

Celcon® M15HP

Acetal (POM) Copolymer

Celanese Corporation

Message:

Celcon® acetal copolymer grade M15HP is a creep resistant, high viscosity polymer providing optimum performance in general purpose injection molding. This grade provides overall excellent performance in applications requiring high stiffness.

Chemical abbreviation according to ISO 1043-1: POM

General Information			
UL YellowCard	E38860-100159490	E38860-239309	
Features	Good creep resistance		
RoHS Compliance	Contact manufacturer		
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/cm³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR)	1.5	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (190°C/2.16 kg)	1.30	cm³/10min	ISO 1133
Molding Shrinkage			ISO 294-4
Vertical flow direction	1.9	%	ISO 294-4
Flow direction	2.3	%	ISO 294-4
Water Absorption			ISO 62
Saturated, 23°C	0.75	%	ISO 62
Equilibrium, 23°C, 50% RH	0.20	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2800	MPa	ISO 527-2/1A/1
Tensile Stress (Yield)	68.0	MPa	ISO 527-2/1A/50
Tensile Strain (Yield)	16	%	ISO 527-2/1A/50
Flexural Modulus (23°C)	2750	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-30°C	8.5	kJ/m²	ISO 179/1eA
23°C	11	kJ/m²	ISO 179/1eA
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	240	kJ/m²	ISO 179/1eU
23°C	280	kJ/m²	ISO 179/1eU
Notched Izod Impact (23°C)	9.5	kJ/m²	ISO 180/1A
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			

0.45 MPa, not annealed	158	°C	ISO 75-2/B
1.8 MPa, not annealed	101	°C	ISO 75-2/A
Melting Temperature ¹	173	°C	ISO 11357-3
Linear thermal expansion coefficient			ISO 11359-2
Flow	1.1E-4	cm/cm/°C	ISO 11359-2
Lateral	1.2E-4	cm/cm/°C	ISO 11359-2
Fill Analysis	Nominal Value	Unit	Test Method
Density of Melt	1.170	g/cm ³	Internal method
Injection	Nominal Value	Unit	
Drying Temperature	80.0 - 100	°C	
Drying Time	3.0	hr	
Rear Temperature	190 - 200	°C	
Middle Temperature	190 - 210	°C	
Front Temperature	190 - 215	°C	
Nozzle Temperature	190 - 220	°C	
Processing (Melt) Temp	205 - 220	°C	
Mold Temperature	90.0 - 120	°C	
Injection Pressure	90.0 - 140	MPa	
Injection Rate	Slow		
Holding Pressure	90.0 - 140	MPa	
Back Pressure	0.00 - 0.500	MPa	
Injection instructions			
Manifold Temperature: 190 to 220°C Zone 4 Temperature: 190 to 220°C			
NOTE			
1.	10°C/min		

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