

Ixef® 1027

聚丙烯酰胺

Solvay Specialty Polymers

Technical Data

产品说明

Ixef® 1027是一种聚丙烯酰胺 (PARA)材料,含有的填充物为50% 玻璃纤维增强材料。
该产品在北美洲、非洲和中东、拉丁美洲、欧洲或亚太地区有供货,加工方式为:注射成型。

Ixef® 1027的主要特性有:

- 阻燃/额定火焰
- 通过 ROHS 认证
- 低吸湿性
- 高刚度
- 高流动性

典型应用领域包括:

- 电气用具
- 工程/工业配件
- 汽车行业
- 工具
- 工业应用

总体

| | | | |
|----------|---|---|----------------------------------|
| 填料/增强材料 | • 玻璃纤维增强材料, 50% 填料按重量 | | |
| 添加剂 | • 热稳定剂 | | |
| 特性 | • Outstanding Surface Finish • 超强硬度 • 尺寸稳定性良好 | • 高强度 • 良好的抗蠕变性 • 流动性高 | • 耐化学性良好 • 热稳定性 • 吸潮性差 |
| 用途 | • 草坪和园林设备 • 齿轮 • 电器用具 • 动力/其它工具 | • 家电部件 • 家具 • 结构元件 • 金属置换 | • 汽车领域的应用 • 设备/机械部件 • 营业设备 |
| RoHS 合规性 | • RoHS 合规 | | |
| 汽车要求 | • GM GM7001M PAMXD6(A4,A22,A42,A64,BA651,G30,MS1650,NS335) Color: 9000 黑色 | | |
| 外观 | • 黑色 | | |
| 形式 | • 颗粒料 | | |
| 加工方法 | • 注射成型 | | |
| 多点数据 | • Isothermal Stress vs. Strain (ISO 11403-1) | • Secant Modulus vs. Strain (ISO 11403-1) | |

| 物理性能 | 额定值 (英制) | 额定值 (公制) | 测试方法 |
|--------------------------|------------------------|------------------------|-----------|
| 密度 | 1.64 g/cm ³ | 1.64 g/cm ³ | ISO 1183 |
| 收缩率 | 0.10 到 0.30 % | 0.10 到 0.30 % | 内部方法 |
| 吸水率 (73°F (23°C), 24 hr) | 0.16 % | 0.16 % | ISO 62 |
| 吸水性 - Equil, 65% RH | 1.5 % | 1.5 % | 内部方法 |
| 机械性能 | 额定值 (英制) | 额定值 (公制) | 测试方法 |
| 拉伸模量 | 2.90E+6 psi | 20000 MPa | ISO 527-2 |
| 拉伸应力 (断裂, 73°F (23°C)) | 34100 psi | 235 MPa | ISO 527-2 |
| 拉伸应变 (断裂) | 1.8 % | 1.8 % | ISO 527-2 |
| 弯曲模量 | 2.68E+6 psi | 18500 MPa | ISO 178 |
| 弯曲强度 (73°F (23°C)) | 52200 psi | 360 MPa | ISO 178 |

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| 冲击性能 | 额定值 (英制) | 额定值 (公制) | 测试方法 |
|-------------------------------|-----------------|-----------------|-------------|
| 悬臂梁缺口冲击强度 | 1.7 ft-lb/in | 90 J/m | ASTM D256 |
| 无缺口悬臂梁冲击 | 13 ft-lb/in | 720 J/m | ASTM D256 |
| 热性能 | 额定值 (英制) | 额定值 (公制) | 测试方法 |
| 热变形温度 (264 psi (1.8 MPa), 退火) | 428 °F | 220 °C | ISO 75-2/A |
| 线形膨胀系数 - 流动 | 9.4E-6 in/in/°F | 1.7E-5 cm/cm/°C | ISO 11359-2 |
| 电气性能 | 额定值 (英制) | 额定值 (公制) | 测试方法 |
| 体积电阻率 | 1.0E+13 ohm·cm | 1.0E+13 ohm·cm | IEC 60093 |
| 耐电强度 | 710 V/mil | 28 kV/mm | IEC 60243-1 |
| 介电常数 (110 Hz) | 4.60 | 4.60 | IEC 60250 |
| 漏电起痕指数 | 600 V | 600 V | IEC 60112 |
| 可燃性 | 额定值 (英制) | 额定值 (公制) | 测试方法 |
| UL 阻燃等级 ⁴ | HB | HB | UL 94 |
| 极限氧指数 | 25 % | 25 % | ISO 4589-2 |
| 注射 | 额定值 (英制) | 额定值 (公制) | |
| 干燥温度 | 248 °F | 120 °C | |
| 干燥时间 | 0.50 到 1.5 hr | 0.50 到 1.5 hr | |
| 螺筒后部温度 | 482 到 500 °F | 250 到 260 °C | |
| 螺筒前部温度 | 500 到 554 °F | 260 到 290 °C | |
| 加工 (熔体) 温度 | 536 °F | 280 °C | |
| 模具温度 | 248 到 284 °F | 120 到 140 °C | |
| 注射速度 | 快速 | 快速 | |

注射说明

Hot Runners: 250°C to 260°C (482°F to 500°F)

Storage

Ixef® compounds are shipped in moisture-resistant packages at moisture levels according to specifications. Sealed, undamaged bags should be preferably stored in a dry room at a maximum temperature of 50°C (122°F) and should be protected from possible damage. If only a portion of a package is used, the remaining material should be transferred into a sealable container. It is recommended that Ixef® resins be dried prior to molding following the recommendations found in this datasheet and/or in the Ixef® processing guide.

Drying

The material as supplied is ready for molding without drying. However, if the bags have been open for longer than 24 hours, the material needs to be dried. When using a desiccant air dryer with dew point of -28°C (-18°F) or lower, these guidelines can be followed: 0.5-1.5 hour at 120°C (248°F), 1-3 hours at 100°C (212°F), or 1-7 hours at 80°C (176°F).

Injection Molding

Ixef 1027 compound can be readily injection molded in most screw injection molding machines. A general purpose screw is recommended, with minimum back pressure.

The measured melt temperature should be about 280°C (536°F), and the barrel temperatures should be around 250°C to 260°C (482°F to 500°F) in the rear zone, gradually increasing to 260°C to 290°C (500°F to 554°F) in the front zone. If hot runners are used, they should be set to 250°C to 260°C (482°F to 500°F).

To maximize crystallinity, the temperature of the mold cavity surface must be held between 120°C and 140°C (248°F and 284°F). Molding at lower temperatures will produce articles that may warp, have poor surface appearance, and have a greater tendency to creep. Set injection pressure to give rapid injection. Adjust holding pressure and hold time to maximize part weight. Transfer from injection to hold pressure at the screw position just before the part is completely filled (95%-99%).