



Zytel® ST811HS NC010

NYLON RESIN

Zytel® 尼龙树脂的共性包括良好的机械和物理性能，例如高机械强度，刚性和韧性之间良好的平衡，良好的高温性能、电性能和阻燃性能，优异的耐磨损和耐化学品性能。另外，Zytel® 尼龙树脂有不同改性和增强规格为特殊加工和终端客户提供定制的性能。Zytel® 尼龙树脂，包括大多数阻燃规格，提供了染色可能性。

Zytel® 尼龙树脂良好的热稳定性通常使正确处理的生产废弃物回收成为可能。如果不能回收使用，杜邦建议的优先选择是在合适的装置中焚烧进行能量回收（基体树脂-31kJ/g）。废弃处理需遵守当地法规。

Zytel® 尼龙树脂通常应用于要求严苛的汽车、家具、家用电器、运动器材和建筑业。

Zytel® ST811HS NC010是一种超韧, 热稳定, 尼龙6

总说明

树脂鉴别	PA6-HI	ISO 1043
制品标识码	>PA6-HI<	ISO 11469
ISO名称	ISO 16396-PA6-I,,M1G1HNR,S14-010	

流变性能

	dry/cond.		
模塑收缩率, 平行	0.9/-	%	ISO 294-4, 2577
模塑收缩率, 垂直	1.4/-	%	ISO 294-4, 2577

机械性能

	dry/cond.		
拉伸模量	900/400	MPa	ISO 527-1/-2
屈服应力	31/-	MPa	ISO 527-1/-2
屈服伸长率	29/-	%	ISO 527-1/-2
名义断裂伸长率	>50/-	%	ISO 527-1/-2
断裂伸长率	250/-	%	ISO 527-1/-2
弯曲模量	850/360	MPa	ISO 178
简支梁无缺口冲击强度, +23°C	N/N	kJ/m ²	ISO 179/1eU
简支梁无缺口冲击强度, -30°C	N/N	kJ/m ²	ISO 179/1eU
简支梁缺口冲击强度, +23°C	71/129	kJ/m ²	ISO 179/1eA
简支梁缺口冲击强度, -30°C	14/13	kJ/m ²	ISO 179/1eA
冲孔功, +23°C	16/-	J	ISO 6603-2
冲孔功, -30°C	25/-	J	ISO 6603-2
悬臂梁缺口冲击强度, -40°C	14/14	kJ/m ²	ISO 180/1A
洛氏硬度	60/-	-	ISO 2039-2
Poisson's ratio	0.45/0.47	-	



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热性能

	dry/cond.		
熔融温度, 10°C/min	218/*	°C	ISO 11357-1/-3
玻璃化转变温度, 10°C/min	50/0	°C	ISO 11357-1/-2
热变形温度, 1.80 MPa	47/*	°C	ISO 75-1/-2
维卡软化温度, 50°C/h 50N	95/*	°C	ISO 306
线膨胀系数, 平行	200/*	E-6/K	ISO 11359-1/-2
线膨胀系数, 垂直	180/*	E-6/K	ISO 11359-1/-2
熔体	0.15	W/(m K)	
熔体的比热	2600	J/(kg K)	
相对温度指数, 电气性能, 0.75mm	130	°C	UL 746B
相对温度指数, 电气性能, 1.5mm	130	°C	UL 746B
相对温度指数, 电气性能, 3mm	130	°C	UL 746B
相对温度指数, 冲击, 0.75mm	65	°C	UL 746B
相对温度指数, 冲击, 1.5mm	105	°C	UL 746B
相对温度指数, 冲击, 3mm	105	°C	UL 746B
相对温度指数, 强度, 0.75mm	95	°C	UL 746B
相对温度指数, 强度, 1.5mm	100/*	°C	UL 746B
相对温度指数, 强度, 3mm	110	°C	UL 746B

燃烧性能

	dry/cond.		
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
FMVSS Class	B	-	ISO 3795 (FMVSS 302)
燃烧速率, 厚度: 1毫米	<80	mm/min	ISO 3795 (FMVSS 302)

