Zytel® 70G30HSLR ECO-R 312 BK099

NYLON RESIN

Common features of Zytel® nylon resin include mechanical and physical properties such as high mechanical strength, excellent balance of stiffness and toughness, good high temperature performance, good electrical and flammability properties, good abrasion and chemical resistance. In addition, Zytel® nylon resins are available in different modified and reinforced grades to create a wide range of products with tailored properties for specific processes and end-uses. Zytel® nylon resin, including most flame retardant grades, offer the ability to be coloured.

The good melt stability of Zytel® nylon resin normally enables the recycling of properly handled production waste. If recycling is not possible, we recommend, as the preferred option, incineration with energy recovery (-31kJ/g of base polymer) in appropriately equipped installations. For disposal, local regulations have to be observed.

Zytel® nylon resin typically is used in demanding applications in the automotive, furniture, domestic appliances, sporting goods and construction industry.

Zytel® 70G30HSLR ECO-R BK099 is a 30% glass fibre reinforced, heat stabilised, hydrolysis resistant polyamide 66 resin for injection molding. It has same performance and processing properties as Zytel® 70G30HSLR BK099.

Zytel® 70G30HSLR ECO-R 312 BK099 incorporates 30% post-industrial recycled content (PIR) by weight in the finished product through mass balance allocation. The product is a drop-in replacement to the standard grade with the same performance and processing properties and contributes to the displacement of virgin fossil resources. The recycled source and allocated content in the product are certified according to ISCC PLUS mass balance approach.

流变性能

	dry/cond.		
粘数	150[1]/*	cm³/g	ISO 307, 1628
模塑收缩率, 平行	0.3/-	%	ISO 294-4, 2577
模塑收缩率, 垂直	1.0/-	%	ISO 294-4, 2577
熔体粘度, @ 1000 sec-1, 280°C	190/*	Pa.s	ISO 11443

[1]: acid sulphuric 96%

机械性能

	dry/cond.		
拉伸模量	10000/7000	MPa	ISO 527-1/-2
拉伸断裂应力, 5mm/min	200/130	MPa	ISO 527-1/-2
断裂伸长率, 5mm/min	3/5	%	ISO 527-1/-2
弯曲模量	9000/6500[DS]	MPa	ISO 178
弯曲强度	280/200[DS]	MPa	ISO 178
3.5%应变时的弯曲应力	270/170	MPa	ISO 178
简支梁无缺口冲击强度, 23°C	70/80	kJ/m²	ISO 179/1eU
简支梁无缺口冲击强度, -30°C	70/70[DS]	kJ/m²	ISO 179/1eU
简支梁无缺口冲击强度, -40°C	65/-	kJ/m²	ISO 179/1eU
简支梁缺口冲击强度, 23°C	12/15	kJ/m²	ISO 179/1eA
简支梁缺口冲击强度, -30°C	9/9[DS]	kJ/m²	ISO 179/1eA
简支梁缺口冲击强度, -40°C	9/9	kJ/m²	ISO 179/1eA
悬臂梁缺口冲击强度, 23°C	10/12	kJ/m²	ISO 180/1A

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悬臂梁缺口冲击强度, -30°C	10.0/-	kJ/m²	ISO 180/1A
悬臂梁缺口冲击强度, -40°C	10.0/-	kJ/m²	ISO 180/1A
洛氏硬度, M	104/88		ISO 2039-2
洛氏硬度, R	124/117		ISO 2039-2
球压痕硬度, H 961/30	270/185	MPa	ISO 2039-1
多轴冲击, 总能量, 4.5m/s, 2mm	5/-	J	ISO 6603-2

[DS]: Derived from similar grade

热性能

	dry/cond.		
熔融温度, 10°C/min	262/*	°C	ISO 11357-1/-3
玻璃化转变温度, 10°C/min	75/20	°C	ISO 11357-1/-3
热变形温度, 1.8 MPa	253/*	°C	ISO 75-1/-2
热变形温度, 0.45 MPa	261/*	°C	ISO 75-1/-2
线性热膨胀系数, 平行	22/*	E-6/K	ISO 11359-1/-2
线性热膨胀系数, 平行，-40-23°C	26/*	E-6/K	ISO 11359-1/-2
线性热膨胀系数, 平行，55-160°C	13/*	E-6/K	ISO 11359-1/-2
线性热膨胀系数, 垂直	80/*	E-6/K	ISO 11359-1/-2
线性热膨胀系数, 垂直，-40-23°C	70/*	E-6/K	ISO 11359-1/-2
线性热膨胀系数, 垂直，55-160°C	130/*	E-6/K	ISO 11359-1/-2
固态导热系数, 顺流	0.36	W/(m K)	ISO 22007-2
熔体导热系数	0.21	W/(m K)	ISO 22007-2
熔体比热容	2290	J/(kg K)	ISO 22007-4

阻燃性能

	dry/cond.		
1.5mm名义厚度时的阻燃性	HB/*	class	IEC 60695-11-10
测试用试样的厚度	1.5/*	mm	IEC 60695-11-10
厚度为h时的阻燃性	HB/*	class	IEC 60695-11-10
测试用试样的厚度	0.75/*	mm	IEC 60695-11-10
氧指数	24/*	%	ISO 4589-1/-2
灼热丝可燃指数, 1.0mm	700/-	°C	IEC 60695-2-12
灼热丝可燃指数, 2.0mm	750/-	°C	IEC 60695-2-12
灼热丝可燃指数, 3.0mm	800/-	°C	IEC 60695-2-12
灼热丝起燃温度, 1.0mm	725/-	°C	IEC 60695-2-13
灼热丝起燃温度, 2.0mm	725/-	°C	IEC 60695-2-13
灼热丝起燃温度, 3.0mm	775/-	°C	IEC 60695-2-13
灼热丝温度, 无火, 3mm	750/-	°C	IEC 60335-1
FMVSS Class	B		ISO 3795 (FMVSS 302)
燃烧速率, 厚度：1毫米	37[2]	mm/min	ISO 3795 (FMVSS 302)

