Celcon® M270™

Celanese Corporation - Acetal (POM) Copolymer

Wednesday, December 26, 2018

General Information

Product Description

Celcon® acetal copolymer grade M270TM is a lower molecular weight, high - flow grade designed for superior moldability in multi-cavity, intricate or hard to fill molds applications. Chemical abbreviation according to ISO 1043-1: POM Please also see Hostaform® C 27021.

General			
Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Good Moldability	• High Flow	• Low Molecular Weight
RoHS Compliance	• Contact Manufacturer		
Resin ID (ISO 1043)	• POM		

ASTM & ISO Properties [1]

Physical	Nominal Value	Unit	Test Method
Density	1.41	g/cm³	ISO 1183
Melt Volume-Flow Rate (MVR) (190°C/2.16 kg)	23.0	cm³/10min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow	1.6	%	
Flow	1.7	%	
Water Absorption (Saturation, 23°C)	0.75	%	ISO 62
Water Absorption (Equilibrium, 23°C, 50% RH)	0.20	%	ISO 62
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	2800	MPa	ISO 527-2/1A
Tensile Stress (Yield)	67.0	MPa	ISO 527-2/1A/50
Tensile Strain (Yield)	8.0	%	ISO 527-2/1A/50
Tensile Creep Modulus (1 hr)	2300	MPa	ISO 899-1
Tensile Creep Modulus (1000 hr)	1300	MPa	ISO 899-1
Flexural Modulus (23°C)	2750	MPa	ISO 178
Flexural Stress (3.5% Strain)	76.0	MPa	ISO 178
Compressive Stress			ISO 604
1% Strain	26.0	MPa	
6% Strain	90.0	MPa	
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength (23°C)	5.2	kJ/m²	ISO 179/1eA
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	110	kJ/m²	
23°C	120	kJ/m²	
Notched Izod Impact Strength			ISO 180/1A
-30°C	5.0	kJ/m²	
23°C	5.4	kJ/m²	
Thermal	**Nominal Value**	**Unit**	**Test Method**
Heat Deflection Temperature (0.45 MPa, Unannealed)	156	°C	ISO 75-2/B
Heat Deflection Temperature (1.8 MPa, Unannealed)	103	°C	ISO 75-2/A
Vicat Softening Temperature	161	°C	ISO 306/B50

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Thermal	Nominal Value	Unit	Test Method
Melting Temperature [2]	166	°C	ISO 11357-3
Melting Temperature	165	°C	
CLTE - Flow	1.1E-4	cm/cm/°C	ISO 11359-2
CLTE - Transverse	1.2E-4	cm/cm/°C	ISO 11359-2

Fill Analysis	Nominal Value	Unit	Test Method
Melt Density	1.20	g/cm³	Internal Method
Melt Thermal Conductivity	0.16	W/m/K	Internal Method
Ejection Temperature	140	°C	
Specific Heat Capacity of Melt	2210	J/kg/°C	

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	100 to 120	°C
Drying Time	3.0 to 4.0	hr
Rear Temperature	170 to 180	°C
Middle Temperature	180 to 190	°C
Front Temperature	180 to 190	°C
Nozzle Temperature	190 to 200	°C
Processing (Melt) Temp	180 to 200	°C
Mold Temperature	80 to 120	°C
Injection Rate	Slow-Moderate	
Back Pressure	< 4.00	MPa

Injection Notes

Zone4 temperature: 190 to 200°C
Hot runner temperature: 180 to 200°C
No flow temperature: 160°C

Notes

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

[2] 10°C/min