



Celcon® M270

Celanese Corporation - Acetal (POM) Copolymer

Wednesday, June 21, 2023

General Information

Product Description

General purpose, high flow, fast cycling

Celcon® acetal copolymer grade M270 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	<ul style="list-style-type: none"> Commercial: Active
Availability	<ul style="list-style-type: none"> Africa & Middle East Asia Pacific Europe Latin America North America
Additive	<ul style="list-style-type: none"> Mold Release
Features	<ul style="list-style-type: none"> High Flow
Uses	<ul style="list-style-type: none"> Automotive Applications
Automotive Specifications	<ul style="list-style-type: none"> CHRYSLER MS-DB-400 CPN2436 CHRYSLER MS-DB-400 CPN2794 CONTINENTAL TST N 055 54.12 FORD WSK-M4D635-A3 GM GMW22P-POM-C4 LI AUTO INC Q/LIA 5310020 NISSAN POM-IC3-1 TOYOTA TSM 5515G-1B
Forms	<ul style="list-style-type: none"> Pellets
Processing Method	<ul style="list-style-type: none"> Injection Molding

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)	23	cm ³ /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 527-1
Tensile Stress (Yield)	9720	psi	ISO 527-2/50
Tensile Strain (Yield)	8.0	%	ISO 527-2/50
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	

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Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (73°F)	2.5	ft-lb/in ²	ISO 179/1eA
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	51	ft-lb/in ²	
73°F	55	ft-lb/in ²	
Notched Izod Impact Strength			ISO 180/1A
-22°F	2.4	ft-lb/in ²	
73°F	2.6	ft-lb/in ²	
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	313	°F	ISO 75-2/B
Deflection Temperature Under Load			ISO 75-2/A
264 psi, Unannealed	217	°F	
Melting Temperature ²	331	°F	ISO 11357-3
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/cm ³	Internal Method
Melt Specific Heat	0.528	Btu/lb/°F	Internal Method
Melt Thermal Conductivity	1.1	Btu-in/hr/ft ² /°F	Internal Method
Ejection Temperature	284	°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
Injection Zone 4 Temperature	374 to 392	°F
Nozzle Temperature	374 to 392	°F
Processing (Melt) Temp	356 to 374	°F
Mold Temperature	176 to 248	°F
Injection Rate	Slow-Moderate	
Back Pressure	< 580	psi
Hot Runner	356 to 392	°F

Notes

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

² 10°C/min