[2]: Based on Zytel® 70G30HSLR BK099

电性能

	dry/cond.		
体积电阻率	>1E13/1E9[DS]	Ohm.m	IEC 62631-3-1
表面电阻率	*/1E12[DS]	Ohm	IEC 62631-3-2
介电强度	38/32	kV/mm	IEC 60243-1
相对漏电起痕指数	400/-		IEC 60112

[DS]: Derived from similar grade

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其它性能

	dry/cond.		
吸湿率, 2mm	1.9/*	%	类似ISO 62
吸水率, 2mm	6/*	%	类似ISO 62
吸水率, 浸泡 24小时	1.3/*	%	类似ISO 62
密度	1370/-	kg/m³	ISO 1183

VDA性能

气味测试	5[2]	class	VDA 270

[2]: Based on Zytel® 70G30HSLR BK099

注塑

建议干燥	是	
干燥温度	80	°C
干燥时间，除湿干燥机	2 - 4	h
加工前水分含量	≤ 0.2	%
最优熔体温度	295	°C
最低熔体温度***	285	°C
最高熔体温度	305	°C
螺杆最大切线速度	≤ 0.2	m/s
最优模具温度	100	°C
最低模具温度	70	°C
最高模具温度	120	°C
保压范围	50 - 100	MPa
保压时间	3	s/mm
保压时间 (h表示部件的最大壁厚mm)	h²+2	s
顶出温度	210	°C

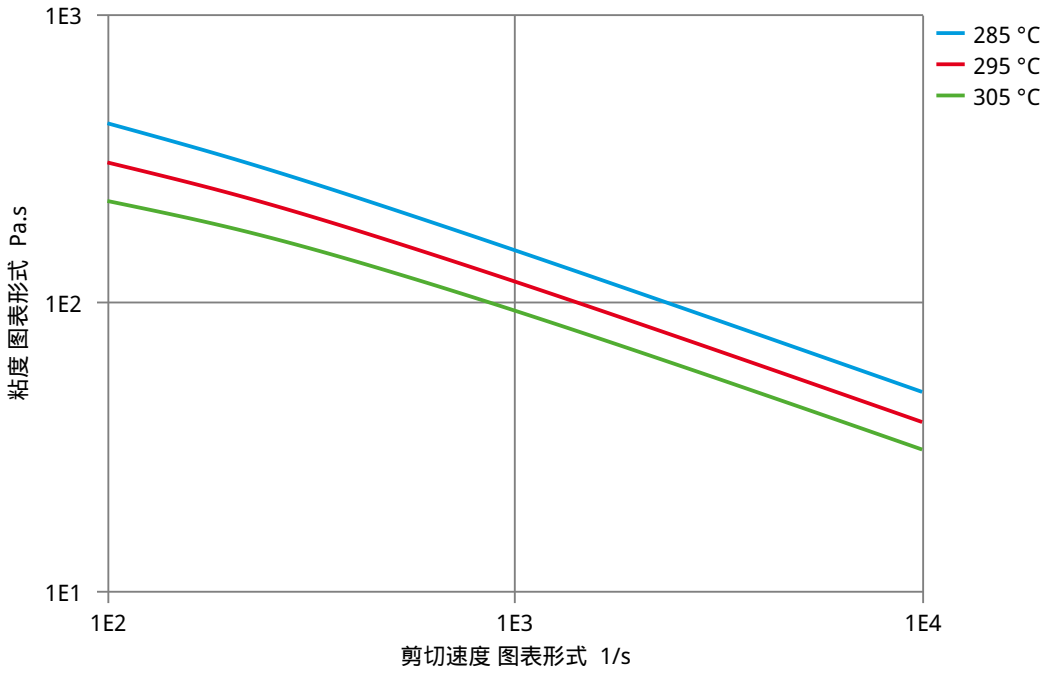
特性

加工方法	注塑
添加剂	脱模助剂
特殊性能	热稳定, 耐水解
可持续	含有可回收成分

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NYLON RESIN

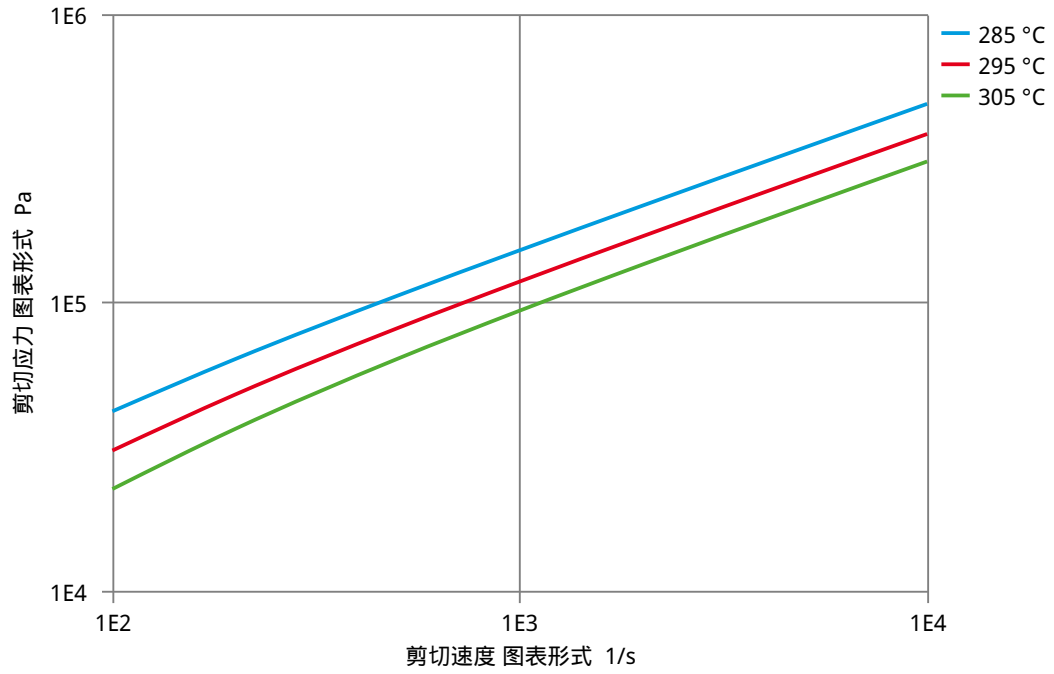
粘度 - 剪切速度
(measured on Zytel® 70G30HSLR BK099)



