



Rynite® 530 NC010

THERMOPLASTIC POLYESTER RESIN

Rynite® 热塑性聚酯的共性包括良好的机械和物理性能，例如强度和刚性之间良好的平衡、尺寸稳定性、耐蠕变、耐热老化、高表面光泽和固有地高温下良好的电气性能。可在很宽泛的温度范围内加工，有很好的流动性能。

Rynite® 热塑性聚酯通常应用于要求严苛的汽车、电子电器工业，成功取代金属、热固性材料和其他热塑性聚合物。

Rynite® 530 NC010是一种30% 玻纤增强 PET

总说明

| | | |
|-------|------------|-----------|
| 树脂鉴别 | PET-GF30 | ISO 1043 |
| 制品标识码 | >PET-GF30< | ISO 11469 |

流变性能

| | | |
|-----------|-----------------------|---------------------|
| 粘数 | 55 cm ³ /g | ISO 307, 1157, 1628 |
| 模塑收缩率, 平行 | 0.2 % | ISO 294-4, 2577 |
| 模塑收缩率, 垂直 | 0.8 % | ISO 294-4, 2577 |
| 模塑收缩率 | 0.45 % | ISO 294-4 |
| 模塑收缩率 | 0.1 % | ISO 294-4 |

机械性能

| | | |
|-------------------|----------------------|--------------|
| 拉伸模量 | 11000 MPa | ISO 527-1/-2 |
| 断裂应力 | 158 MPa | ISO 527-1/-2 |
| 断裂伸长率 | 2.5 % | ISO 527-1/-2 |
| 弯曲模量 | 8950 MPa | ISO 178 |
| 弯曲强度 | 230 MPa | ISO 178 |
| 压缩强度 | 230 MPa | ISO 604 |
| 拉伸蠕变模量, 1h | 10800 MPa | ISO 899-1 |
| 拉伸蠕变模量, 1000h | 8800 MPa | ISO 899-1 |
| 简支梁无缺口冲击强度, +23°C | 60 kJ/m ² | ISO 179/1eU |
| 简支梁无缺口冲击强度, -30°C | 45 kJ/m ² | ISO 179/1eU |
| 简支梁缺口冲击强度, +23°C | 11 kJ/m ² | ISO 179/1eA |
| 简支梁缺口冲击强度, -30°C | 11 kJ/m ² | ISO 179/1eA |
| 简支梁缺口冲击强度, -40°C | 10 kJ/m ² | ISO 179/1eA |
| 洛氏硬度 | 100 - | ISO 2039-2 |
| 洛氏硬度, Rockwell | 120 - | ISO 2039-2 |
| 球压痕硬度 | 221 MPa | ISO 2039-1 |
| Poisson's ratio | 0.34 - | |



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热性能

| | | |
|-----------------------|--------------------------|----------------|
| 熔融温度, 10°C/min | 252 °C | ISO 11357-1/-3 |
| 玻璃化转变温度, 10°C/min | 90 °C | ISO 11357-1/-2 |
| 热变形温度, 1.80 MPa | 224 °C | ISO 75-1/-2 |
| 热变形温度, 0.45 MPa | 245 °C | ISO 75-1/-2 |
| 维卡软化温度, 50°C/h 50N | 230 °C | ISO 306 |
| 线性热膨胀系数, 平行, -40-23°C | 22 E-6/K | ISO 11359-1/-2 |
| 线膨胀系数, 平行 | 10 E-6/K | ISO 11359-1/-2 |
| 线性热膨胀系数, 平行, 55-160°C | 4 E-6/K | ISO 11359-1/-2 |
| 线性热膨胀系数, 垂直, -40-23°C | 67 E-6/K | ISO 11359-1/-2 |
| 线膨胀系数, 垂直 | 81 E-6/K | ISO 11359-1/-2 |
| 线膨胀系数, 垂直, 55-160°C | 107 E-6/K | ISO 11359-1/-2 |
| 固态导热系数 | 0.29 W/(m K) | |
| 有效导热率 ^a | 1.3E-7 m ² /s | |
| 相对温度指数, 电气性能, 0.75mm | 140 °C | UL 746B |
| 相对温度指数, 电气性能, 1.5mm | 140 °C | UL 746B |
| 相对温度指数, 电气性能, 3mm | 140 °C | UL 746B |
| 相对温度指数, 电气性能, 6mm | 140 °C | UL 746B |
| 相对温度指数, 冲击, 0.75mm | 140 °C | UL 746B |
| 相对温度指数, 冲击, 1.5mm | 140 °C | UL 746B |
| 相对温度指数, 冲击, 3mm | 140 °C | UL 746B |
| 相对温度指数, 冲击, 6mm | 140 °C | UL 746B |
| 相对温度指数, 强度, 0.75mm | 140 °C | UL 746B |
| 相对温度指数, 强度, 1.5mm | 140 °C | UL 746B |
| 相对温度指数, 强度, 3mm | 140 °C | UL 746B |
| 相对温度指数, 强度, 6mm | 140 °C | UL 746B |

