

Celcon® GC15

Acetal (POM) Copolymer

Celanese Corporation

Message:

Celcon® GC15 is an acetal copolymer grade utilizing a nominal 15 wt. % fiber glass level to increase stiffness and strength.
Chemical abbreviation according to ISO 1043-1: POM

General Information			
UL YellowCard	E38860-312563		
Filler / Reinforcement	Glass fiber reinforced material, 15% filler by weight		
Features	Rigid, good		
	Good strength		
RoHS Compliance	Contact manufacturer		
Resin ID (ISO 1043)	POM		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.54	g/cm ³	ASTM D792
--	1.50	g/cm ³	ISO 1183
Molding Shrinkage			
Flow	0.40	%	ASTM D955
Transverse flow	1.8	%	ASTM D955
Vertical flow direction	0.90	%	ISO 294-4
Flow direction	0.50	%	ISO 294-4
Water Absorption			ISO 62
Saturated, 23°C	0.80	%	ISO 62
Equilibrium, 23°C, 50% RH	0.20	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	5950	MPa	ISO 527-2/1A/1
Tensile Strength			
Yield, 23°C	85.5	MPa	ASTM D638
Fracture	91.0	MPa	ISO 527-2/1A/5
Tensile Strain (Break)	2.5	%	ISO 527-2/1A/5
Flexural Modulus (23°C)	5850	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	4.9	kJ/m ²	ISO 179/1eA
Notched Izod Impact (23°C)	5.3	kJ/m ²	ISO 180/1A
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
1.8 MPa, not annealed	130	°C	ASTM D648

1.8 MPa, not annealed	159	°C	ISO 75-2/A
Melting Temperature			
-- 1	166	°C	ISO 11357-3
--	165	°C	ASTM D3418
Linear thermal expansion coefficient			ISO 11359-2
Flow	4.6E-5	cm/cm/°C	ISO 11359-2
Lateral	1.0E-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	90.0 - 120	°C	
Injection Pressure	90.0 - 140	MPa	
Injection Rate	Slow		
Holding Pressure	90.0 - 140	MPa	
Back Pressure	0.00 - 0.500	MPa	
Injection instructions			
Manifold Temperature: 190 to 210°CZone 4 Temperature: 190 to 200°C			
NOTE			
1.	10°C/min		

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