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NYLON RESIN

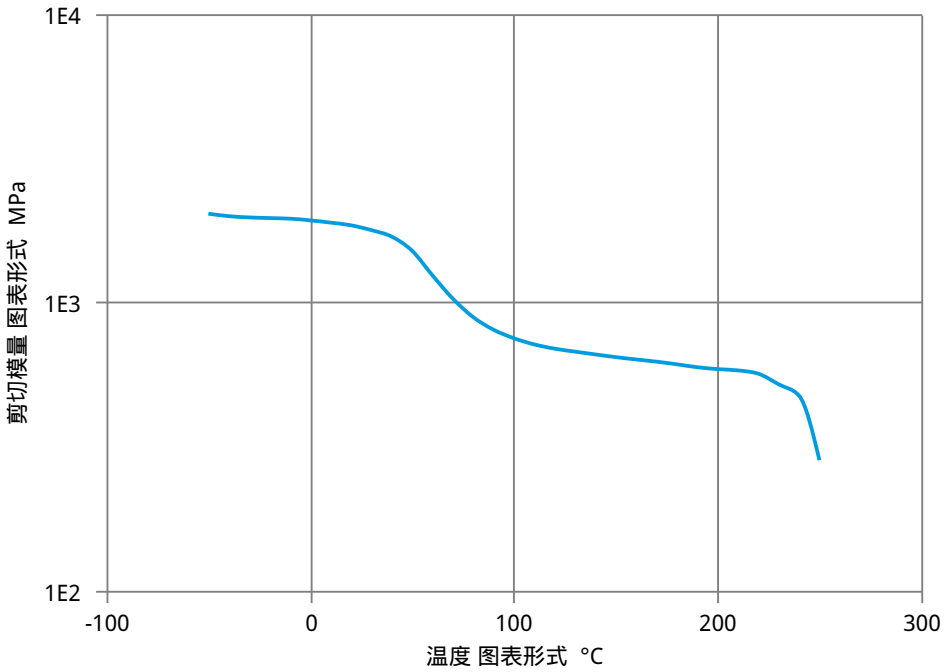
剪切应力 - 剪切速度
(measured on Zytel® 70G30HSLR BK099)



Zytel® 70G30HSLR ECO-R 312 BK099

NYLON RESIN

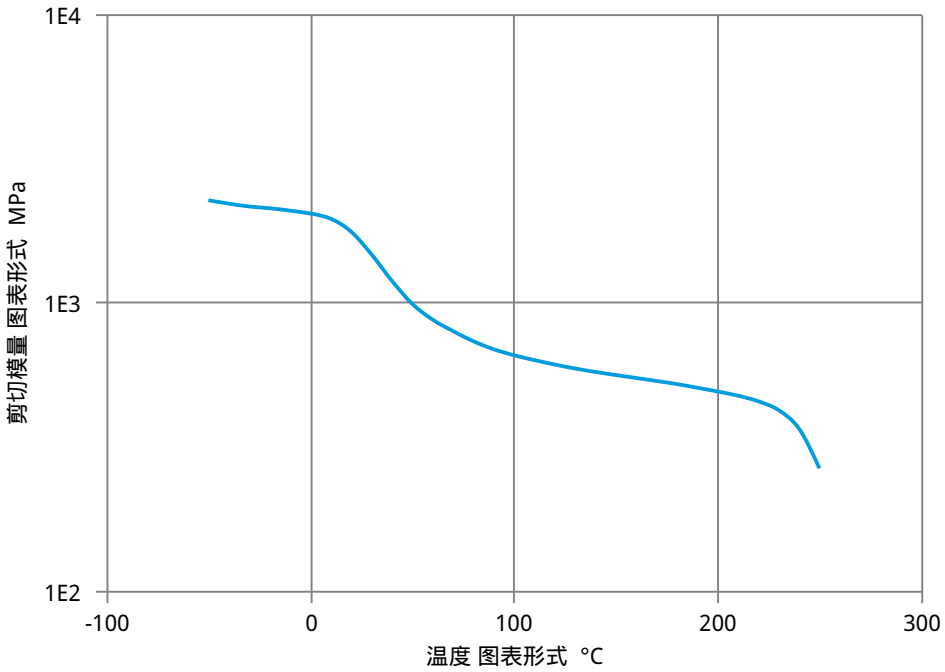
动态剪切模量 - 温度 (dry)
(measured on Zytel® 70G30HSLR BK099)