燃烧性能

| | | |
|------------------|----------|----------------------|
| 1.5mm名义厚度时的燃烧性 | HB class | IEC 60695-11-10 |
| 测试用试样的厚度 | 1.5 mm | IEC 60695-11-10 |
| UL注册 | yes - | UL 94 |
| 厚度为h时的燃烧性 | HB class | IEC 60695-11-10 |
| 测试用试样的厚度 | 0.75 mm | IEC 60695-11-10 |
| UL注册 | yes - | UL 94 |
| 燃烧性 - 氧指数 | 20 % | ISO 4589-1/-2 |
| 灼热丝燃烧指数, 2mm | 750 °C | IEC 60695-2-12 |
| 灼热丝燃烧指数, 3mm | 750 °C | IEC 60695-2-12 |
| 灼热丝起燃温度, 2mm | 825 °C | IEC 60695-2-13 |
| 灼热丝起燃温度, 3mm | 825 °C | IEC 60695-2-13 |
| 灼热丝温度, 无火, 1mm | 750 °C | IEC 60335-1 |
| 灼热丝温度, 无火, 1.5mm | 750 °C | IEC 60335-1 |
| 灼热丝温度, 无火, 2mm | 750 °C | IEC 60335-1 |
| 灼热丝温度, 无火, 3mm | 825 °C | IEC 60335-1 |
| FMVSS Class | B - | ISO 3795 (FMVSS 302) |



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燃烧速率, 厚度 : 1毫米 38 mm/min ISO 3795 (FMVSS 302)

电性能

| | | |
|----------------|------------|---------------|
| 相对介电常数., 100Hz | 4.2 - | IEC 62631-2-1 |
| 相对介电常数., 1MHz | 3.8 - | IEC 62631-2-1 |
| 介质损耗因子, 100Hz | 130 E-4 | IEC 62631-2-1 |
| 介质损耗因子, 1MHz | 70 E-4 | IEC 62631-2-1 |
| 体积电阻率 | 1E13 Ohm.m | IEC 62631-3-1 |
| 表面电阻率 | 1E14 Ohm | IEC 62631-3-2 |
| 介电强度 | 32 kV/mm | IEC 60243-1 |
| 相对漏电起痕指数 | 250 - | IEC 60112 |
| 相对漏电起痕指数 | 2 PLC | UL 746A |

其它性能

| | | |
|--------------|------------------------|----------|
| 吸湿性, 2mm | 0.2 % | 类似ISO 62 |
| 吸水性, 2mm | 0.7 % | 类似ISO 62 |
| 密度 | 1560 kg/m ³ | ISO 1183 |
| 吸水性, 浸泡 24小时 | 0.05 % | 类似ISO 62 |

VDA性能

| | | |
|----------|---------------|----------|
| 有机化合物的排放 | 16 μ gC/g | VDA 277 |
| 气味测试 | 3 class | VDA 270 |
| 雾化 | mg | ISO 6452 |

注塑

| | |
|-------------|------------------------|
| 建议干燥 | 是 |
| 干燥温度 | 120 °C |
| 干燥时间, 除湿干燥机 | 4 - 6 h |
| 加工前水分含量 | $\leq 0.02^{[1]}$ % |
| 优良熔体温度 | 285 °C |
| 注塑 熔体温度 | 280 °C |
| 注塑 熔体温度 | 300 °C |
| 螺杆大的切线速度 | 0.2 m/s |
| 优良模具温度 | 130 °C |
| 模具温度 | 120 °C |
| 模具温度 | 140 ^[2] °C |
| 保压范围 | ≥ 80 MPa |
| 保压时间 | 4 s/mm |
| 背压 | As low as possible MPa |
| 喷射温度 | 170 °C |

[1]: At levels above 0.02%, strength and toughness will decrease, even though parts may not exhibit surface defects.