电性能

	dry/cond.		
介质损耗因子, 100Hz	80/550	E-4	IEC 62631-2-1
介质损耗因子, 1MHz	140/1800	E-4	IEC 62631-2-1
体积电阻率	1E13/1E11	Ohm.m	IEC 62631-3-1
表面电阻率	*/1E15	Ohm	IEC 62631-3-2
介电强度	31/-	kV/mm	IEC 60243-1

其它性能

	dry/cond.		
吸湿性, 2mm	2.3/*	%	类似ISO 62
吸水性, 2mm	6.8/*	%	类似ISO 62
密度	1040/-	kg/m ³	ISO 1183
熔体密度	880	kg/m ³	

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机械性能(薄膜)

屈服应变., parallel

dry/cond.

4/* %

ISO 527-3

注塑

建议干燥	是
干燥温度	60 °C
干燥时间, 除湿干燥机	2 - 4 h
加工前水分含量	≤ 0.2 %
优良熔体温度	270 °C
注塑 熔体温度	260 °C
注塑 熔体温度	280 °C
螺杆大的切线速度	0.3 m/s
优良模具温度	70 °C
模具温度	50 °C
模具温度	90 °C
保压范围	50 - 100 MPa
保压时间	4 s/mm
喷射温度	190 °C

薄膜挤出成型

干燥温度	60 °C
干燥时间, 除湿干燥机	4 - 6 h
加工前水分含量	≤ 0.06 %
优良熔体温度	240 °C
熔体温度范围	235 - 250 °C

