

Vydyne® R550HR BK0777

Ascend Performance Materials Operations LLC - *Polyamide 66*

General Information

Product Description

Vydyne R550HR BK0777 is a 50% glass-filled, heat-stabilized PA66 based resin designed for injection molding applications. It was specifically developed to withstand long term exposure to coolants at temperatures up to 135°C. R550HR BK0777 maintains the excellent resistance typical of PA66 in chemicals, machine and motor oils, solvents, and gasoline.

General

Material Status	• Commercial: Active		
Availability	• Asia Pacific	• Europe	• North America
Filler / Reinforcement	• Glass Fiber, 50% Filler by Weight		
Additive	• Heat Stabilizer	• Lubricant	
Features	• Chemical Resistant	• Heat Stabilized	• Laser Markable
	• Corrosion Resistant	• Heat Stabilized - Organic	• Lubricated
	• Fatigue Resistant	• High Flow	• Oil Resistant
	• Gasoline Resistant	• Hydrolysis Resistant	• Solvent Resistant
Appearance	• Black		
Forms	• Pellets		
Processing Method	• Injection Molding		
Resin ID	• PA66-GF50		

Properties ¹

Physical	Dry	Conditioned	Unit	Test Method
Density	1.58	--	g/cm ³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 73°F, 0.0787 in	1.1	--	%	
Flow : 73°F, 0.0787 in	0.50	--	%	
Water Absorption (24 hr, 73°F)	0.72	--	%	ISO 62
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (73°F)	2.28E+6	2.13E+6	psi	ISO 527-1
Tensile Stress (Break, 73°F)	34400	26100	psi	ISO 527-2
Tensile Strain (Break, 73°F)	3.4	4.5	%	ISO 527-2
Flexural Modulus (73°F)	2.26E+6	1.78E+6	psi	ISO 178
Flexural Stress (73°F)	52400	36500	psi	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-40°F	7.1	6.7	ft·lb/in ²	
-22°F	7.1	8.1	ft·lb/in ²	
73°F	8.6	9.5	ft·lb/in ²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-40°F	48	45	ft·lb/in ²	
-22°F	48	44	ft·lb/in ²	
73°F	48	52	ft·lb/in ²	
Notched Izod Impact Strength				ISO 180/1A
-40°F	7.1	7.1	ft·lb/in ²	
-22°F	7.1	7.6	ft·lb/in ²	
73°F	7.6	8.6	ft·lb/in ²	
Thermal	Dry	Conditioned	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	502	498	°F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	489	484	°F	ISO 75-2/A
Melting Temperature	500	--	°F	ISO 11357-3



Electrical	Dry	Conditioned	Unit	Test Method
Electric Strength (0.0394 in)	790	--	V/mil	IEC 60243-1

Processing Information

Injection	Dry	Unit
Drying Temperature	176	°F
Drying Time	4.0	hr
Rear Temperature	536 to 590	°F
Middle Temperature	536 to 590	°F
Front Temperature	536 to 590	°F
Nozzle Temperature	536 to 590	°F
Processing (Melt) Temp	545 to 581	°F
Mold Temperature	149 to 203	°F

Notes

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