[2]: (6mm - 1mm thickness)



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典型数据

添加剂

脱模助剂

成型

注塑

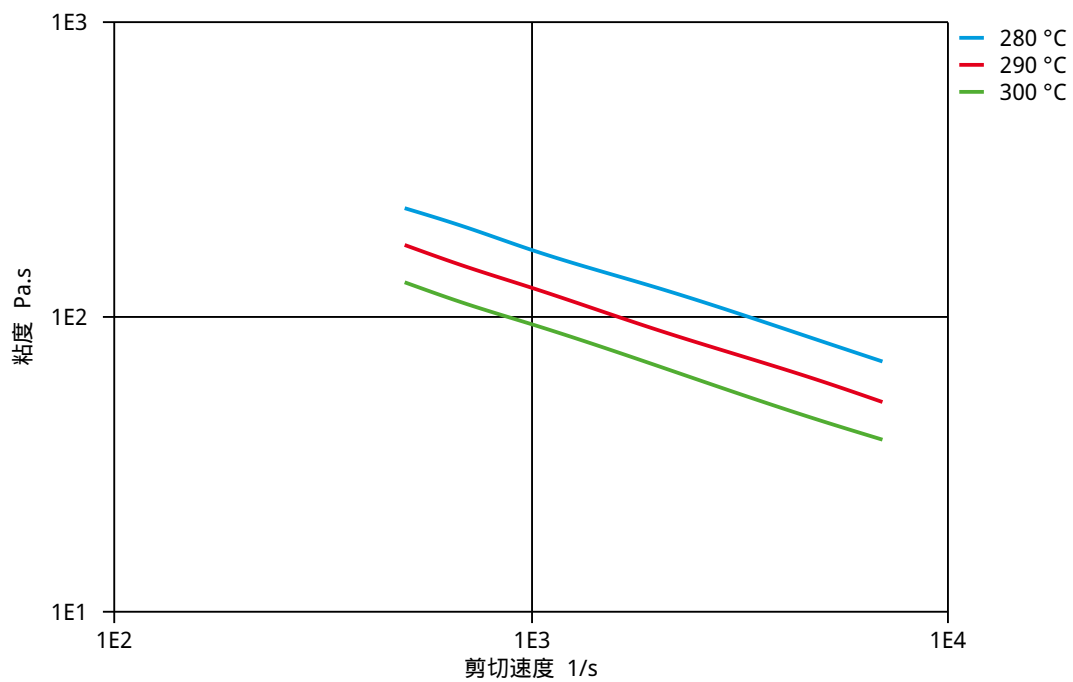
When lower mold temperatures are used, the initial warpage and shrinkage will be lower, but the surface appearance will be poorer and the dimensional change may be greater when parts are subsequently heated.