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NYLON RESIN

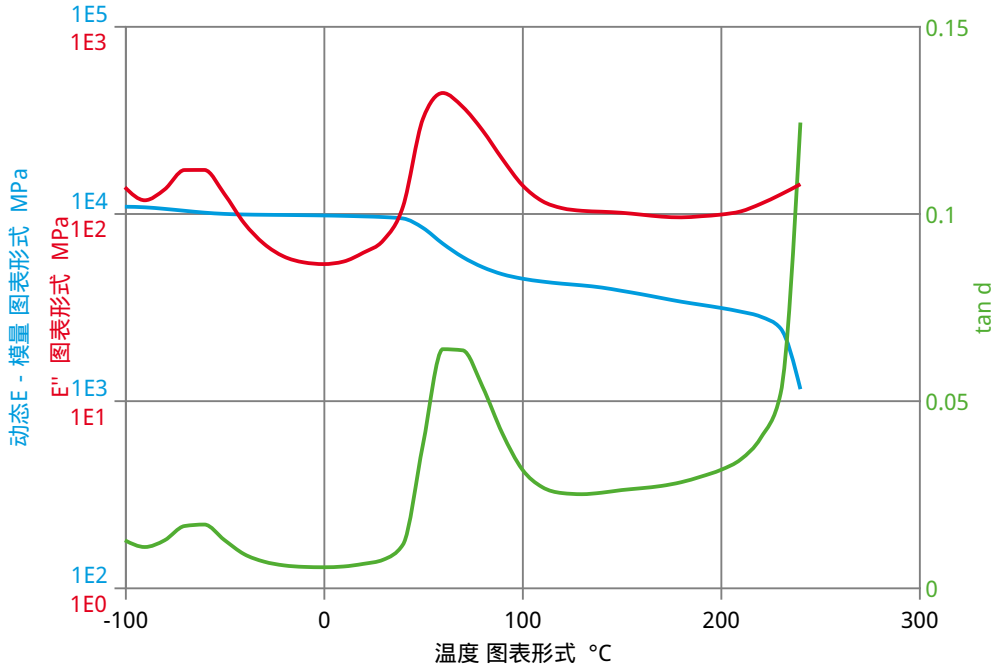
动态剪切模量 - 温度 (cond.)
(measured on Zytel® 70G30HSLR BK099)



Zytel® 70G30HSLR ECO-R 312 BK099

NYLON RESIN

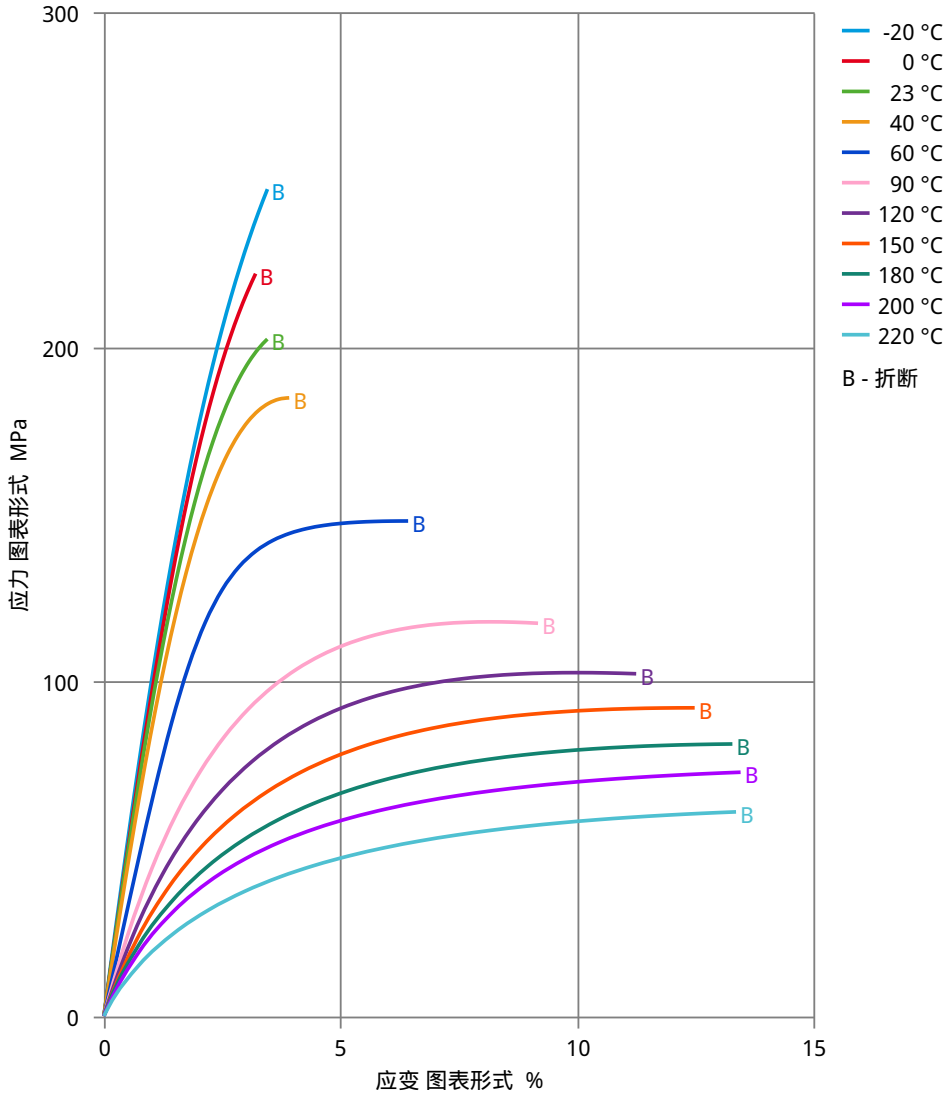
动态拉伸模量 - 温度 (dry)
(measured on Zytel® 70G30HSLR BK099)



