Celstran® PP-GF30-05 natural

Celanese Corporation - Polypropylene Copolymer

Tuesday, January 21, 2020

General Information

Product Description

Material code according to ISO 1043-1: PP Heat stabilized polypropylene copolymer reinforced with 30 weight percent long glass fibers. The fibers are chemically coupled to the polypropylene matrix. The impact properties are enhanced. The pellets are cylindrical and normally as well as the embedded fibers 10 mm long. (-0501 = heat stabilized,) 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, 30% Filler by Weight		
Additive	• Heat Stabilizer		
Features	• Chemically Coupled • Copolymer • Creep Resistant • Good Impact Resistance	• Good Isotropy • Heat Stabilized • 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	1.12	g/cm³	ISO 1183
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	6300	MPa	ISO 527-2/1A
Tensile Stress (Break)	110	MPa	ISO 527-2/1A/5
Tensile Strain (Break)	2.3	%	ISO 527-2/1A/5
Flexural Modulus			ISO 178
23°C	6500	MPa	
80°C	4400	MPa	
Flexural Stress			ISO 178
23°C	160	MPa	
80°C	85.0	MPa	
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength			ISO 179/1eA
-30°C	29	kJ/m²	
23°C	30	kJ/m²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	80	kJ/m²	
23°C	70	kJ/m²	

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Impact	Nominal Value	Unit	Test Method
Unnotched Izod Impact Strength			ISO 180/1U
-30°C	68	kJ/m²	
23°C	55	kJ/m²	
Multi-Axial Instrumented Impact Energy			ISO 6603-2
-30°C	21.0	J	
23°C	24.0	J	

Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (1.8 MPa, Unannealed)	158	°C	ISO 75-2/A
Heat Deflection Temperature (8.0 MPa, Unannealed)	117	°C	ISO 75-2/C

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	90 to 100	°C
Drying Time	4.0	hr
Suggested Max Moisture	0.20	%
Rear Temperature	220 to 230	°C
Middle Temperature	230 to 240	°C
Front Temperature	240 to 250	°C
Nozzle Temperature	240 to 250	°C
Processing (Melt) Temp	230 to 270	°C
Mold Temperature	30 to 70	°C
Injection Rate	Slow	
Back Pressure	< 3.00	MPa

Injection Notes

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

Notes

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