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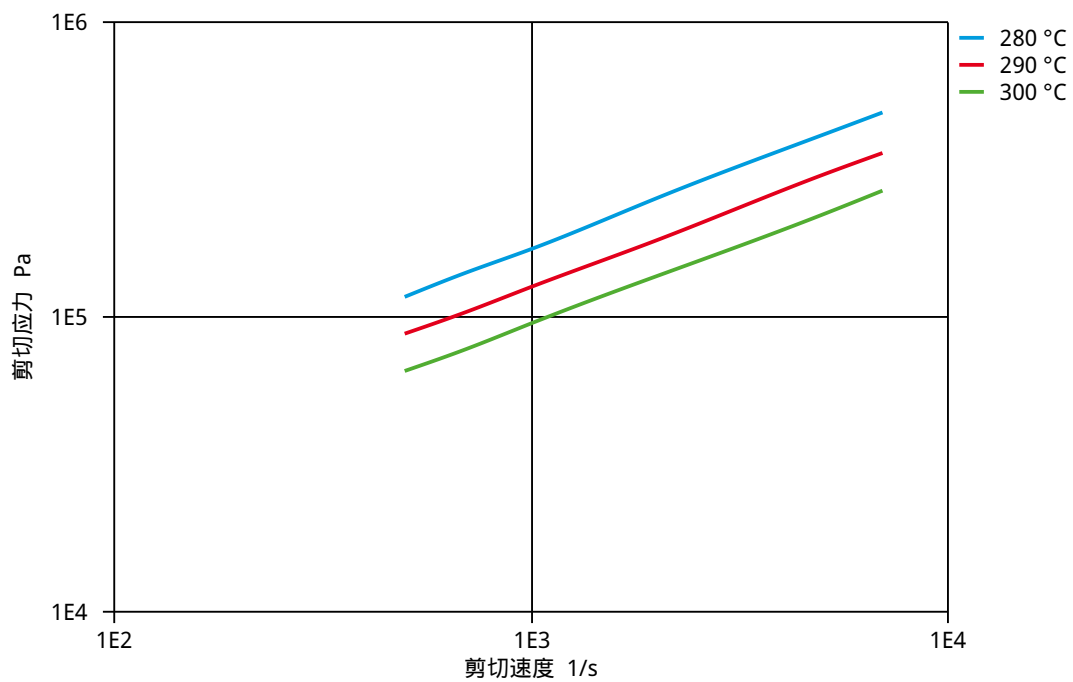
粘度 - 剪切速度



