



Celstran® PA66-GF50-01

Celanese Corporation - Polyamide 66

Monday, November 4, 2019

General Information

Product Description

Material code according to ISO 1043-1: PA66 Nylon 66 reinforced by 50 weight percent long glass fibers. The pellets are cylindrical and normally as well as the embedded fibers 10 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

Material Status	• Commercial: Active
Availability	• Asia Pacific • Europe • North America
Filler / Reinforcement	• Long Glass Fiber, 50% Filler by Weight
Features	• Corrosion Resistant • High Stiffness • Creep Resistant • High Strength • Good Isotropy • Low Temperature Impact Resistance • Low Warpage
Uses	• Metal Replacement
RoHS Compliance	• Contact Manufacturer
Forms	• Pellets
Processing Method	• Injection Molding
Resin ID (ISO 1043)	• PA66

ASTM & ISO Properties ¹

Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus	2.39E+6	1.62E+6	psi	ISO 527-2/1A
Tensile Stress (Break)	37000	25400	psi	ISO 527-2/1A/5
Tensile Strain (Break)	2.1	2.4	%	ISO 527-2/1A/5
Flexural Modulus				ISO 178
73°F	2.10E+6	1.26E+6	psi	
176°F	1.25E+6	1.04E+6	psi	
Flexural Stress				ISO 178
73°F	50800	37700	psi	
176°F	36300	30500	psi	
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-22°F	20	20	ft·lb/in ²	
73°F	20	19	ft·lb/in ²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-22°F	39	36	ft·lb/in ²	
73°F	46	51	ft·lb/in ²	
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				ISO 75-2/A
264 psi, Unannealed	468	--	°F	
Heat Deflection Temperature				ISO 75-2/C
1160 psi, Unannealed	423	--	°F	

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Processing Information

Injection	Dry	Unit
Drying Temperature	158 to 176	°F
Drying Time	2.0 to 4.0	hr
Suggested Max Moisture	0.15	%
Hopper Temperature	158 to 176	°F
Rear Temperature	536 to 545	°F
Middle Temperature	536 to 554	°F
Front Temperature	554 to 572	°F
Nozzle Temperature	590 to 608	°F
Processing (Melt) Temp	590 to 608	°F
Mold Temperature	194 to 248	°F
Injection Rate	Moderate	
Back Pressure	< 435	psi

Injection Notes

Feeding zone temperature: 20 to 50°C
Zone4 temperature: 300 to 310°C
Hot runner temperature: 300 to 315°C

Notes

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