Strator® A-3 HI N7

Polyamide 66

Solvay Specialty Polymers

Message:

Strator ® A-3 HI N7 is a high impact, 30 % long glass fiber reinforced, easy-flowing PA 66 with a pellet length of 7 mm which can be processed on most injection molding machines.

This material achieves extremely high mechanical and thermal properties, in combination with ease of processing and fast cycle times. It exhibits high strength, stiffness and impact strength at high temperatures; excellent creep and fatigue resistance; isotropic mechanical properties and reduced isotropic shrinkage; high shear strength and high burst pressure; and an excellent surface finish.

General Information					
Filler / Reinforcement	Long glass fiber, 30% filler by weight				
Features	Low CLTE				
	Low warpage				
	Rigidity, high				
	Rigidity, high				
	High tensile strength				
	Insulation				
	Impact resistance, high				
	Good creep resistance				
	Fatigue resistance				
	Hot water formability				
Uses	Gear				
	Aircraft applications				
	Application in Automobile Field				
	Car dashboard				
Appearance	Natural color	Natural color			
Forms	Particle				
Physical	Nominal Value	Unit	Test Method		
Density	1.33	g/cm³	ISO 1183		
shrinkage-Flow ¹	0.40	%	Internal method		
Water Absorption (Equilibrium, 23°C, 50%					
RH)	1.7	%	ISO 62		
Mechanical	Nominal Value	Unit	Test Method		
Tensile Modulus (23°C)	10000	MPa	ISO 527-2		
Tensile Stress (Break, 23°C)	190	MPa	ISO 527-2		
Tensile Strain (Break)	2.9	%	ISO 527-2		
Flexural Modulus (23°C)	9500	MPa	ISO 178		
Flexural Stress (23°C)	230	МРа	ISO 178		
Impact	Nominal Value	Unit	Test Method		

Charpy Notched Impact Strength (23°C)	45	kJ/m²	ISO 179
Charpy Unnotched Impact Strength (23°C)	100	kJ/m²	ISO 179
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, not annealed	255	°C	ISO 75-2/B
1.8 MPa, not annealed	250	°C	ISO 75-2/A
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	1.0E+12	ohms	ASTM D257
Dielectric Strength (2.00 mm)	35	kV/mm	IEC 60243-1
Comparative Tracking Index	500	V	IEC 60112
Injection	Nominal Value	Unit	
Injection Drying Temperature	Nominal Value 110	Unit °C	
Injection Drying Temperature Drying Time	Nominal Value 110 4.0	Unit °C hr	
Injection Drying Temperature Drying Time Suggested Max Moisture	Nominal Value 110 4.0 0.10	Unit °C hr %	
Injection Drying Temperature Drying Time Suggested Max Moisture Rear Temperature	Nominal Value 110 4.0 0.10 270 - 300	Unit °C hr % °C	
InjectionDrying TemperatureDrying TimeSuggested Max MoistureRear TemperatureMiddle Temperature	Nominal Value 110 4.0 0.10 270 - 300 270 - 300	Unit °C hr % °C °C	
InjectionDrying TemperatureDrying TimeSuggested Max MoistureRear TemperatureMiddle TemperatureFront Temperature	Nominal Value 110 4.0 0.10 270 - 300 270 - 300 285 - 310	Unit °C hr % °C °C	
InjectionDrying TemperatureDrying TimeSuggested Max MoistureRear TemperatureMiddle TemperatureFront TemperatureNozzle Temperature	Nominal Value 110 4.0 0.10 270 - 300 270 - 300 285 - 310 285 - 320	Unit °C hr % °C °C °C °C	
InjectionDrying TemperatureDrying TimeSuggested Max MoistureRear TemperatureMiddle TemperatureFront TemperatureNozzle TemperatureProcessing (Melt) Temp	Nominal Value 110 4.0 0.10 270 - 300 270 - 300 285 - 310 285 - 320 < 310	Unit °C hr % °C °C °C °C °C	
InjectionDrying TemperatureDrying TimeSuggested Max MoistureRear TemperatureMiddle TemperatureFront TemperatureNozzle TemperatureProcessing (Melt) TempMold Temperature	Nominal Value 110 4.0 0.10 270 - 300 270 - 300 285 - 310 285 - 320 < 310	Unit °C hr % °C °C °C °C °C °C	

Injection instructions

Strator® A-3 HI N7, a high impact, 30% long glass fiber reinforced high-flow PA 66, can easily be processed on most injection molding machines.Pre-DryingSince polyamides are hygroscopic materials as well as sensitive to moisture during processing, this product should always be pre-dried. At a humidity content above 0.1%, the material will begin to degrade. Recommended drying time is 4 hours at 110°C in dry-air dryer.Processing temperaturesMelt temperature should be kept below 310°C in order to prevent degradation. The exact setting depends from machine and mold design, but is usually within the following range:Area | Recommendation:Zone 1 (feed) 270-300°C | 280°CZone 2 270-300°C | 290°CZone 3 285-310°C | 295°CZone 4 (Nozzle) 285-320°C | 300°CMold temperatureThe mold temperature is a compromise between the optimum properties that can be obtained from high crystallization, and cycle time. Strator® A-3 HI N7 can be processed at mold temperatures between 80°C and 160°C. Optimum surface quality requires a mold temperature above 100°C.RegrindRegrind of highly filled thermoplastic materials, such as Strator® A-3 HI N7, should only be recycled with special care. The regrind content must never exceed 15% and only regrind of optimum quality should be used. In any case, part properties should be checked.

NOTE

1.

Tested in accordance with S.O.P. methods

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