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剪切应力 - 剪切速度

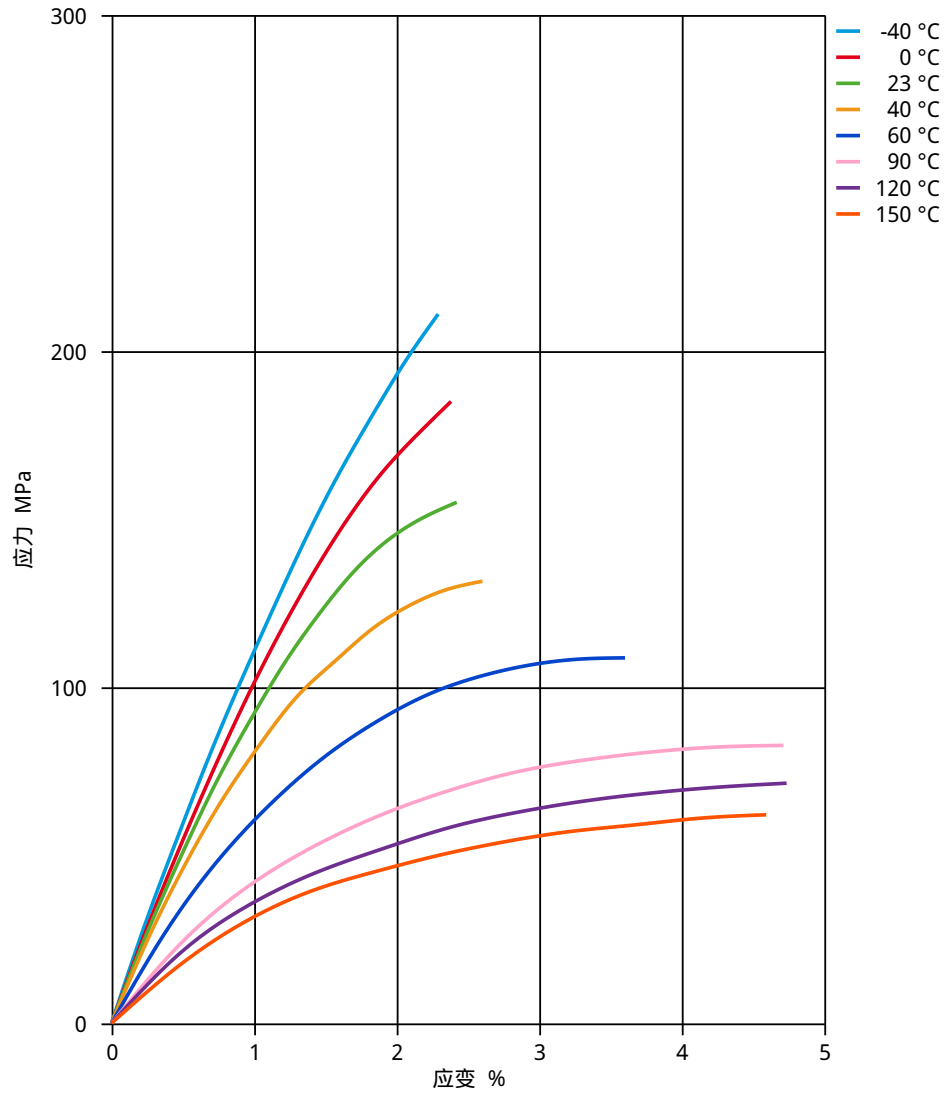




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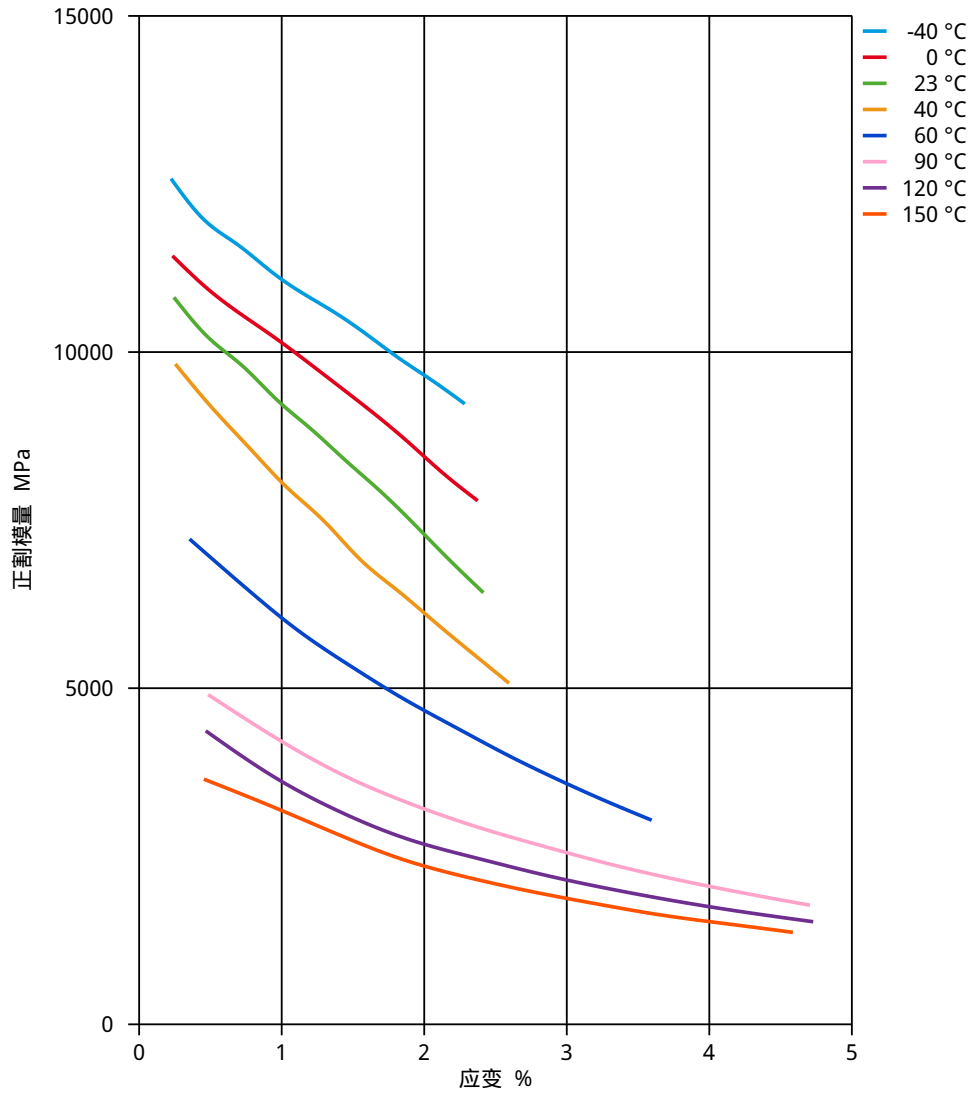
应力 - 应变.



