

ULTEM™ 1000 resin

聚醚酰亚胺

SABIC Innovative Plastics



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Technical Data

产品说明

Transparent, standard flow Polyetherimide (Tg 217C). ECO Conforming, UL94 V0, V2 and 5VA listing. US FDA and EU Food Contact compliant, NSF 51 listing, compliant in natural color. Effective June, 2007 this grade will no longer be supported with biocompatibility information and should not be used for medical applications which require biocompatibility. Alternative grade HU1000.

总体

材料状态	• 已商用 : 当前有效
资料 ¹	• Technical Datasheet
UL 黄卡 ²	• E121562-101048254
搜索 UL 黄卡	• SABIC Innovative Plastics • ULTEM™
供货地区	• 北美洲
性能特点	• 符合 ECO • 食品接触的合规性
机构评级	• EU Eco • NSF 51 • FDA 食品接触, 未评级 • 欧洲 食品接触, 未评级
外观	• 清晰/透明
加工方法	• 挤出吹塑成型 • 注射成型
多点数据	• Coefficient of Thermal Expansion vs. Temperature (ASTM E831) • Compressive Stress vs. Strain (ASTM D695) • Elastic Modulus vs Temperature (ASTM D4065) • Flexural DMA (ASTM D4065) • Instrumented Impact (Energy) (ASTM D3763) • Instrumented Impact (Load) (ASTM D3763) • Pressure-Volume-Temperature (PVT - Zoller Method) • Shear DMA (ASTM D4065) • Specific Heat vs. Temperature (ASTM D3417) • Tensile Creep (ASTM D2990) • Tensile Fatigue • Tensile Stress vs. Strain (ASTM D638) • Thermal Conductivity vs. Temperature (ASTM E1530) • Viscosity vs. Shear Rate (ASTM D3835)

物理性能	额定值 单位制	测试方法
比重	1.27 g/cm ³	ASTM D792
熔流率 (337°C/6.6 kg)	9.0 g/10 min	ASTM D1238
收缩率 - 流动 (3.20 mm)	0.50 到 0.70 %	Internal Method
吸水率		ASTM D570
24 hr	0.25 %	
平衡, 23°C	1.3 %	

机械性能	额定值 单位制	测试方法
拉伸模量 ⁴	3590 MPa	ASTM D638
抗张强度 ⁵ (屈服)	110 MPa	ASTM D638
伸长率 ⁵		ASTM D638
屈服	7.0 %	
断裂	60 %	
弯曲模量 ⁶ (100 mm 跨距)	3520 MPa	ASTM D790
弯曲强度 ⁶ (屈服, 100 mm 跨距)	165 MPa	ASTM D790
泊松比	0.36	ASTM D638
抗泰伯磨损 (1000 Cycles, 1000 g, CS-17 转轮)	10.0 mg	ASTM D1044

冲击性能	额定值 单位制	测试方法
悬臂梁缺口冲击强度 (23°C)	53 J/m	ASTM D256
无缺口悬臂梁冲击 (23°C)	1300 J/m	ASTM D4812
反向缺口冲击 (3.20 mm)	1300 J/m	ASTM D256