典型数据

添加剂

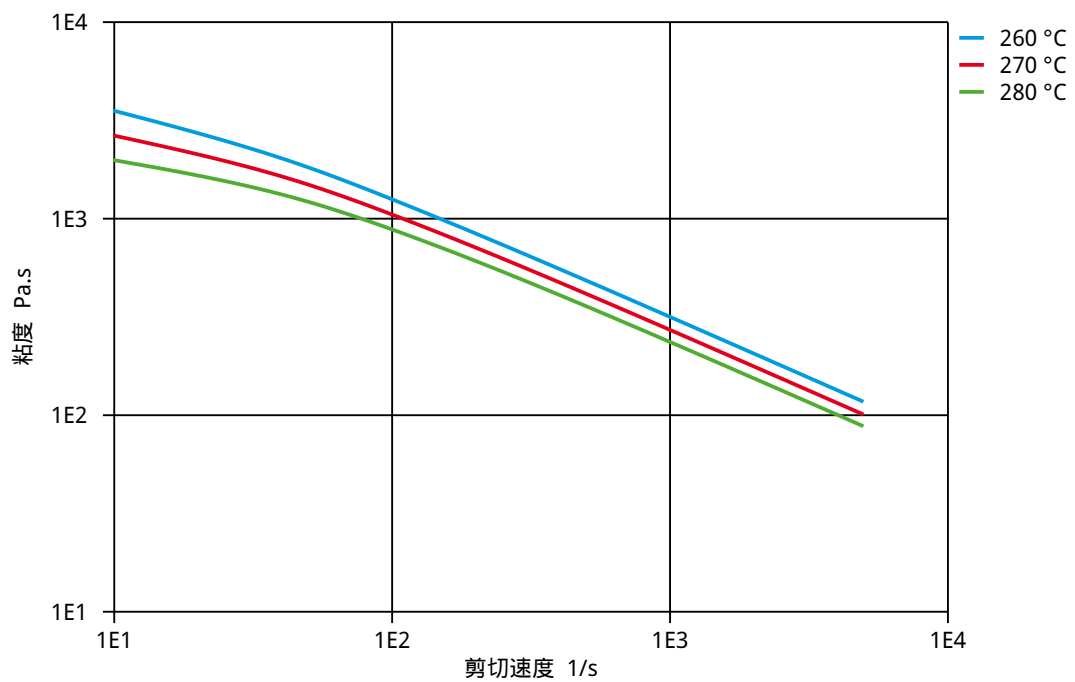
脱模助剂



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粘度 - 剪切速度

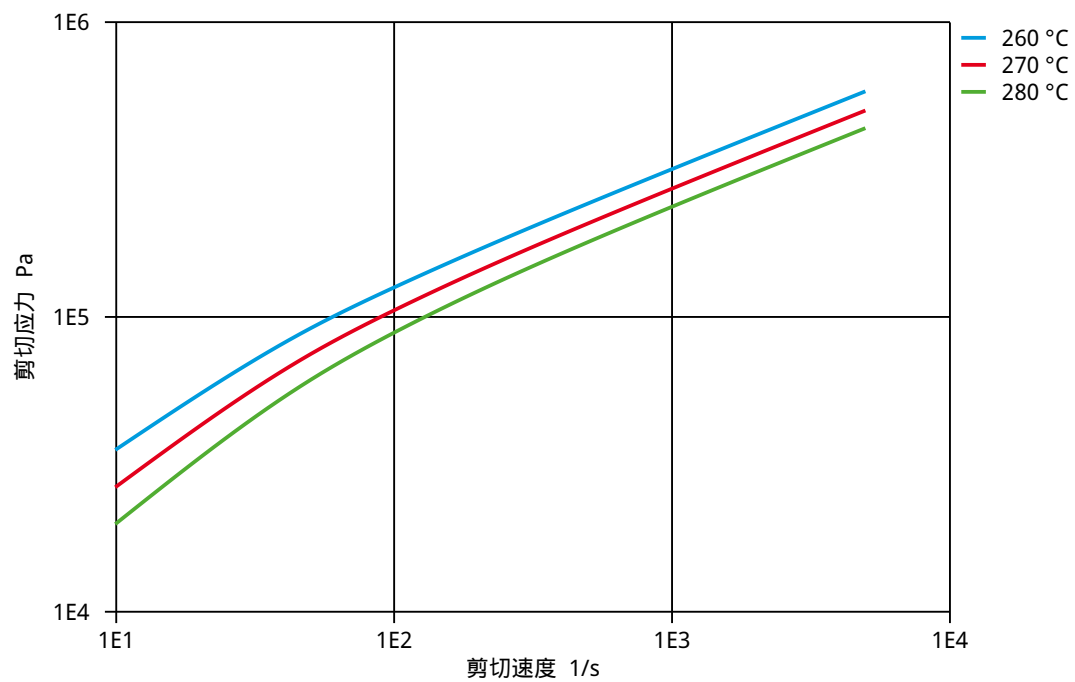




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剪切应力 - 剪切速度