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NYLON RESIN

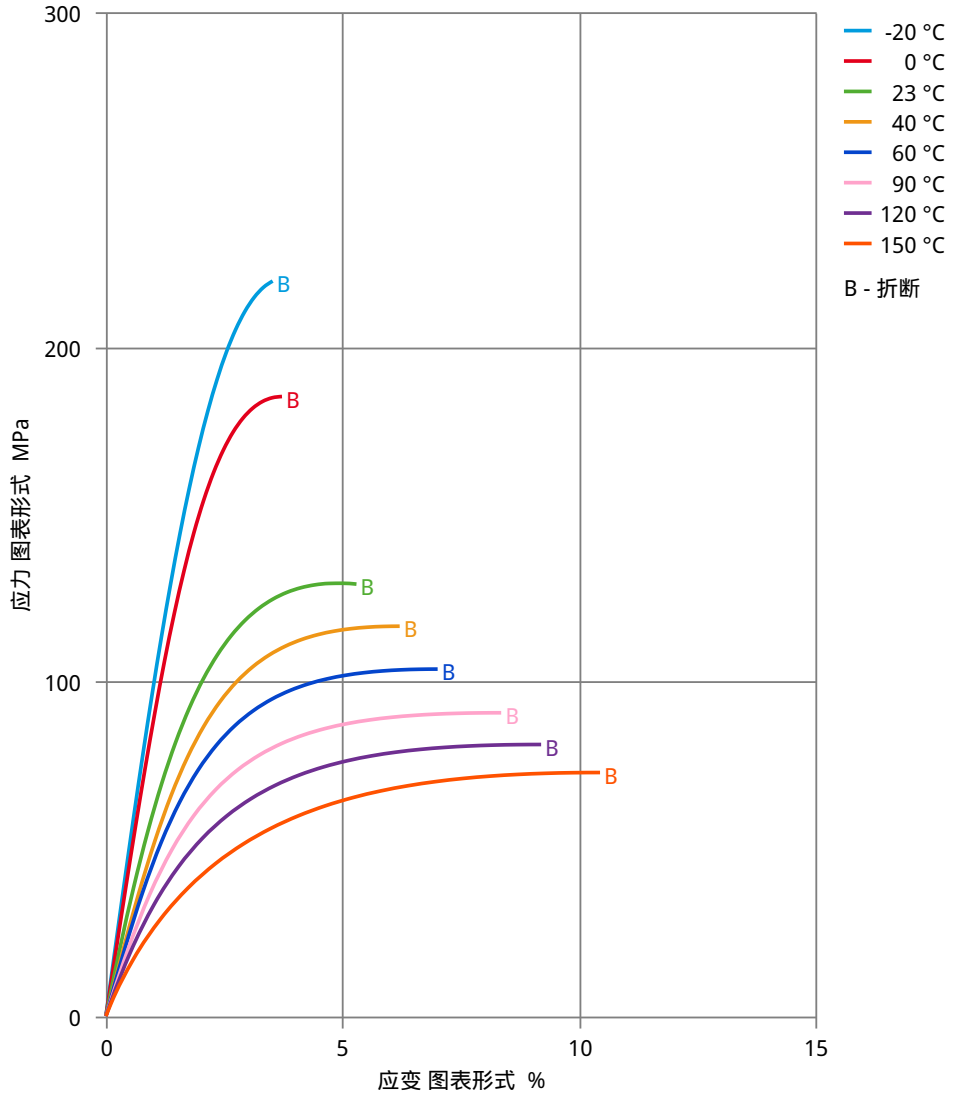
应力 - 应变 (dry)
(measured on Zytel® 70G30HSLR BK099)



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NYLON RESIN

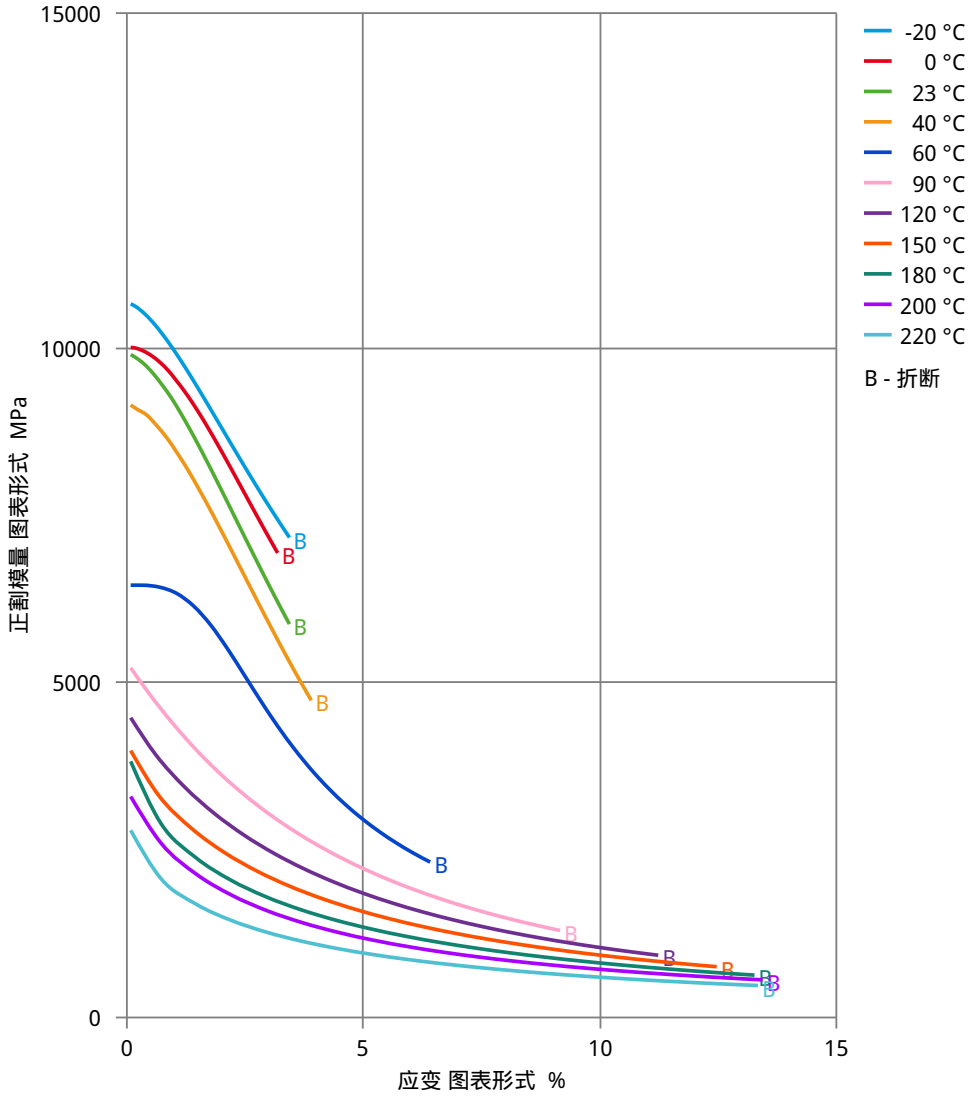
应力 - 应变 (cond.)
(measured on Zytel® 70G30HSLR BK099)



