Celstran® PP-GF50-0405P10/10

Polypropylene

Celanese Corporation

Message:

Material code according to ISO 1043-1: PP
Heat and light stabilized polypropylene reinforced with 50 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 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 Information			
Filler / Reinforcement	Long glass fiber, 50% filler by weight		
Additive	heat stabilizer UV stabilizer		
Features	Low warpage Rigidity, high High strength Impact resistance, good Good creep resistance Low temperature impact resistance Good chemical resistance Thermal Stability		
Uses	Application in Automobile Field		
RoHS Compliance	Contact manufacturer		
Forms	Particle		
Processing Method	Injection molding		
Multi-Point Data	Isothermal Stress vs. Strain (ISO 11403-1)		
Resin ID (ISO 1043)	PP		
Physical	**Nominal Value**	**Unit**	**Test Method**
Density	1.34	g/cm³	ISO 1183
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus			
--	11500	MPa	ISO 527-2/1A/1

80°C	8400	MPa	ISO 527-2/1A
Tensile Stress			
Fracture	140	MPa	ISO 527-2/1A/5
80°C	85.0	MPa	ISO 527-2/1A
Tensile Strain			
Fracture	1.2	%	ISO 527-2/1A/5
Fracture, 80°C	2.3	%	ISO 527-2/1A
Flexural Modulus			ISO 178
23°C	12000	MPa	ISO 178
80°C	8200	MPa	ISO 178
Flexural Stress			ISO 178
23°C	210	MPa	ISO 178
80°C	120	MPa	ISO 178
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength			ISO 179/1eA
-30°C	35	kJ/m^2	ISO 179/1eA
23°C	28	kJ/m^2	ISO 179/1eA
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	52	kJ/m^2	ISO 179/1eU
23°C	55	kJ/m^2	ISO 179/1eU
Thermal	**Nominal Value**	**Unit**	**Test Method**
Heat Deflection Temperature			
1.8 MPa, not annealed	158	°C	ISO 75-2/A
8.0 MPa, not annealed	138	°C	ISO 75-2/C
Melting Temperature [1]	165	°C	ISO 11357-3
Injection	**Nominal Value**	**Unit**	
Drying Temperature	90.0 - 100	°C	
Drying Time	2.0	hr	
Suggested Max Moisture	0.20	%	
Rear Temperature	250 - 260	°C	
Middle Temperature	260 - 270	°C	
Front Temperature	270 - 280	°C	
Nozzle Temperature	280 - 290	°C	
Processing (Melt) Temp	260 - 290	°C	
Mold Temperature	40.0 - 70.0	°C	
Injection Pressure	60.0 - 120	MPa	
Injection Rate	Slow		
Holding Pressure	40.0 - 80.0	MPa	
Back Pressure	0.00 - 3.00	MPa	
Injection instructions			
Manifold Temperature: 260 to 290°CZone 4 Temperature: 280 to 290°CFeed Temperature: 20 to 50°C			
NOTE			

1.	10°C/min

Recommended distributors for this material

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