Celcon® M270™

Celanese Corporation - Acetal (POM) Copolymer

Saturday, November 2, 2019

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	cm³/10min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow	1.6	%	
Flow	1.7	%	
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	406000	psi	ISO 527-2/1A
Tensile Stress (Yield)	9720	psi	ISO 527-2/1A/50
Tensile Strain (Yield)	8.0	%	ISO 527-2/1A/50
Tensile Creep Modulus (1 hr)	334000	psi	ISO 899-1
Tensile Creep Modulus (1000 hr)	189000	psi	ISO 899-1
Flexural Modulus (73°F)	399000	psi	ISO 178
Flexural Stress (3.5% Strain)	11000	psi	ISO 178
Compressive Stress			ISO 604
1% Strain	3770	psi	
6% Strain	13100	psi	
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength (73°F)	2.5	ft·lb/in²	ISO 179/1eA
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	51	ft·lb/in²	
73°F	55	ft·lb/in²	
Notched Izod Impact Strength			ISO 180/1A
-22°F	2.4	ft·lb/in²	
73°F	2.6	ft·lb/in²	
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

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Thermal	Nominal Value	Unit	Test Method
Melting Temperature [2]	331	°F	ISO 11357-3
Melting Temperature	329	°F	
CLTE - Flow	6.1E-5	in/in/°F	ISO 11359-2
CLTE - Transverse	6.7E-5	in/in/°F	ISO 11359-2

Fill Analysis	Nominal Value	Unit	Test Method
Melt Density	1.20	g/cm³	Internal Method
Melt Thermal Conductivity	1.1	Btu·in/hr/ft²/°F	Internal Method
Ejection Temperature	284	°F	
Specific Heat Capacity of Melt	0.528	Btu/lb/°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
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	Slow-Moderate	
Back Pressure	< 580	psi

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