



Celcon® M270™

Celanese Corporation - Acetal (POM) Copolymer

Wednesday, January 28, 2015

General Information

Product Description

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	• Commercial: Active
Availability	• Latin America • North America
Features	• Fast Molding Cycle • Good Moldability • Low Molecular Weight • General Purpose • High Flow
Uses	• General Purpose
RoHS Compliance	• Contact Manufacturer
Automotive Specifications	<ul style="list-style-type: none"> • CHRYSLER MS-DB100 CPN2436 Color: Natural • CHRYSLER MS-DB100 CPN2794 Color: Black • DELCO 9582-19 Color: Black • DELCO 9582-42 Color: CC3072 SP20 • DELCO PROD DPM 2821 • DELPHI DX300112 • FORD ESF-M4D118-A • FORD WSK-M4D635-A3 Color: Black • FORD WSK-M4D635-A3 Color: Natural • GM GMP.POM.021 Color: Black • GM GMP.POM.021 Color: Natural • GM GMW22P-POM-C4 Color: Black • GM GMW22P-POM-C4 Color: Natural • VALEO VMS-2821 Color: Black • VALEO VMS-2821 Color: Natural
Processing Method	• Injection Molding
Resin ID (ISO 1043)	• POM

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.41		ASTM D792
Density	1.41	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (190°C/2.16 kg)	1.40	in ³ /10min	ISO 1133
Molding Shrinkage - Flow	0.022	in/in	ASTM D955
Molding Shrinkage - Across Flow	0.018	in/in	ASTM D955
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/1
Tensile Strength (Yield, 73°F)	8800	psi	ASTM D638
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

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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 (73°F)	2.6	ft·lb/in ²	ISO 180/1A
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (66 psi, Unannealed)	313	°F	ISO 75-2/B
Deflection Temperature Under Load			ASTM D648
264 psi, Unannealed	230	°F	
Heat Deflection Temperature (264 psi, Unannealed)	217	°F	ISO 75-2/A
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
Density of Melt	74.91	lb/ft ³	Internal Method
Ejection Temperature	329	°F	Internal Method
Specific Heat Capacity of Melt	0.528	Btu/lb/°F	Internal Method
Thermal Conductivity of Melt	1.1	Btu·in/hr/ft ² /°F	Internal Method

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	176 to 212	°F
Drying Time	3.0	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 Pressure	8700 to 17400	psi
Injection Rate	Slow-Moderate	
Holding Pressure	8700 to 17400	psi
Back Pressure	0.00 to 72.5	psi

Injection Notes

Manifold Temperature: 180 to 200°C
 Zone 4 Temperature: 190 to 200°C

Notes

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

² 10°C/min