Vydyne® R413

Polyamide 66

Ascend Performance Materials Operations LLC

Message:

Vydyne R413 is general-purpose, impact-modified, 13% glass-fiber reinforced PA66 resin. Available in natural, It is specifically designed to maximize toughness, while retaining physical properties. This product is also lubricated for improved flow and offers superior surface appearance.
Glass-fiber reinforced Vydyne resins provide higher heat distortion temperature, resistance to creep and better dimensional stability when compared with unreinforced PA66. These products have good chemical resistance to a broad range of chemicals including gasoline, hydraulic fluids and most solvents.
Typical Applications/End Uses:
Vydyne R413 is successfully used in a wide range of injection-molding engineering applications, including automotive clips, fasteners, brackets and carbon canisters; electrical connectors, housings, bobbins, etc.; and industrial gears, bearing shells, covers, housings, etc.

General Information	
Filler / Reinforcement	Glass Fiber,13% Filler by Weight
Additive	Lubricant
Features	Gasoline Resistance Good Chemical Resistance Good Creep Resistance Good Dimensional Stability Good Flow Good Impact Resistance Good Mold Release Grease Resistant High Rigidity High Strength High Tensile Strength Lubricated Oil Resistant Solvent Resistant
Uses	Automotive Under the Hood Gears Housings Lawn and Garden Equipment Power/Other Tools
Agency Ratings	ASTM D 4066 PA0151G15 ASTM D 6779 PA0151G15
UL File Number	E70062
Appearance	Natural Color
Forms	Pellets

Processing Method		Injection Molding		
Physical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Density	1.21	--	g/cm³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 23°C, 2.00 mm	0.80	--	%	
Flow : 23°C, 2.00 mm	0.70	--	%	
Water Absorption				ISO 62
23°C, 24 hr	1.0	--	%	
Equilibrium, 23°C, 50% RH	1.9	--	%	
Mechanical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Tensile Modulus (23°C)	5500	4100	MPa	ISO 527-2
Tensile Stress (Break, 23°C)	110	80.0	MPa	ISO 527-2
Tensile Strain (Break, 23°C)	5.0	13	%	ISO 527-2
Flexural Modulus (23°C)	4800	2800	MPa	ISO 178
Flexural Stress (23°C)	140	73.0	MPa	ISO 178
Poisson's Ratio	0.40	--		ISO 527-2
Impact	**Dry**	**Conditioned**	**Unit**	**Test Method**
Charpy Notched Impact Strength				ISO 179
-40°C	5.0	5.0	kJ/m²	
-30°C	6.0	10	kJ/m²	
23°C	12	18	kJ/m²	
Charpy Unnotched Impact Strength				ISO 179
-30°C	80	70	kJ/m²	
23°C	75	76	kJ/m²	
Notched Izod Impact Strength				ISO 180
-40°C	9.0	9.0	kJ/m²	
-30°C	10	10	kJ/m²	
23°C	12	21	kJ/m²	
Thermal	**Dry**	**Conditioned**	**Unit**	**Test Method**
Heat Deflection Temperature				
0.45 MPa, Unannealed	258	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	235	--	°C	ISO 75-2/A
Melting Temperature	260	--	°C	ISO 11357-3
CLTE				ISO 11359-2
Flow : 23 to 55°C, 2.00 mm	3.0E-5	--	cm/cm/°C	
Transverse : 23 to 55°C, 2.00 mm	1.1E-4	--	cm/cm/°C	
Injection	**Dry**	**Unit**		

Drying Temperature	80.0	°C
Drying Time	4.0	hr
Suggested Max Regrind	25	%
Rear Temperature	280 to 310	°C
Middle Temperature	280 to 310	°C
Front Temperature	280 to 310	°C
Nozzle Temperature	280 to 310	°C
Processing (Melt) Temp	285 to 305	°C
Mold Temperature	65.0 to 95.0	°C

Recommended distributors for this material

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