



Chemlon® R106/N/50GFS

Teknor Apex Company - Polyamide 6

General Information

Product Description

R106/N/50GFS is a 50% glass fibre reinforced nylon 6 that offers excellent mechanical performance coupled with good surface finish.

General

Material Status	• Commercial: Active
Availability	• Europe • North America
Filler / Reinforcement	• Glass Fiber, 50% Filler by Weight
Features	• Good Surface Finish
Processing Method	• Injection Molding

ASTM & ISO Properties ¹

Physical	Dry	Conditioned	Unit	Test Method
Density	1.56	--	g/cm ³	ISO 1183
Molding Shrinkage ²	0.40 to 0.90	--	%	Internal Method
Water Absorption				ISO 62
Equilibrium, 73°F, 50% RH	1.5	--	%	
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus	2.09E+6	1.51E+6	psi	ISO 527-1
Tensile Stress (Break)	34800	23200	psi	ISO 527-2
Tensile Strain (Break)	3.0	5.0	%	ISO 527-2
Flexural Modulus	2.00E+6	1.45E+6	psi	ISO 178
Flexural Stress ³	46400	33400	psi	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Notched Izod Impact Strength	7.1	9.5	ft·lb/in ²	ISO 180
Thermal	Dry	Conditioned	Unit	Test Method
Deflection Temperature Under Load				ISO 75-2/B
66 psi, Unannealed	> 392	> 392	°F	
Deflection Temperature Under Load				ISO 75-2/A
264 psi, Unannealed	> 392	> 392	°F	
Electrical	Dry	Conditioned	Unit	Test Method
Surface Resistivity	1.0E+15	1.0E+12	ohms	IEC 60093
Volume Resistivity	1.0E+17	1.0E+14	ohms·cm	IEC 60093
Electric Strength (0.118 in)	280	200	V/mil	IEC 60243-1
Relative Permittivity	3.80	4.20		IEC 60250
Comparative Tracking Index	525	--	V	IEC 60112

Processing Information

Injection	Dry	Unit
Drying Temperature	176	°F
Drying Time	2.0	hr
Rear Temperature	482 to 563	°F
Middle Temperature	482 to 563	°F
Front Temperature	482 to 563	°F
Processing (Melt) Temp	< 572	°F
Mold Temperature	176 to 194	°F
Injection Rate	Fast	

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Injection	Dry	Unit
Screw Speed	50 to 200	rpm

Injection Notes

Back pressure: Low
Injection pressure: High

No drying is necessary unless the materials has been exposed to air for longer than three hours.

Notes

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

² Mould shrinkage is significantly influenced by many factors including wall thickness, gating, component shape and moulding conditions. The range values stated were determined from specimen bar mouldings of 1.5mm to 4mm wall thickness. They are provided as a guide for comparison purposes only and no guarantee should be inferred from their inclusion. (Specimens measured in the dry state, 24 hours after moulding).

³ Break