Celstran® PP-GF60-02 Natural

Celanese Corporation - Polypropylene

Tuesday, November 5, 2019

General Information

Product Description

Polypropylene with 60 weight percent fiber content, long glass fibers reinforced.
The fibers are chemically coupled to the polypropylene matrix. 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.

Application field: Functionial/structural parts for automotive

General			
Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Filler / Reinforcement	• Long Glass Fiber, 60% Filler by Weight		
Features	• Chemically Coupled • Creep Resistant • Good Impact Resistance	• High Stiffness • High Strength • Low Temperature Impact Resistance	• Low Warpage
Uses	• Automotive Applications		
Appearance	• Natural Color		
Forms	• Pellets		
Processing Method	• Injection Molding		
Resin ID (ISO 1043)	• PP		

ASTM & ISO Properties [1]

Physical	Nominal Value	Unit	Test Method
Density	1.43	g/cm³	ISO 1183
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	2.03E+6	psi	ISO 527-2/1A/1
Tensile Stress (Break)	22500	psi	ISO 527-2/1A/5
Tensile Strain (Break)	1.6	%	ISO 527-2/1A/5
Flexural Modulus (73°F)	2.18E+6	psi	ISO 178
Flexural Stress (73°F)	40600	psi	ISO 178
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength (73°F)	23	ft·lb/in²	ISO 179/1eA
Thermal	**Nominal Value**	**Unit**	**Test Method**
Heat Deflection Temperature (264 psi, Unannealed)	320	°F	ISO 75-2/A
Melting Temperature [2]	334	°F	ISO 11357-3

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Processing Information

Injection	Nominal Value	Unit
Drying Temperature	194 to 212	°F
Drying Time	4.0	hr
Suggested Max Moisture	0.20	%
Rear Temperature	428 to 446	°F
Middle Temperature	446 to 464	°F
Front Temperature	464 to 482	°F
Nozzle Temperature	464 to 482	°F
Processing (Melt) Temp	446 to 518	°F
Mold Temperature	86 to 158	°F
Injection Pressure	8700 to 17400	psi
Injection Rate	Slow	
Holding Pressure	5800 to 11600	psi
Back Pressure	0.00 to 435	psi

Injection Notes

Manifold Temperature: 230 to 270°C
Zone 4 Temperature: 250°C
Feed Temperature: 20 to 50°C

Notes

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

[2] 10°C/min