

Vydyne® R535HT BK653

Ascend Performance Materials Operations LLC - Polyamide 66 + PA 6

General Information

Product Description

Vydyne R535HT BK653 is a 35% glass-filled, heat-stabilized PA66+PA6 based resin designed for injection molding applications. It was specifically developed to withstand long term exposure to elevated temperatures up to 190°C. R535HT BK653 offers improved flow with an improved black surface finish and 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, 35% Filler by Weight
Additive	• Heat Stabilizer • Lubricant
Features	• Antifreeze Resistant • Gasoline Resistant • Lubricated • Chemical Resistant • Heat Stabilized • Solvent Resistant • Fatigue Resistant • High Flow
Agency Ratings	• ASTM D4066 PA114G35 • ASTM D6779 PA084G35
Automotive Specifications	• GM GMW17961P-PA-GF35-T1 • RENAULT AS23a • STELLANTIS 01994_18_00678 • MERCEDES BENZ DBL 5408 ¹ • RENAULT UB02d
UL File Number	• E70062
Appearance	• Black
Forms	• Pellets
Processing Method	• Injection Molding
Resin ID	• (PA66+PA6)-GF35

Properties ²

Physical	Dry	Conditioned	Unit	Test Method
Density	1.42	--	g/cm ³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 73°F, 0.0787 in	0.90	--	%	
Flow : 73°F, 0.0787 in	0.40	--	%	
Water Absorption (24 hr, 73°F)	0.80	--	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	1.6	--	%	ISO 62
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (73°F)	1.58E+6	1.04E+6	psi	ISO 527-1
Tensile Stress (Break, 73°F)	29700	18100	psi	ISO 527-2
Tensile Strain (Break, 73°F)	3.1	7.6	%	ISO 527-2
Flexural Modulus (73°F)	1.48E+6	914000	psi	ISO 178
Flexural Stress (73°F)	40600	21000	psi	ISO 178
Poisson's Ratio (73°F)	0.40	--		ISO 527-2
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-22°F	5.2	5.7	ft·lb/in ²	
73°F	5.7	8.6	ft·lb/in ²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-22°F	31	36	ft·lb/in ²	
73°F	36	40	ft·lb/in ²	
Notched Izod Impact Strength				ISO 180/1A
-22°F	6.2	6.2	ft·lb/in ²	



73°F	6.7	8.6	ft·lb/in ²	
Thermal	Dry	Conditioned	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	493	--	°F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	464	--	°F	ISO 75-2/A
Melting Temperature	500	--	°F	ISO 11357-3
CLTE - Flow (73 to 131°F, 0.0787 in)	1.1E-5	--	in/in/°F	ISO 11359-2
CLTE - Transverse (73 to 131°F, 0.0787 in)	4.5E-5	--	in/in/°F	ISO 11359-2
Flammability	Dry	Conditioned	Unit	Test Method
Burning Rate (0.0787 in)	0.0	--	in/min	ISO 3795

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 compliance

² Typical properties: these are not to be construed as specifications.

