

产品说明

Vydyne R513H Nylon resins are general purpose polyamide, 13% glass fiber reinforced, and heat stabilized resins. Available in natural and black. Solutia Inc. has engineering data available for this resin, including 50% RH data.

Please contact your customer service representative. They are injection molding grade resins that are lubricated for machine feed, flow and mold release.

Vydyne R513H is a member of a glass reinforced family supplied by Solutia which also includes 33% and 43% glass fiber loadings. These resins provide a range of cost performance products in which tensile strength is increased with the increasing glass fiber loadings.

Glass reinforced Vydyne resins provide a higher heat distortion temperature, better resistance to creep, higher impact and better dimensional stability when compared with unreinforced Nylon 6,6. These products have good chemical resistance to a broad range of chemicals including many aliphatic and aromatic hydrocarbons found in most solvents, gasoline, hydraulic fluids, greases and machine oils.

Vydyne R513H Series resins have tensile strength and modulus properties just below aluminum and zinc and can replace these metals in numerous applications due to an excellent balance of properties. Reduction in production costs, energy consumption, and part weight are key advantages of Vydyne glass reinforced Nylon 6,6 resins over aluminum and/or zinc die cast parts.

Vydyne R513H Series are heat stabilized and formulated to minimize the oxidative and thermal degradation of the nylon polymer when exposed to elevated temperatures for extended periods of time. Vydyne R513H provides improved retention of physical properties under exposure to long-term heat. The continuous operating use temperature is 275° F and short-term peak temperatures as high as 475° F.

Typical Applications/End Uses:

Vydyne R513H Series resins have been used for many under-the-hood automotive applications, motor housings for power tools, and garden appliances. These resins have also been used in miscellaneous brackets, gears, and clips, which require high rigidity and strength.

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	玻璃纤维增强材料, 13% 填料按重量		
添加剂	热稳定剂	润滑剂	
性能特点	刚性, 高	抗溶解性	耐油性能
	高强度	耐化学性良好	耐油脂性能
	经润滑	耐汽油性	热稳定性
	齿轮	汽车的发动机罩下的零件	

田途



用途	动力/其它工具	型号	
机构评级	ASTM D 4066 PA 012G15	FED L-P-410A	MIL M-20693B
RoHS 合规性	RoHS 合规		
外观	黑色	自然色	
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		1.22 --	g/cm ³
收缩率			
横向流量: 23° C, 2.00 mm		1 --	%
流量: 23° C, 2.00 mm		0.5 --	%
吸水率			
23° C, 24 hr		1 --	%
平衡, 23° C, 50% RH		2.2 --	%
机械性能	干燥	调节后的	单位制
拉伸模量 (23° C)		6200	3900 MPa
拉伸应力 (断裂, 23° C)		122	75 MPa
拉伸应变 (断裂, 23° C)		3	13 %
弯曲模量 (23° C)		5200	3150 MPa
弯曲强度 (23° C)		200	106 MPa
泊松比		0.41 --	
冲击性能	干燥	调节后的	单位制
简支梁缺口冲击强度			
-30° C		7.9 --	kJ/m ²
23° C		8 --	kJ/m ²
简支梁缺口冲击强度			
-30° C		26 --	kJ/m ²
23° C		28 --	kJ/m ²
悬壁梁缺口冲击强度 (23° C)		4.7 --	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		258 --	° C
1.8 MPa, 未退火		240 --	° C
维卡软化温度		250 --	° C
熔融温度 (DSC)		260 --	° C
线形膨胀系数			
流动: 23 到 55° C, 2.00 mm		4.00E-06 --	cm/cm/° C
横向: 23 到 55° C, 2.00 mm		9.50E-06 --	cm/cm/° C
电气性能	干燥	调节后的	单位制
体积电阻率 (3.00 mm)		4.00E+15 --	ohm • cm
耐电弧性 (PLC) (3.00 mm)	PLC 6	--	
漏电起痕指数 (3.00 mm)	400 到 599	--	V
耐电强度 ² (23° C, 3.00 mm)		15 --	kV/mm
	干燥	调节后的	单位制

UL 阻燃等级			
0.710 mm, ALL	HB	--	
1.50 mm, ALL	HB	--	
3.00 mm, ALL	HB	--	
灼热丝易燃指数			
0.710 mm		675 --	° C
1.50 mm		675 --	° C
3.00 mm		675 --	° C
热灯丝点火温度			
0.710 mm		700 --	° C
1.50 mm		700 --	° C
3.00 mm		700 --	° C
极限氧指数		25 --	%
UL 档案号	E70062	--	
UL746	干燥	调节后的	单位制
RTI Str			
0.710 mm		125 --	° C
1.50 mm		140 --	° C
3.00 mm		140 --	° C
RTI Imp			
0.710 mm		120 --	° C
1.50 mm		120 --	° C
3.00 mm		120 --	° C
RTI Elec			
0.710 mm		140 --	° C
1.50 mm		140 --	° C
3.00 mm		140 --	° C
相比耐漏电起痕指数(CTI)			
(PLC) (3.00 mm)	PLC 2	--	
高电压电弧起痕速率 (HVTR)			
(PLC) (3.00 mm)	PLC 1	--	
热丝引燃 (HWI) (PLC)			
0.710 mm	PLC 4	--	
1.50 mm	PLC 3	--	
3.00 mm	PLC 4	--	
高电弧燃烧指数(HAI) (PLC)			
0.710 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
注射速度	快速	
保压	55.0 到 140	MPa
背压	0.200 到 1.00	MPa
螺杆转速	60 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		