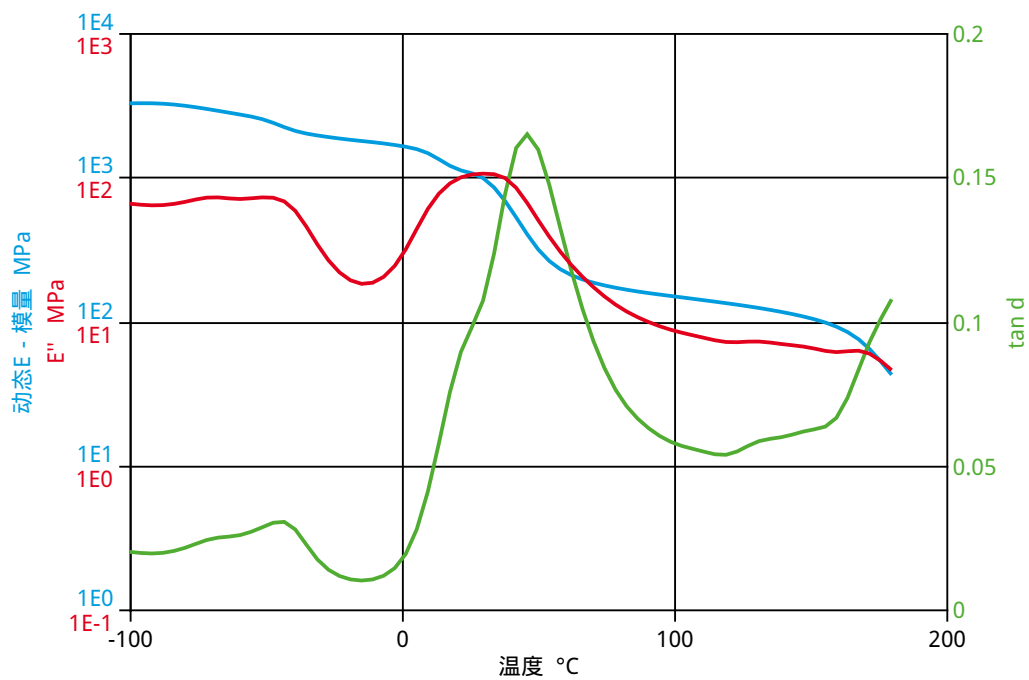




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NYLON RESIN

动态E - 模量 - 温度 (dry)

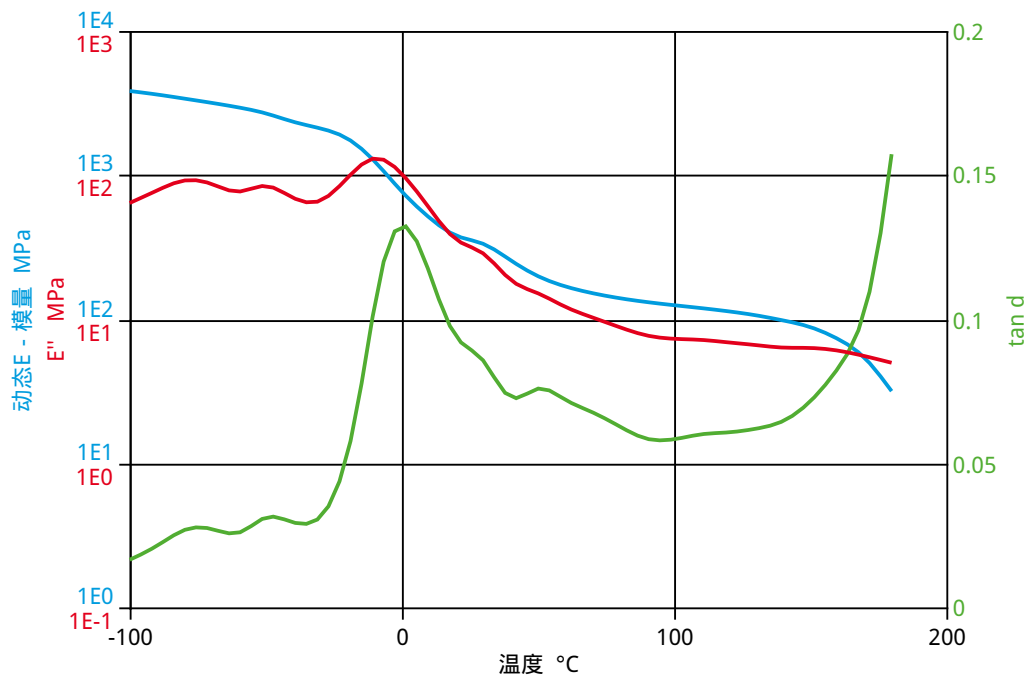




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NYLON RESIN

动态E - 模量 - 温度 (cond.)