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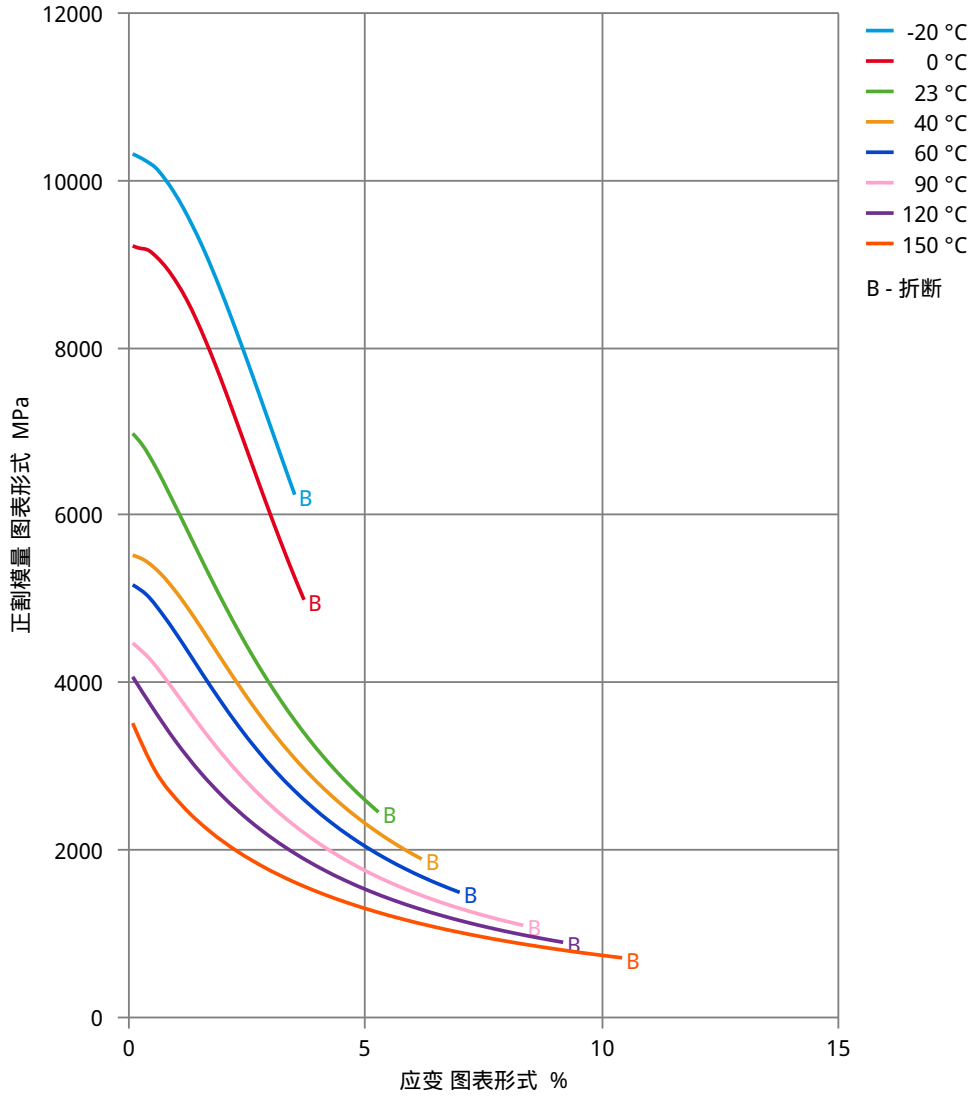
正割模量 - 应变 (dry)
(measured on Zytel® 70G30HSLR BK099)



