

Celstran PA66-GF50-20 AD3007

Polyamide 66
Celanese Corporation

Message:

Material code according to ISO 1043-1: PA66
Heat stabilized Nylon 66 reinforced by 50 weight percent long glass fibers. The pellets are cylindrical and normally as well as the embedded fibers 11 mm long.
Parts molded of CELSTRAN have outstanding mechanical properties such as high strength and stiffness combined with high heat deflection. The notched impact strength is increased at elevated and low temperatures due to the fiber skeleton built in the parts. The long fiber reinforcement reduces creep significantly.
The very isotropic shrinkage in the molded parts minimizes the warpage.
Complex parts can be manufactured with high reproducibility by injection molding.
Can be used for substituting die cast metal with the advantage of Weight reduction, no corrosion problems, no post treatment.

General Information			
Filler / Reinforcement	Long glass fiber, 50% filler by weight		
Additive	heat stabilizer		
Features	Low warpage		
	Rigidity, high		
	High strength		
	Impact resistance, good		
	Good creep resistance		
	Low temperature impact resistance		
	Thermal Stability		
Uses	Metal substitution		
RoHS Compliance	Contact manufacturer		
Forms	Particle		
Processing Method	Injection molding		
Resin ID (ISO 1043)	PA66		
Physical	Nominal Value	Unit	Test Method
Density	1.57	g/cm³	ISO 1183
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
--	16500	MPa	ISO 527-2/1A/1
80°C	10000	MPa	ISO 527-2/1A
Tensile Stress			
Fracture	250	MPa	ISO 527-2/1A/5
80°C	165	MPa	ISO 527-2/1A

Tensile Strain			
Fracture	2.0	%	ISO 527-2/1A/5
Fracture, 80°C	2.7	%	ISO 527-2/1A
Flexural Modulus			ISO 178
23°C	14200	MPa	ISO 178
80°C	10000	MPa	ISO 178
Flexural Stress			ISO 178
23°C	400	MPa	ISO 178
80°C	265	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-30°C	45	kJ/m ²	ISO 179/1eA
23°C	45	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	78	kJ/m ²	ISO 179/1eU
23°C	87	kJ/m ²	ISO 179/1eU
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
1.8 MPa, not annealed	255	°C	ISO 75-2/A
8.0 MPa, not annealed	235	°C	ISO 75-2/C
Melting Temperature ¹	260	°C	ISO 11357-3
Injection	Nominal Value	Unit	
Drying Temperature	70.0 - 80.0	°C	
Drying Time	2.0 - 4.0	hr	
Suggested Max Moisture	0.15	%	
Hopper Temperature	70.0 - 80.0	°C	
Rear Temperature	280 - 285	°C	
Middle Temperature	280 - 290	°C	
Front Temperature	290 - 300	°C	
Nozzle Temperature	310 - 320	°C	
Processing (Melt) Temp	310 - 320	°C	
Mold Temperature	90.0 - 120	°C	
Injection Pressure	120 - 150	MPa	
Injection Rate	Moderate		
Holding Pressure	50.0 - 80.0	MPa	
Back Pressure	0.00 - 3.00	MPa	
Injection instructions			
Manifold Temperature: 300 to 315°CZone 4 Temperature: 300 to 310°CFeed Temperature: 20 to 50°C			
NOTE			
1.	10°C/min		

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