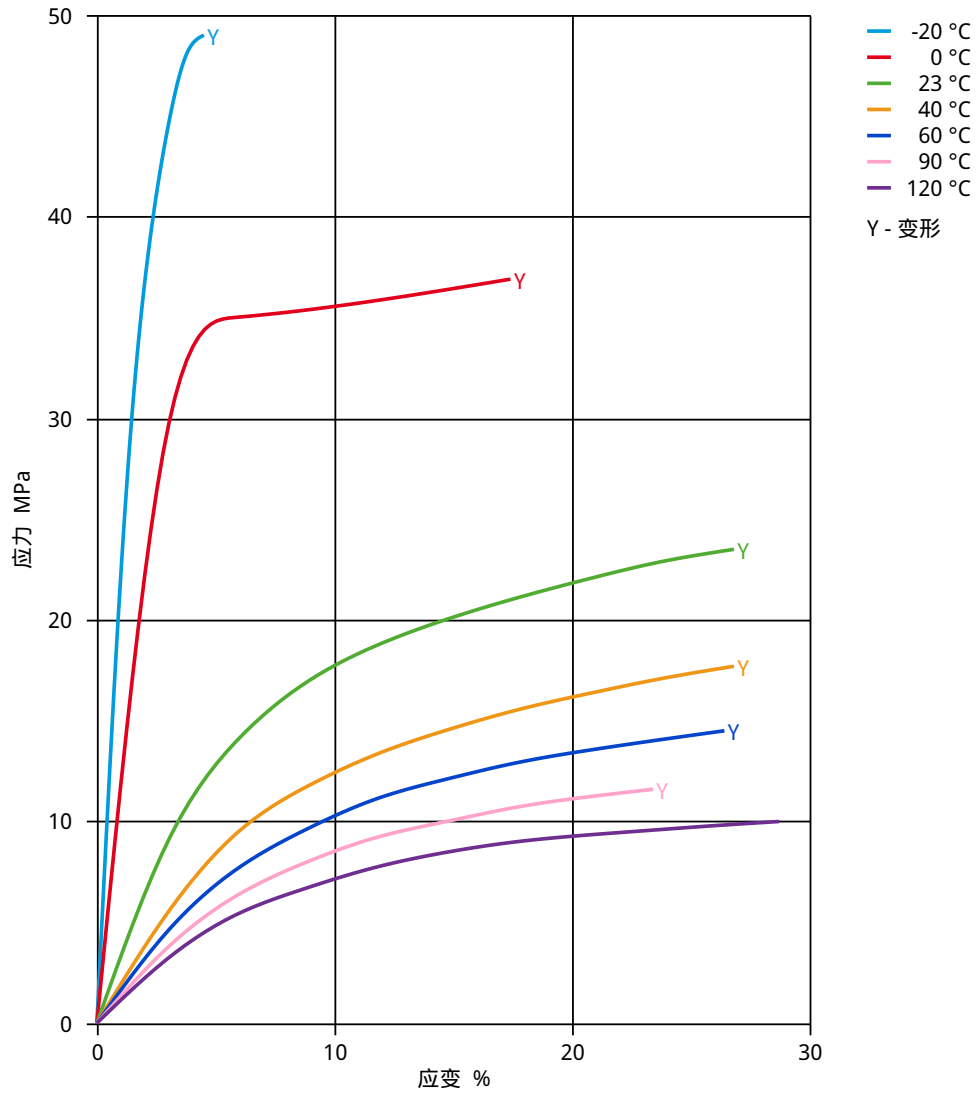




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NYLON RESIN

应力 - 应变. (dry)

