (Yield)	7.5	%	ISO 527-2/1A/50
Flexural Modulus (23°C)	2800	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	4.4	kJ/m²	ISO 179/1eA
Notched Izod Impact (23°C)	4.7	kJ/m²	ISO 180/1A

Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, not annealed	156	°C	ISO 75-2/B
1.8 MPa, not annealed	110	°C	ASTM D648
1.8 MPa, not annealed	103	°C	ISO 75-2/A
Melting Temperature			
-- ¹	166	°C	ISO 11357-3
--	165	°C	ASTM D3418
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	1.0E+14	ohms·cm	ASTM D257
Injection	Nominal Value	Unit	
Drying Temperature	80.0 - 100	°C	
Drying Time	3.0	hr	
Rear Temperature	170 - 180	°C	
Middle Temperature	180 - 190	°C	
Front Temperature	180 - 190	°C	
Nozzle Temperature	190 - 200	°C	
Processing (Melt) Temp	180 - 200	°C	
Mold Temperature	80.0 - 120	°C	
Injection Pressure	60.0 - 120	MPa	
Injection Rate	Moderate		
Holding Pressure	60.0 - 120	MPa	
Back Pressure	0.00 - 0.500	MPa	
Injection instructions			
Manifold Temperature: 180 to 200°C Zone 4 Temperature: 190 to 200°C			
NOTE			
1.	10°C/min		

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