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NYLON RESIN

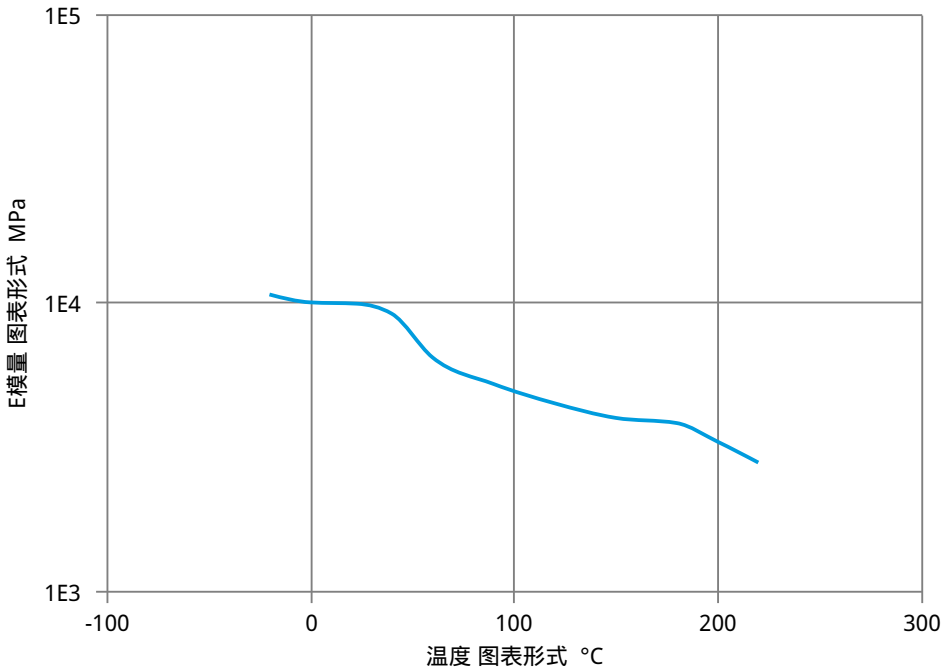
正割模量 - 应变 (cond.)
(measured on Zytel® 70G30HSLR BK099)



Zytel® 70G30HSLR ECO-R 312 BK099

NYLON RESIN

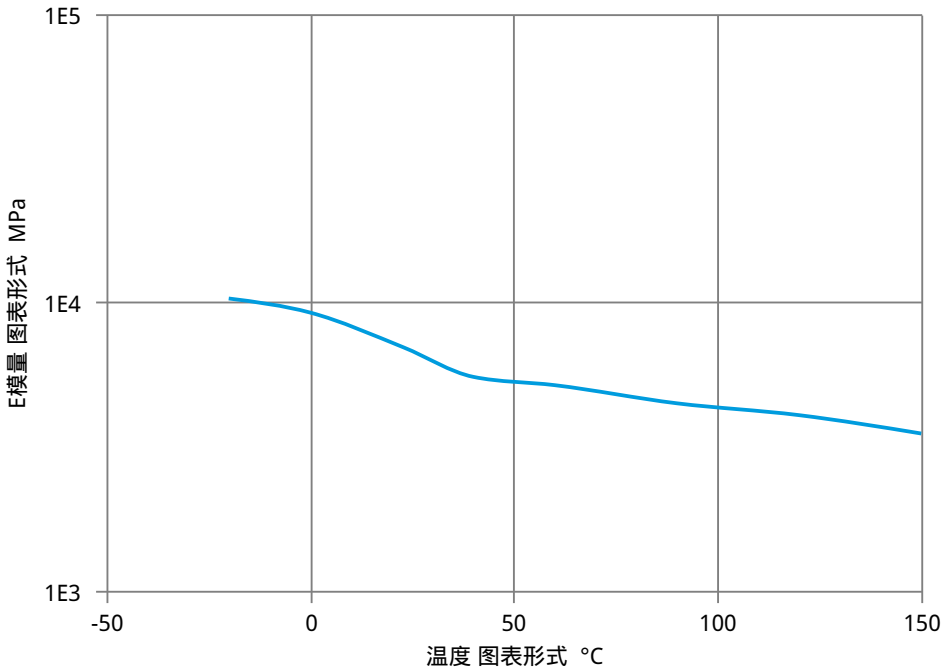
拉伸模量 - 温度 (dry)
(measured on Zytel® 70G30HSLR BK099)



Zytel® 70G30HSLR ECO-R 312 BK099

NYLON RESIN

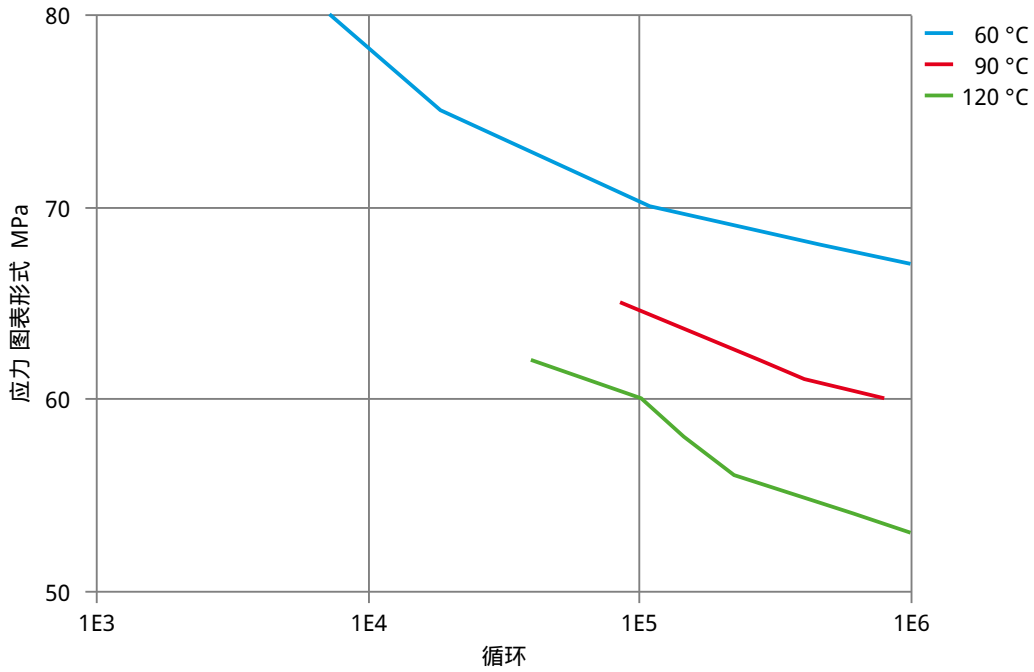
拉伸模量 - 温度 (cond.)
(measured on Zytel® 70G30HSLR BK099)