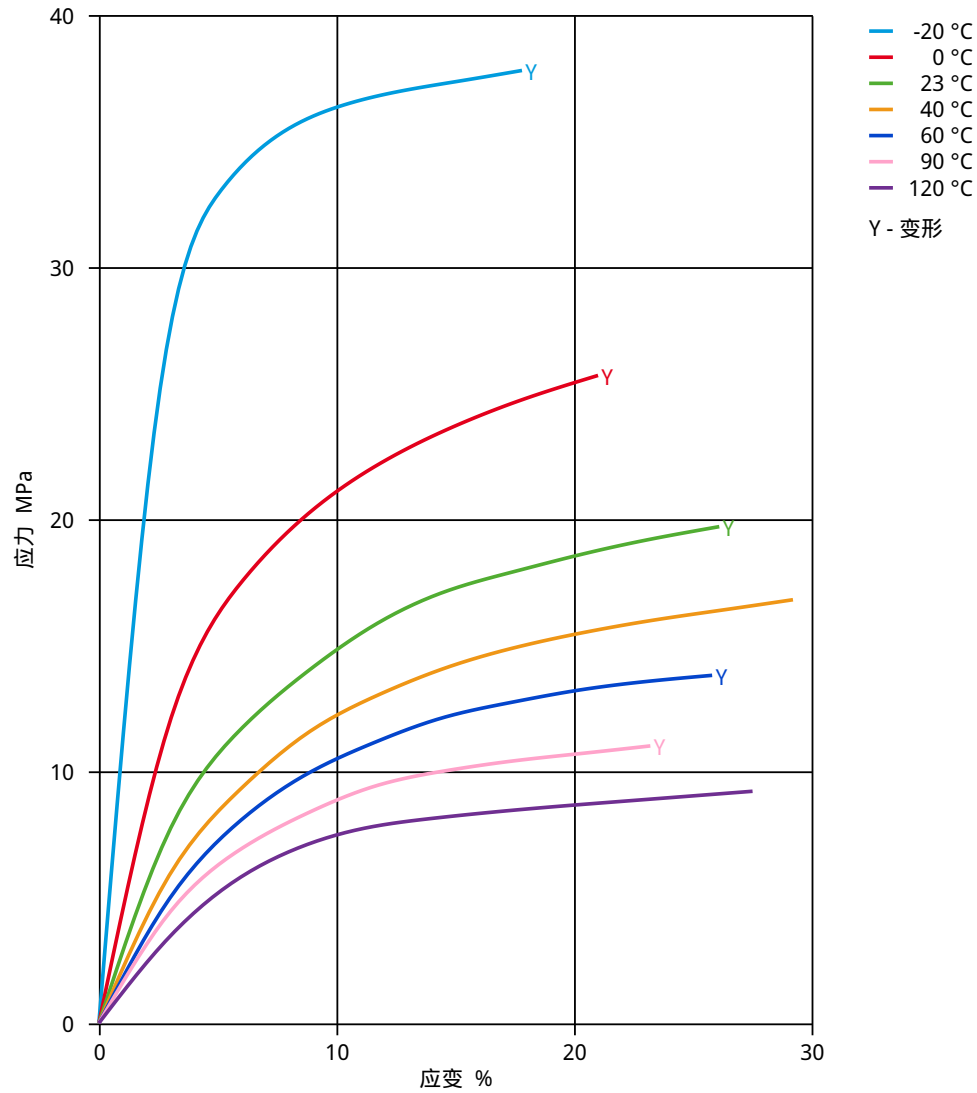




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NYLON RESIN

应力 - 应变. (cond.)