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文件号 : TDS-4195-zh

文件建立日期 : 2013年6月17日
添加到 Prospector : 1995年11月
上次更新 : 2013/5/17

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冲击性能	额定值 单位制	测试方法
落锤冲击 (23°C)	36.6 J	ASTM D3029
硬度	额定值 单位制	测试方法
洛氏硬度 (M 计秤)	109	ASTM D785
热性能	额定值 单位制	测试方法
热变形温度		ASTM D648
0.45 MPa, 未退火, 6.40 mm	210 °C	
1.8 MPa, 未退火, 6.40 mm	201 °C	
维卡软化温度	219 °C	ASTM D1525 ⁷
线形膨胀系数		ASTM E831
流动: -20 到 150°C	0.000056 cm/cm/°C	
横向: -20 到 150°C	0.000054 cm/cm/°C	
导热系数	0.22 W/m/K	ASTM C177
RTI Elec	170 °C	UL 746
RTI Imp	170 °C	UL 746
RTI Str	170 °C	UL 746
电气性能	额定值 单位制	测试方法
体积电阻率	1.0E+17 ohm·cm	ASTM D257
介电强度		ASTM D149
1.60 mm, in Air	33 kV/mm	
1.60 mm, in Oil	28 kV/mm	
3.20 mm, in Oil	20 kV/mm	
介电常数		ASTM D150
100 Hz	3.15	
1 kHz	3.15	
耗散因数		ASTM D150
100 Hz	0.0015	
1 kHz	0.0012	
2.45 GHz	0.0025	
耐电弧性 ⁸	PLC 5	ASTM D495
相比耐漏电起痕指数(CTI)	PLC 4	UL 746
高电弧燃烧指数(HAI)	PLC 3	UL 746
高电压电弧起痕速率 (HVTR)	PLC 2	UL 746
热丝引燃 (HWI)	PLC 1	UL 746
可燃性	额定值 单位制	测试方法
UL 阻燃等级		UL 94
0.400 mm	V-2	
0.750 mm	V-0	
3.00 mm	5VA	
极限氧指数	47 %	ASTM D2863
NBS Smoke Density - Flaming, Ds, 4 min	0.700	ASTM E662
注射	额定值 单位制	
干燥温度	149 °C	
干燥时间	4.0 到 6.0 hr	
干燥时间, 最大	24 hr	
建议的最大水分含量	0.020 %	
建议注入量	40 到 60 %	
螺筒后部温度	332 到 399 °C	
螺筒中部温度	338 到 399 °C	
螺筒前部温度	343 到 399 °C	
射嘴温度	343 到 399 °C	
加工 (熔体) 温度	349 到 399 °C	
模具温度	135 到 163 °C	

注射		额定值 单位制
背压		0.345 到 0.689 MPa
螺杆转速		40 到 70 rpm
排气孔深度		0.025 到 0.076 mm
挤出		额定值 单位制
干燥温度		138 到 149 °C
干燥时间		4.0 到 6.0 hr
建议的最大水分含量		0.010 到 0.020 %
第1气缸区温度		324 到 349 °C
第2气缸区温度		329 到 357 °C
第3气缸区温度		329 到 357 °C
第4气缸区温度		329 到 357 °C
第5气缸区温度		329 到 357 °C
连接器温度		329 到 357 °C
模具温度		327 到 357 °C

挤压说明

Drying Time (Cumulative): 24 hrs
 Head - Zone 6 - Top Temperature: 329 - 357 °C
 Head - Zone 7 - Bottom Temperature: 329 - 357 °C
 Melt Temperature (Parison): 321 - 357 °C
 Mold Temperature: 66 - 177 °C
 Screw Speed: 10 - 70 rpm

备注

¹ 通过这些链接您能够访问供应商资料。我们尽量保证及时更新资料；不过您可以从供应商处了解最新资料。

² UL 黄卡含有 UL 验证的易燃性和电气特性。UL IDES 持续努力在 Prospector 中将黄卡链接至单个塑料材料，然而此列表可能未包括所有相应链接。重要的是，我们对 Prospector 中找到的这些黄卡和塑料材料之间的关联进行验证。如需完整的黄卡列表，请访问 UL 黄卡搜索。

³ 一般属性：这些不能被视为规格。

⁴ 5.0 mm/min

⁵ 类型 1, 5.0 mm/min

⁶ 2.6 mm/min

⁷ 标准 B (120°C/h), 压力2 (50N)

⁸ 钨电极

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聚醚酰亚胺

SABIC Innovative Plastics

购买地点

供应商

SABIC Innovative Plastics
Pittsfield, MA USA
电话: 800-845-0600
Web: <http://www.sabic-ip.com/>

分销商

Nexeo Solutions
电话: 800-531-7106
Web: <http://www.nexeosolutions.com/>
可用性: North America



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