

Celcon® M140

Acetal (POM) Copolymer

Celanese Corporation

Message:

Celcon® acetal copolymer grade M140 is a moderately high flow general purpose injection molding grade. It is designed for use in applications requiring some enhanced flow characteristics over the standard Celcon® M90 material.

Chemical abbreviation according to ISO 1043-1: POM

Please also see Hostaform® C 13021.

General Information			
UL YellowCard	E38860-239310		
Features	Good liquidity		
	High liquidity		
	General		
Uses	General		
RoHS Compliance	Contact manufacturer		
Processing Method	Injection molding		
Multi-Point Data	Isothermal Stress vs. Strain (ISO 11403-1)		
Resin ID (ISO 1043)	POM		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.41	g/cm ³	ASTM D792, ISO 1183
Melt Volume-Flow Rate (MVR) (190°C/2.16 kg)	12.0	cm ³ /10min	ISO 1133
Molding Shrinkage			
Flow	2.2	%	ASTM D955
Transverse flow	1.8	%	ASTM D955
Vertical flow direction	1.7	%	ISO 294-4
Flow direction	1.8	%	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	2740	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	65.0	MPa	ISO 527-2/1A/50
Tensile Strain (Yield)	9.0	%	ISO 527-2/1A/50
Tensile Creep Modulus			ISO 899-1

1 hr	2350	MPa	ISO 899-1
1000 hr	1300	MPa	ISO 899-1
Flexural Modulus (23°C)	2640	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	6.0	kJ/m ²	ISO 179/1eA
Notched Izod Impact (23°C)	5.7	kJ/m ²	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	102	°C	ISO 75-2/A
Melting Temperature ¹	166	°C	ISO 11357-3
Linear thermal expansion coefficient			ISO 11359-2
Flow	1.0E-4	cm/cm/°C	ISO 11359-2
Lateral	1.0E-4	cm/cm/°C	ISO 11359-2
Fill Analysis	Nominal Value	Unit	Test Method
Density of Melt	1.200	g/cm ³	Internal method
Specific Heat Capacity of Melt	2210	J/kg/°C	Internal method
Thermal Conductivity of Melt	0.16	W/m/K	Internal method
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	Slow-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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