

Vydyne® R220

40% 矿物填料

聚酰胺66

Ascend Performance Materials Operations LLC

供应商联系方式

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产品说明

Vydyne R220 is a 40% mineral-reinforced PA66 resin formulated for improved impact strength. Available in natural, it is an injection-molding grade formulated to retain the inherent processing advantages of unreinforced PA66 while enhancing rigidity, strength and heat resistance. Vydyne R220 maintains the chemical resistance typical of PA66 to a wide variety of chemicals, gasoline, oils, greases and solvents.

Vydyne R220 resin utilizes a unique mineral-reinforced PA66 system developed by Ascend Performance Materials to satisfy the market need for a high-rigidity thermoplastic as an alternative to certain metals. This mineral system provides two key features:

- (1) isotropic behavior-property development in molded parts is usually independent of flow direction.
- (2) a reduction in the tendency to develop sink marks in heavy cross sections such as molded-in bosses and ribs.

While not sink-free, parts made from Vydyne R220 can often permit boss and rib design or wall cross section changes that would not be tolerable in other unreinforced thermoplastic materials. Thus Vydyne R220 resin offers more uniform molded part strength and performance, as well as wider latitude in part design.

Vydyne R220 resin is a workhorse of Ascend Performance Materials' full line of mineral-reinforced PA66 resins, providing the best overall balance of properties. Vydyne R220 is heat stabilized and designed to provide increased ductility and reduced melt viscosity vs. unreinforced materials. This ductility improvement results in tougher, more impact-resistant molded parts. The reduction in melt viscosity enhances overall ease of injection-molding, resulting in minor reductions in tensile strength, modulus and heat distortion temperature. Parts manufactured from Vydyne R220 have successfully withstood paint bake oven cycles without significant loss of either dimensional stability or part properties.

基本信息

填料/增强材料	矿物填料,40% 填料按重量		
添加剂	热稳定剂		
特性	刚性,高	抗溶剂性	抗撞击性,良好
	良好的强度	耐化学性良好	耐汽油性
	耐热性,高	耐油性能	耐油脂性能
	热稳定性	韧性良好	延展性
用途	齿轮	动力/其它工具	工业应用
	汽车的发动机罩下的零件	汽车外部零件	凸轮
	外壳		
机构评级	ASTM D 4066 PA022M40 MIL M-20693B	ASTM D 6779 PA022M40	FED L-P-410A
UL文件号	E70062		
外观	自然色		
形式	粒子		
加工方法	注射成型		
多点数据	Isothermal Stress vs. Strain (ISO 11403-1)		

物理性能	干燥	调节后的	单位制	测试方法
密度	1.48	--	g/cm³	ISO 1183
收缩率				ISO 294-4
垂直流动方向 : 23°C, 2.00 mm	1.0	--	%	ISO 294-4
流动方向 : 23°C, 2.00 mm	1.1	--	%	ISO 294-4
吸水率				ISO 62
23°C, 24 hr	1.1	--	%	ISO 62
平衡, 23°C, 50% RH	1.6	--	%	ISO 62
机械性能	干燥	调节后的	单位制	测试方法
拉伸模量 (23°C)	6900	2600	MPa	ISO 527-2
拉伸应力 (断裂, 23°C)	103	73.0	MPa	ISO 527-2
拉伸应变				ISO 527-2
屈服, 23°C	1.5	16	%	ISO 527-2
断裂, 23°C	6.0	30	%	ISO 527-2
弯曲模量 (23°C)	6100	2300	MPa	ISO 178
弯曲应力 (23°C)	124	50.0	MPa	ISO 178
泊松比	0.40	--		ISO 527
冲击性能	干燥	调节后的	单位制	测试方法
简支梁缺口冲击强度				ISO 179
-30°C	6.0	8.0	kJ/m²	ISO 179
23°C	7.0	17	kJ/m²	ISO 179
简支梁无缺口冲击强度				ISO 179
-30°C	110	130	kJ/m²	ISO 179
23°C	140 kJ/m²	无断裂		ISO 179
悬壁梁缺口冲击强度				ISO 180
-30°C	7.0	7.0	kJ/m²	ISO 180
23°C	9.0	16	kJ/m²	ISO 180
热性能	干燥	调节后的	单位制	测试方法
热变形温度				
0.45 MPa, 未退火	222	--	°C	ISO 75-2/B
1.8 MPa, 未退火	118	--	°C	ISO 75-2/A
熔融温度	258	--	°C	ISO 11357-3
线形热膨胀系数				ISO 11359-2
流动 : 23 到 55°C, 2.00 mm	6.3E-4	--	cm/cm/°C	ISO 11359-2
横向 : 23 到 55°C, 2.00 mm	6.0E-4	--	cm/cm/°C	ISO 11359-2
补充信息	干燥	调节后的		测试方法
Automotive Materials - (thickness d = 1mm)	+	--		FMVSS 302
注射	干燥	单位制		
干燥温度	80.0		°C	

干燥时间	4.0	hr
建议的最大回制料比例	25	%
料筒后部温度	280 到 310	°C
料筒中部温度	280 到 310	°C
料筒前部温度	280 到 310	°C
射嘴温度	280 到 310	°C
加工(熔体)温度	285 到 305	°C
模具温度	65.0 到 95.0	°C