



## Celstran® PP-GF40-0414 P7/10

Celanese Corporation - Polypropylene

Tuesday, November 5, 2019

### General Information

#### Product Description

Material code according to ISO 1043-1: PP Heat stabilized polypropylene reinforced with 40 weight percent long glass fibers. The fibers are chemically coupled to the polypropylene matrix. The pellets are cylindrical and normally as well as the embedded fibers 7mm 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, 40% Filler by Weight
Additive	• Heat Stabilizer
Features	• Chemically Coupled • Heat Stabilized • Low Temperature Impact Resistance • Creep Resistant • High Stiffness • Low Warpage • Good Isotropy • High Strength
Uses	• Automotive Applications
RoHS Compliance	• Contact Manufacturer
Forms	• Pellets
Processing Method	• Injection Molding
Resin ID (ISO 1043)	• PP

### ASTM & ISO Properties <sup>1</sup>

Physical	Nominal Value	Unit	Test Method
Density	1.22	g/cm <sup>3</sup>	ISO 1183
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	1.33E+6	psi	ISO 527-2/1A
Tensile Stress (Break)	18900	psi	ISO 527-2/1A/5
Tensile Strain (Break)	2.0	%	ISO 527-2/1A/5
Flexural Modulus (73°F)	1.19E+6	psi	ISO 178
Flexural Stress (73°F)	26800	psi	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F	14	ft·lb/in <sup>2</sup>	
73°F	10	ft·lb/in <sup>2</sup>	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	28	ft·lb/in <sup>2</sup>	
73°F	30	ft·lb/in <sup>2</sup>	
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (264 psi, Unannealed)	315	°F	ISO 75-2/A
Heat Deflection Temperature (1160 psi, Unannealed)	273	°F	ISO 75-2/C
Melting Temperature <sup>2</sup>	331	°F	ISO 11357-3

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### Processing Information

Injection	Nominal Value	Unit
Drying Temperature	194 to 212	°F
Drying Time	2.0	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	104 to 158	°F
Injection Rate	Slow	
Back Pressure	< 435	psi

### Injection Notes

Feeding zone temperature: 20 to 50°C  
Zone4 temperature: 250 to 260°C  
Hot runner temperature: 230 to 270°C

### Notes

<sup>1</sup> Typical properties: these are not to be construed as specifications.

<sup>2</sup> 10°C/min