

Celcon® GC25A

Acetal (POM) Copolymer

Celanese Corporation

Message:

Celcon® acetal copolymer grade GC25A is a glass coupled formulation containing 25% reinforced fiber glass. This grade offers excellent strength, stiffness and heat distortion temperature with lower mold shrinkage, minimum thermal expansion, excellent dimensional stability and good moldability. Chemical abbreviation according to ISO 1043-1: POM

General Information			
UL YellowCard	E38860-239297		
Filler / Reinforcement	Glass fiber reinforced material, 25% filler by weight		
Features	Good dimensional stability		
	Rigidity, high		
	Chemical coupling		
	Good formability		
	Good strength		
	Low shrinkage		
RoHS Compliance	Contact manufacturer		
Multi-Point Data	Isochronous Stress vs. Strain (ISO 11403-1)		
	Isothermal Stress vs. Strain (ISO 11403-1)		
Resin ID (ISO 1043)	POM		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.58	g/cm³	ASTM D792, ISO 1183
Molding Shrinkage			
Flow	0.40	%	ASTM D955
Transverse flow	1.4	%	ASTM D955
Vertical flow direction	1.2	%	ISO 294-4
Flow direction	0.40	%	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	8600	MPa	ISO 527-2/1A/1
Tensile Strength			
Fracture, -40°C	159	MPa	ASTM D638
Fracture, 23°C	110	MPa	ASTM D638
Fracture, 71°C	68.9	MPa	ASTM D638
Fracture	106	MPa	ISO 527-2/1A/5
Tensile Strain (Break)	2.0	%	ISO 527-2/1A/5

Flexural Modulus (23°C)	8700	MPa	ISO 178
Flexural Stress (23°C)	160	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	6.4	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	35	kJ/m ²	ISO 179/1eU
23°C	25	kJ/m ²	ISO 179/1eU
Notched Izod Impact (23°C)	6.0	kJ/m ²	ISO 180/1A
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
1.8 MPa, not annealed	163	°C	ASTM D648
1.8 MPa, not annealed	160	°C	ISO 75-2/A
Melting Temperature			
-- ¹	165	°C	ISO 11357-3
--	166	°C	ASTM D3418
Linear thermal expansion coefficient			ISO 11359-2
Flow	2.5E-5	cm/cm/°C	ISO 11359-2
Lateral	1.2E-4	cm/cm/°C	ISO 11359-2
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	1.4E+14	ohms·cm	ASTM D257
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: 180 to 200°C Zone 4 Temperature: 190 to 200°C			
NOTE			
1.	10°C/min		

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