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正割模量 - 应变.

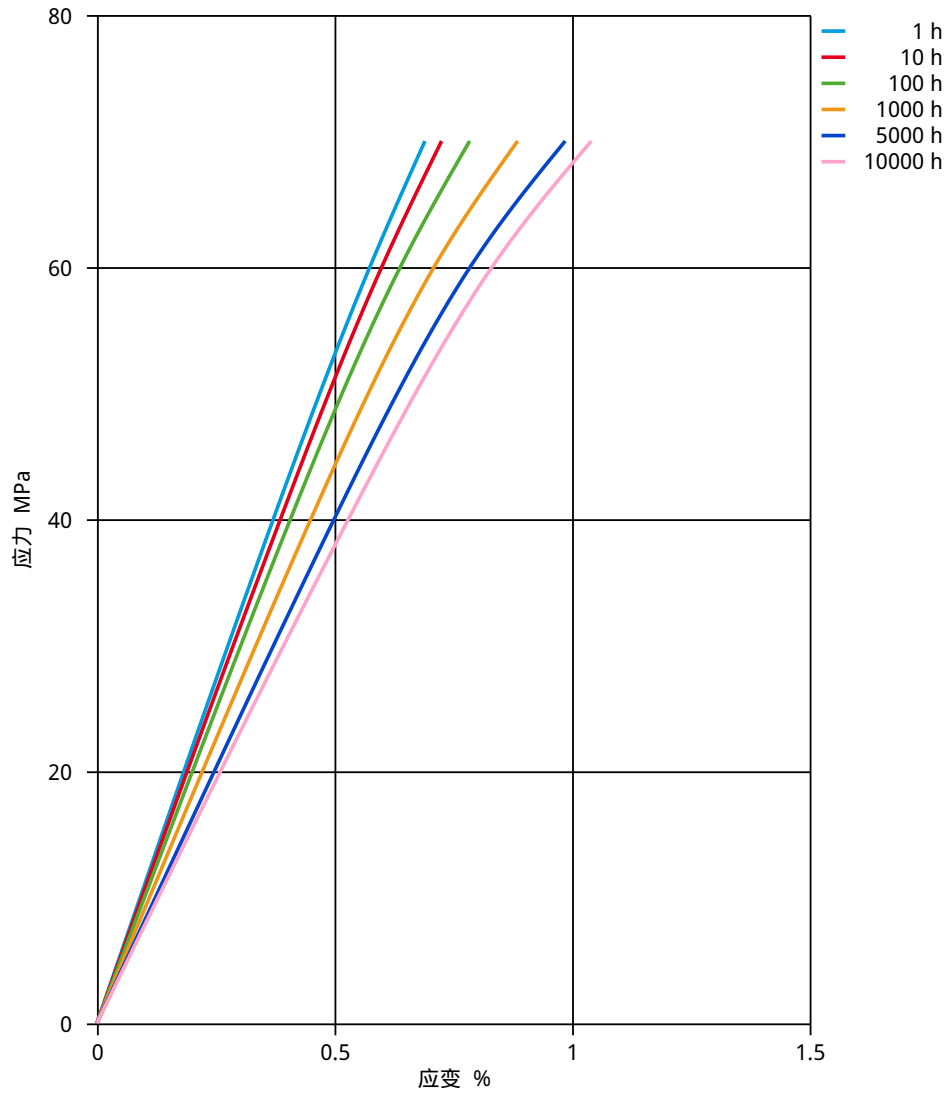




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应力 - 应变(等时的) 23°C

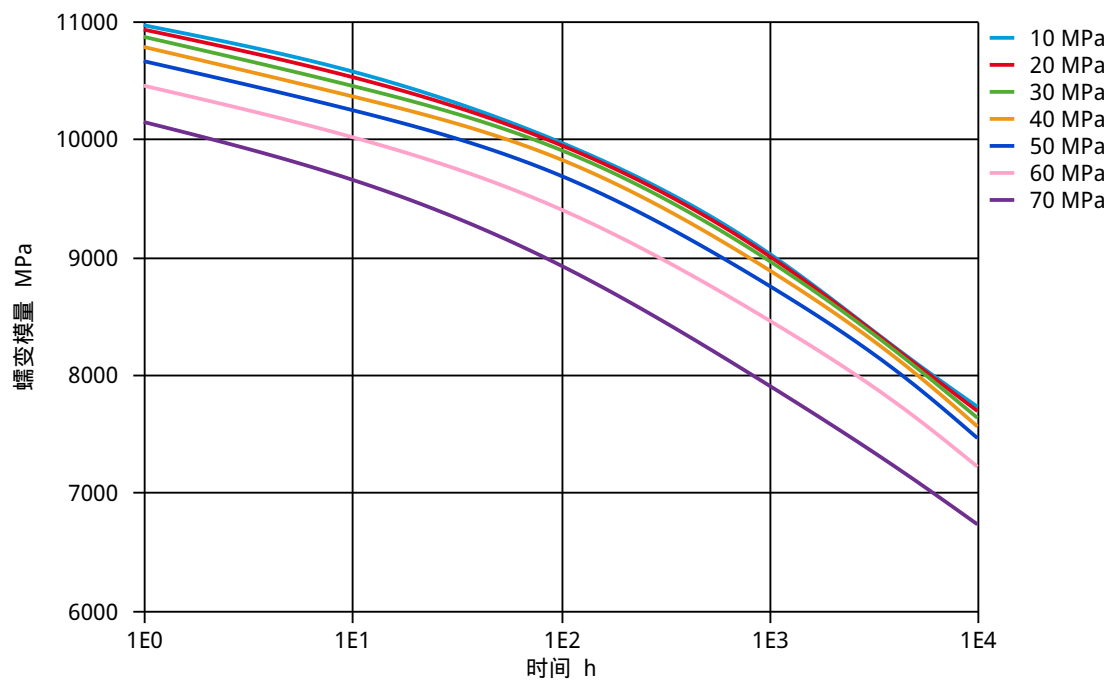