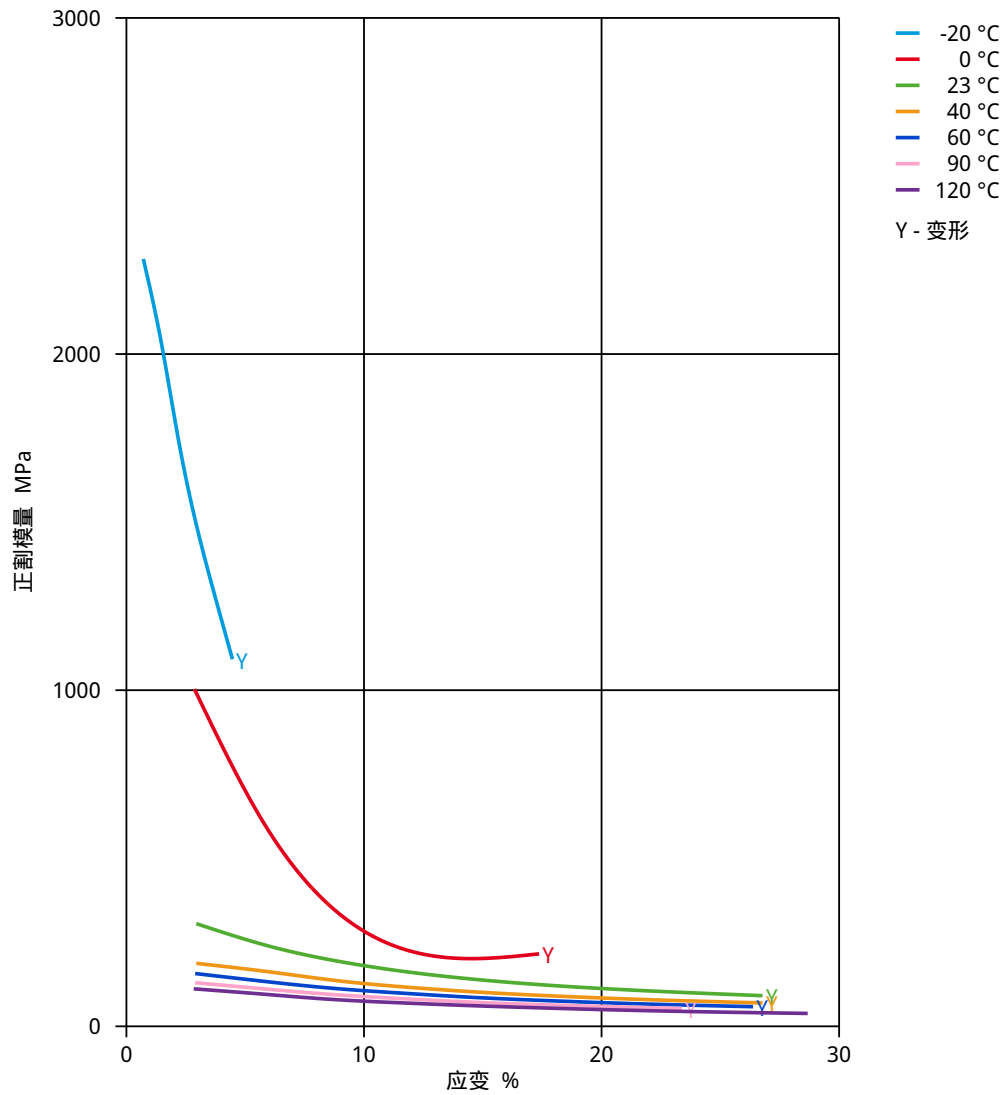




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正割模量 - 应变. (dry)

