Celstran® PP-GF40-04 Natural

Polypropylene

Celanese Corporation

Message:

Material code according to ISO 1043-1: PP
Polypropylene Homopolymere 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 10 mm long. (-0414 = heat stabilized) natural
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 Information			
Filler / Reinforcement	Long glass fiber, 40% filler by weight		
Additive	heat stabilizer		
Features	Low warpage Rigidity, high High strength Chemical coupling Impact resistance, good Good creep resistance Low temperature impact resistance Thermal Stability		
Uses	Application in Automobile Field		
RoHS Compliance	Contact manufacturer		
Appearance	Natural color		
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	1.22	g/cm³	ISO 1183
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus			
--	9300	MPa	ISO 527-2/1A/1
80°C	7000	MPa	ISO 527-2/1A

Tensile Stress			
Fracture	137	MPa	ISO 527-2/1A/5
80°C	80.0	MPa	ISO 527-2/1A
Tensile Strain			
Fracture	2.2	%	ISO 527-2/1A/5
Fracture, 80°C	2.4	%	ISO 527-2/1A
Flexural Modulus			ISO 178
23°C	9300	MPa	ISO 178
80°C	7000	MPa	ISO 178
Flexural Stress			ISO 178
23°C	220	MPa	ISO 178
80°C	125	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	30	kJ/m^2	ISO 179/1eA
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	50	kJ/m^2	ISO 179/1eU
23°C	70	kJ/m^2	ISO 179/1eU
Thermal	**Nominal Value**	**Unit**	**Test Method**
Heat Deflection Temperature			
1.8 MPa, not annealed	159	°C	ISO 75-2/A
8.0 MPa, not annealed	130	°C	ISO 75-2/C
Melting Temperature [1]	162	°C	ISO 11357-3
Injection	**Nominal Value**	**Unit**	
Drying Temperature	90 - 100	°C	
Drying Time	4.0	hr	
Suggested Max Moisture	0.20	%	
Rear Temperature	220 - 230	°C	
Middle Temperature	230 - 240	°C	
Front Temperature	240 - 250	°C	
Nozzle Temperature	240 - 250	°C	
Processing (Melt) Temp	230 - 270	°C	
Mold Temperature	30 - 70	°C	
Injection Pressure	60.0 - 120	MPa	
Injection Rate	Slow		
Holding Pressure	4.00 - 80.0	MPa	
Back Pressure	0.00 - 3.00	MPa	
Injection instructions			
Manifold Temperature: 230 to 270°CZone 4 Temperature: 250 to 260°CFeed Temperature: 20 to 50°C			
NOTE			
1.	10°C/min		

Recommended distributors for this material

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