



Celcon® M450

Celanese Corporation - Acetal (POM) Copolymer

Saturday, November 2, 2019

General Information

Product Description

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

Material Status	• Commercial: Active
Availability	• Africa & Middle East • Asia Pacific • Europe • Latin America • North America
Features	• Low Viscosity
Uses	• Thin-walled Parts
RoHS Compliance	• Contact Manufacturer
Processing Method	• Injection Molding
Resin ID (ISO 1043)	• POM

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density	1.41	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (190°C/2.16 kg)	39	cm ³ /10min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow	2.0	%	
Flow	2.2	%	
Water Absorption (Saturation, 73°F)	0.75	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	0.20	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	421000	psi	ISO 527-2/1A
Tensile Stress (Yield)	9570	psi	ISO 527-2/1A/50
Tensile Strain (Yield)	7.5	%	ISO 527-2/1A/50
Flexural Modulus (73°F)	406000	psi	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (73°F)	2.1	ft·lb/in ²	ISO 179/1eA
Notched Izod Impact Strength (73°F)	2.2	ft·lb/in ²	ISO 180/1A
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (66 psi, Unannealed)	313	°F	ISO 75-2/B
Heat Deflection Temperature (264 psi, Unannealed)	217	°F	ISO 75-2/A
Vicat Softening Temperature	322	°F	ISO 306/B50
Melting Temperature ²	331	°F	ISO 11357-3
Melting Temperature	331	°F	

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	212 to 248	°F
Drying Time	3.0 to 4.0	hr
Rear Temperature	338 to 356	°F
Middle Temperature	356 to 374	°F

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Injection	Nominal Value	Unit
Front Temperature	356 to 374	°F
Nozzle Temperature	374 to 392	°F
Processing (Melt) Temp	356 to 392	°F
Mold Temperature	176 to 248	°F
Injection Rate	Moderate	
Back Pressure	< 580	psi

Injection Notes

Zone4 temperature: 190 to 200°C
Hot runner temperature: 180 to 200°C
Flow temperature: 174°C

Notes

¹ Typical properties: these are not to be construed as specifications.

² 10°C/min