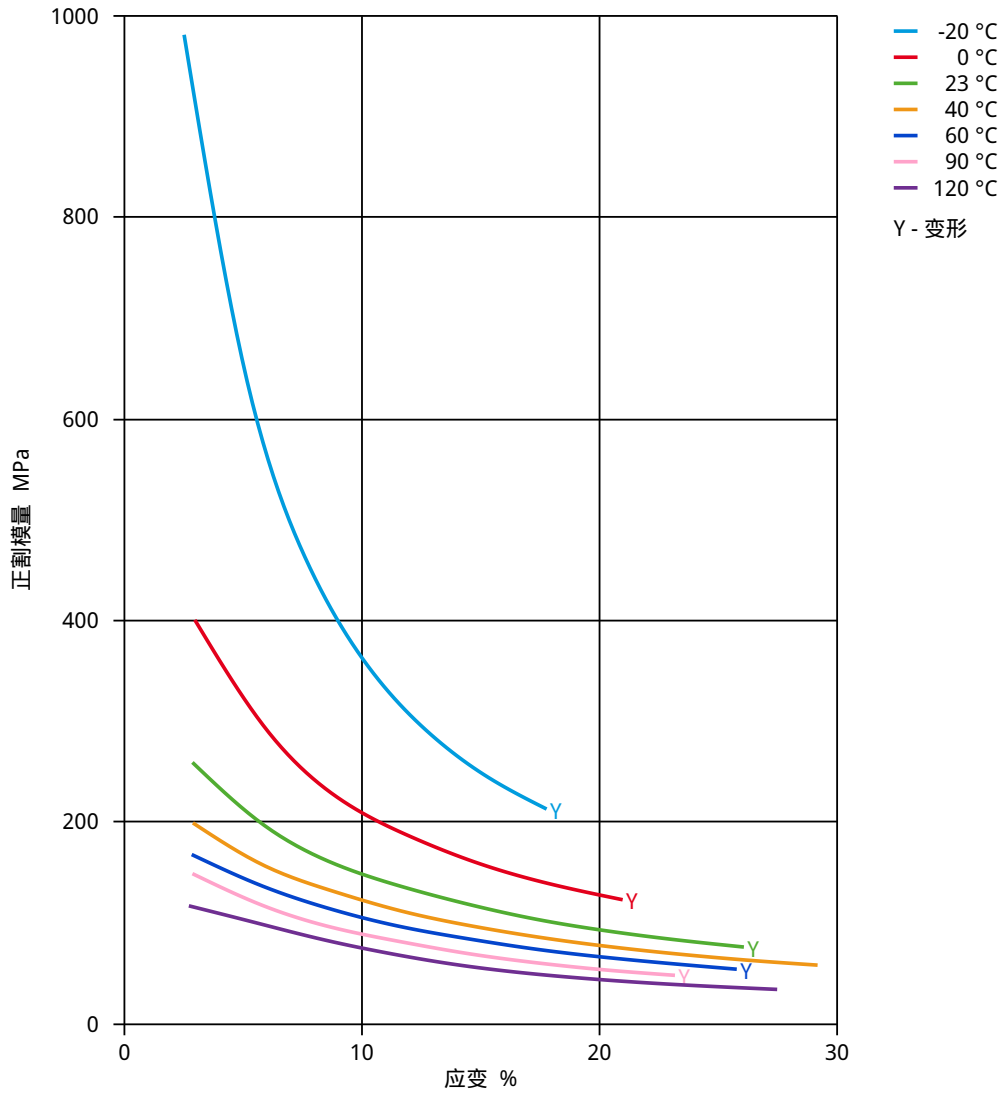




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NYLON RESIN

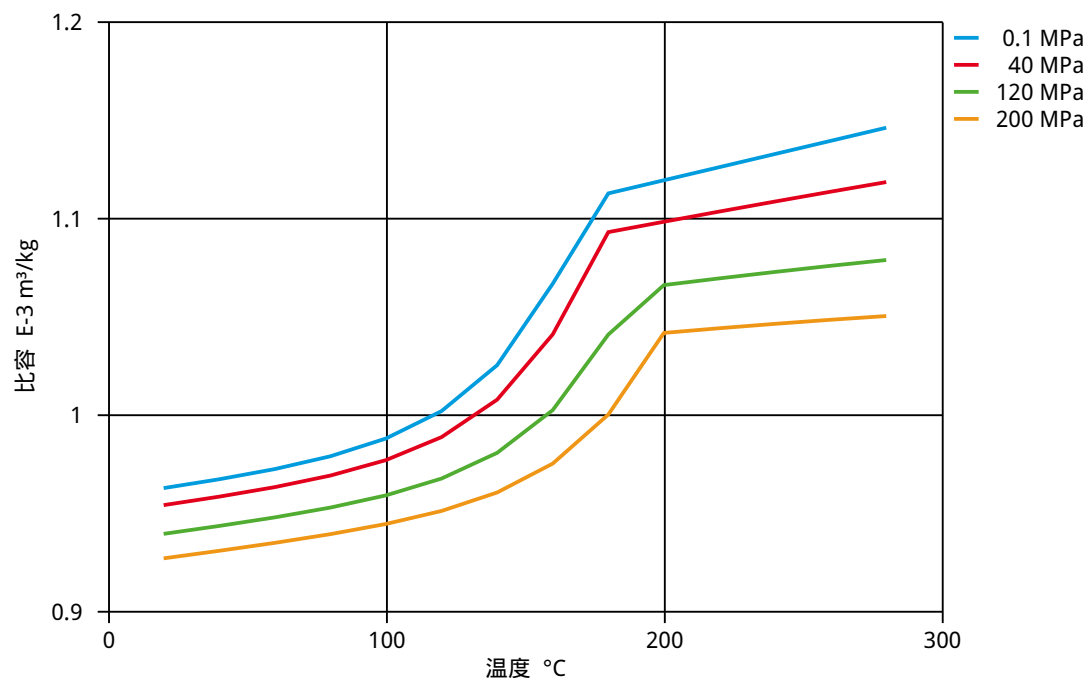
正割模量 - 应变. (cond.)



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比容 - 温度(pvT)



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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

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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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
- ✗ 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

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).

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