

产品说明

Vydyne® R220 is a 40% mineral reinforced Nylon 66 resin formulated for improved impact strength. Also available in black as R228. It is an injection molding grade formulated to retain the inherent processing advantages of unreinforced Nylon 66 while enhancing rigidity, strength, and heat resistance. Vydyne R220/R228 maintains the chemical resistance typical of nylon to a wide variety of chemicals, gasoline, oils, greases, and solvents.

Vydyne R220/R228 resins utilize a unique mineral reinforced nylon system developed by Solutia 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/R228 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/R228 resins offer more uniform molded part strength and performance as well as wider latitude in part design.

Vydyne R220/R228 resins are the workhorses for Solutia's full line of mineral reinforced nylon resins, providing the best overall balance of properties.

Vydyne R220/R228 are 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 from Vydyne R220/R228 have successfully withstood paint bake oven cycles without significant loss of either dimensional stability or part properties.

总体

材料状态	已商用：当前有效		
供货地区	北美洲	欧洲	亚太地区
填料/增强材料	矿物填料, 40% 填料按重量		
添加剂	热稳定剂		
	刚性, 高 抗溶解性	耐化学性良好 耐汽油性	耐油脂性能 热稳定性
性能特点	抗撞击性, 良好	耐热性, 高	韧性良好
	良好的强度	耐油性能	延展性
	齿轮	汽车的发动机罩下的零件	



用途	动力/其它工具	汽车外部零件	型号
机构评级	工业领域: ASTM D 4066 PA 112M40	凸轮 FED L-P-410A	MIL M-20693B
外观	黑色		
形式	颗粒料		
加工方法	注射成型		
物理性能	干燥	调节后的	单位制
密度		1.48 --	g/cm ³
收缩率			
横向流量: 23° C, 2.00 mm		1.1 --	%
流量: 23° C, 2.00 mm		1 --	%
吸水率			
23° C, 24 hr		1.1 --	%
平衡, 23° C, 50% RH		1.6 --	%
机械性能	干燥	调节后的	单位制
拉伸模量 (23° C)		6900	2600 MPa
拉伸应力 (屈服, 23° C)		103	73 MPa
拉伸应变			
屈服, 23° C		9	16 %
断裂, 23° C		15	30 %
弯曲模量 (23° C)		6100	2300 MPa
弯曲强度 (23° C)		124	50 MPa
泊松比		0.35 --	
冲击性能	干燥	调节后的	单位制
简支梁缺口冲击强度			
-30° C		6.2 --	kJ/m ²
23° C		7.4 --	kJ/m ²
简支梁缺口冲击强度			
-30° C		110 --	kJ/m ²
23° C		140 --	kJ/m ²
悬壁梁缺口冲击强度 (23° C)		9 --	kJ/m ²
热性能	干燥	调节后的	单位制
热变形温度			
0.45 MPa, 未退火		222 --	° C
1.8 MPa, 未退火		118 --	° C
维卡软化温度		238 --	° C
熔融温度 (DSC)		258 --	° C
线形膨胀系数			
流动: 23 到 55° C, 2.00 mm		6.00E-06 --	cm/cm/° C
横向: 23 到 55° C, 2.00 mm		6.30E-06 --	cm/cm/° C
电气性能	干燥	调节后的	单位制
体积电阻率 (23° C)		5.50E+16 --	ohm • cm

耐电弧性 (PLC) (3.00 mm)	PLC 6	--	
漏电起痕指数 (3.00 mm)	> 600	--	V
耐电强度 ² (23° C, 3.00 mm)		15 --	kV/mm
可燃性	干燥	调节后的	单位制
UL 阻燃等级			
0.750 mm, All Colors	HB	--	
1.50 mm, All Colors	HB	--	
3.00 mm, All Colors	HB	--	
UL 档案号	E70062	--	
UL746	干燥	调节后的	单位制
RTI Str			
0.750 mm		105 --	° C
1.50 mm		105 --	° C
3.00 mm		105 --	° C
RTI Imp			
0.750 mm		90 --	° C
1.50 mm		90 --	° C
3.00 mm		90 --	° C
RTI Elec			
0.750 mm		105 --	° C
1.50 mm		105 --	° C
3.00 mm		105 --	° C
相比耐漏电起痕指数 (CTI) (PLC) (3.00 mm)	PLC 0	--	
高电压电弧起痕速率 (HVTR) (PLC) (3.00 mm)	PLC 1	--	
热丝引燃 (HWI) (PLC)			
0.750 mm	PLC 4	--	
1.50 mm	PLC 4	--	
3.00 mm	PLC 3	--	
高电弧燃烧指数 (HAI) (PLC)			
0.750 mm	PLC 0	--	
1.50 mm	PLC 0	--	
3.00 mm	PLC 0	--	
注射	干燥	单位制	
干燥温度		70 ° C	
干燥时间	1.0 到 3.0	hr	
建议注入量	40 到 80	%	
建议的最大回制料比例		25 %	
螺筒后部温度	280 到 310	° C	
螺筒中部温度	280 到 310	° C	
螺筒前部温度	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	
注塑温度	55.0 到 140	MPa	
	快速		



保压	55.0 到 140	MPa
背压	0.200 到 1.00	MPa
螺杆转速	40 到 120	rpm
合模力	2.7 到 6.2	kN/cm ²
垫层	3.00 到 6.40	mm

注射说明

Injection Time: 1 to 3 sec