

Celcon® M90AW

Acetal (POM) Copolymer

Celanese Corporation

Message:

Celcon® M90AW is a low wear grade designed for gears and other low wear applications, especially where reducing noise and wear in low load-high velocity applications. Celcon® M90AW is an option where silicone or PTFE based wear resistant products are not acceptable.

General Information			
UL YellowCard	E38860-100698198	E38860-239310	
Features	Good wear resistance		
Uses	Gear		
RoHS Compliance	Contact manufacturer		
Physical	Nominal Value	Unit	Test Method
Density	1.36	g/cm³	ISO 1183
Melt Volume-Flow Rate (MVR) (190°C/2.16 kg)	8.00	cm³/10min	ISO 1133
Molding Shrinkage			ISO 294-4
Vertical flow direction	1.4	%	ISO 294-4
Flow direction	1.9	%	ISO 294-4
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2430	MPa	ISO 527-2/1A/1
Tensile Stress (Yield)	55.0	MPa	ISO 527-2/1A/50
Tensile Strain (Yield)	9.0	%	ISO 527-2/1A/50
Flexural Modulus (23°C)	2400	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-30°C	4.7	kJ/m²	ISO 179/1eA
23°C	5.0	kJ/m²	ISO 179/1eA
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	91	kJ/m²	ISO 179/1eU
23°C	90	kJ/m²	ISO 179/1eU
Notched Izod Impact (23°C)	5.2	kJ/m²	ISO 180/1A
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
1.8 MPa, not annealed	86.1	°C	ASTM D648
1.8 MPa, not annealed	86.0	°C	ISO 75-2/A
Melting Temperature ¹	167	°C	ISO 11357-3
Linear thermal expansion coefficient			ISO 11359-2
Flow	1.1E-4	cm/cm/°C	ISO 11359-2
Lateral	1.1E-4	cm/cm/°C	ISO 11359-2
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°CZone 4 Temperature: 190 to 200°C		
NOTE		
1.	10°C/min	

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