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THERMOPLASTIC POLYESTER RESIN

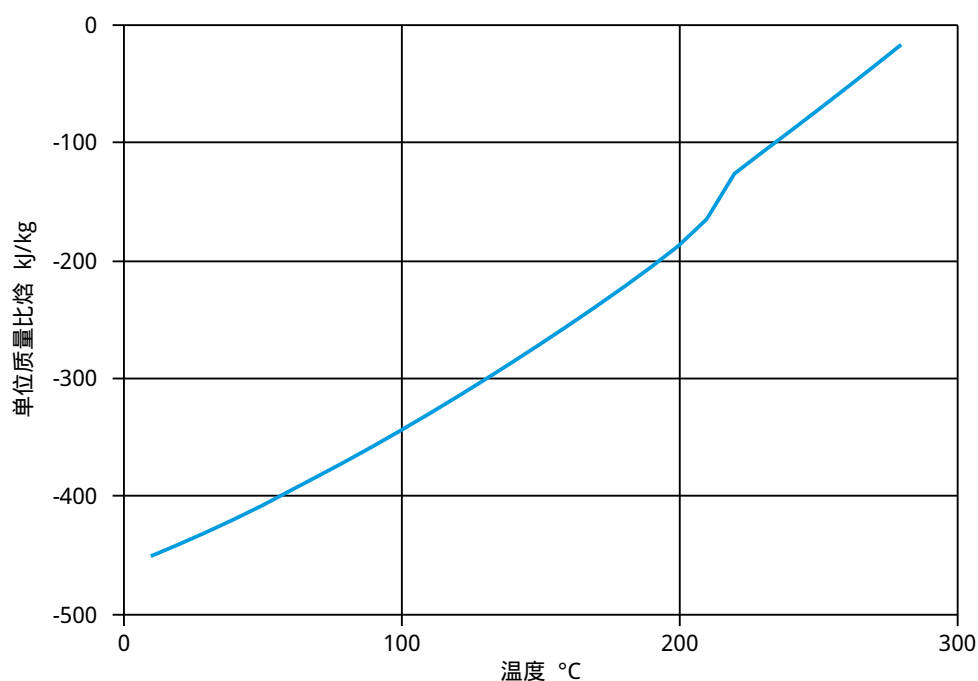
蠕变模量 - 时间. 23°C



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单位质量比焓 - 温度(DSC)



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