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NYLON RESIN

拉伸疲劳, 10Hz, R=0.1 @ 0mm (dry)
(measured on Zytel® 70G30HSLR BK099)



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NYLON RESIN

耐化学性

酸类

- ✔ 醋酸 (5g/100g), 23°C
- ✔ 柠檬酸溶液 (10g/100g), 23°C
- ✔ 乳酸 (10g/100g), 23°C
- ✘ 盐酸 (36g/100g), 23°C
- ✘ 硝酸 (40g/100g), 23°C
- ✘ 硫酸 (38g/100g), 23°C
- ✘ 硫酸 (5g/100g), 23°C
- ✘ 铬酸溶液 (40g/100g), 23°C

碱类

- ✘ 氢氧化钠溶液 (35g/100g), 23°C
- ✔ 氢氧化钠溶液 (1g/100g), 23°C
- ✔ 氨水(氢氧化铵) (10g/100g), 23°C

醇类

- ✔ 异丙醇, 23°C
- ✔ 甲醇, 23°C
- ✔ 乙醇, 23°C

碳氢化合物

- ✔ n-乙烷, 23°C
- ✔ 甲苯, 23°C
- ✔ 异辛烷, 23°C

酮类

- ✔ 丙酮, 23°C

醚类

- ✔ (二)乙醚, 23°C

矿物油

- ✔ SAE 10W40号多效润滑油, 23°C
- ✔ SAE 10W40号多效润滑油, 130°C
- ✔ SAE 89/90号变速箱润滑油, 130°C
- ✔ 绝缘油, 23°C
- ✔ 滑油OS206 304 Ref.Eng.Oil, ISP, 135°C
- ✔ 自动准双曲面齿轮油壳牌壳牌Donax, 135°C
- ✔ 水力油Pentosin CHF 202, 125°C

标准燃油

- ✔ ISO 1817 燃油1号, 60°C
- ✔ ISO 1817 燃油2号, 60°C
- ✔ ISO 1817 燃油3号, 60°C
- ✔ ISO 1817 燃油4号, 60°C
- ✔ 不含酒精的标准燃油(优先使用C类ISO 1817 燃油), 23°C
- ✔ 含酒精的标准燃油(优先使用4号ISO 1817 燃油), 23°C
- ✔ 柴油(优先使用F类ISO 1817液体), 23°C
- ✔ 柴油(优先使用F类ISO 1817液体), 90°C
- ✔ 柴油(优先使用F类ISO 1817液体), >90°C

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NYLON RESIN

盐溶液

- ✔ 氯化钠溶液(10g/100g) , 23°C
- ✘ 次氯化钠溶液 (10g/100g), 23°C
- ✔ 碳酸钠溶液 (20g/100g) , 23°C
- ✔ 碳酸钠溶液 (2g/100g), 23°C
- ✘ 氯化锌溶液 (50g/100g), 23°C

其它

- ✔ 乙酸乙酯, 23°C
- ✘ 过氧化氢, 23°C
- ✔ DOT4号刹车油, 130°C
- ✔ DOT4号刹车油, 120°C
- ✔ 乙二醇水溶液 (50g/100g), 108°C
- ✔ 1g/100g 基苯氧- 聚环氧乙烷乙烯水溶液, 23°C
- ✔ 油酸 (50g/100g) + 橄榄油 (50g/100g), 23°C
- ✔ 水, 23°C
- ✔ 去离子水, 90°C
- ✘ 酚溶液(5g/100g), 23°C
- ✔ 冷却Glysantin G48，1:1水环境, 125°C

Symbols used:

✔ possibly resistant
Defined as: Supplier has sufficient indication that contact with chemical can be potentially accepted under the intended use conditions and expected service life. Criteria for assessment have to be indicated (e.g. surface aspect, volume change, property change).

✘ not recommended - see explanation
Defined as: Not recommended for general use. However, short-term exposure under certain restricted conditions could be acceptable (e.g. fast cleaning with thorough rinsing, spills, wiping, vapor exposure).

Revised: 2026-01-30 Source: Celanese Materials Database

用户须知： 所示数值基于实验室试样测试，代表本色材料标准属性范围内的数据。这些数值本身并不能作为任何部件设计的充分依据，且不旨在用于确定最大值、最小值或规格值范围。着色剂或其他添加剂可能会导致数据值的显著变化。模塑部件的性能会受到多种因素的影响，包括但不限于材料选择、添加剂、部件设计、加工条件和环境暴露。除了那些明确标识为医用级的产品（包括 MT® 产品标识或其他标识），塞拉尼斯的产品不旨在用于医疗或牙科植入。无论产品名称如何，确定特定材料和部件设计是否适用于用户所拟的任何用途以及使用方式是用户自身的责任，用户必须保证后续加工的材料满足其特定产品或用途的需要。据我们所知，本出版物中包含的信息是准确的；但是，我们对此处信息的准确性和完整性不承担任何责任。本出版物中包含的信息不应被视为对我们产品特定性能的承诺或保证。用户应自行负责调查使用本出版物中提及的材料是否侵犯了任何现有专利。此外，考虑到可能产生的不良影响，有必要将人类与许多材料的接触降至最低实际限度。对于本出版物中提到的任何危害，我们既不建议也不保证这些危害是唯一存在的危害。我们建议，打算依赖本出版物中的任何建议或使用本出版物中提及的任何设备、加工技术或材料的人，应确信他们能够满足所有适用的安全和健康标准。我们强烈建议用户在处理每种材料时，都要寻求并遵守制造商的最新说明，并且只委托受过适当培训的人员来处理这些材料。请拨打所列电话号码，了解更多技术信息。在尝试处理我们的产品之前，请致电客户服务部索取相应的材料安全数据表 (MSDS)。
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