Celstran® PP-GF50-0453 P10/10

Celanese Corporation - Polypropylene

Tuesday, November 5, 2019

General Information

Product Description

Material code according to ISO 1043-1: PP Heat stabilized polypropylene reinforced with 50 weight percent long glass fibers. The product has low emissions. 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: Functional/structural parts for automotive

General			
Material Status	• Commercial: Active		
Availability	• Asia Pacific	• Europe	• North America
Filler / Reinforcement	• Long Glass Fiber, 50% Filler by Weight		
Additive	• Heat Stabilizer		
Features	• Chemically Coupled • Creep Resistant • Good Isotropy	• Heat Stabilized • High Stiffness • High Strength	• Low Emissions • Low Temperature Impact Resistance • Low Warpage
Uses	• Automotive Applications		
RoHS Compliance	• Contact Manufacturer		
Forms	• Pellets		
Processing Method	• Injection Molding		
Resin ID (ISO 1043)	• PP		

ASTM & ISO Properties [1]

Physical	Nominal Value	Unit	Test Method
Density	1.34	g/cm³	ISO 1183
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	1.68E+6	psi	ISO 527-2/1A
Tensile Stress (Break)	20300	psi	ISO 527-2/1A/5
Tensile Strain (Break)	1.8	%	ISO 527-2/1A/5
Flexural Modulus			ISO 178
73°F	1.74E+6	psi	
176°F	1.20E+6	psi	
Flexural Stress			ISO 178
73°F	31900	psi	
176°F	18100	psi	
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength			ISO 179/1eA
-22°F	16	ft·lb/in²	
73°F	15	ft·lb/in²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	28	ft·lb/in²	
73°F	29	ft·lb/in²	
Thermal	**Nominal Value**	**Unit**	**Test Method**
Heat Deflection Temperature (264 psi, Unannealed)	316	°F	ISO 75-2/A

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Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (1160 psi, Unannealed)	273	°F	ISO 75-2/C
Melting Temperature [2]	331	°F	ISO 11357-3

Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.04 in)	HB		UL 94

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	194 to 212	°F
Drying Time	2.0	hr
Suggested Max Moisture	0.20	%
Rear Temperature	446 to 464	°F
Middle Temperature	464 to 482	°F
Front Temperature	482 to 500	°F
Nozzle Temperature	464 to 518	°F
Processing (Melt) Temp	464 to 518	°F
Mold Temperature	104 to 158	°F
Injection Rate	Slow	
Back Pressure	< 435	psi

Injection Notes

Feeding zone temperature: 20 to 50°C
Zone4 temperature: 260 to 270°C
Hot runner temperature: 240 to 270°C

Notes

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

[2] 10°C/min