

Minlon® 73M40 NC010

MINERAL REINFORCED NYLON RESIN

Minlon®尼龙树脂的共性包括机械能和物理性能，比如说高机械强度、刚性和韧性之间良好的平衡、良好的高温性能、耐化学品、可喷涂、尺寸稳定性和低翘曲。

Zytel®尼龙产品线可提供改善电性能和阻燃性能的产品规格。另外，Minlon®尼龙树脂也有多种改性和增强规格为特殊加工和终端客户提供定制的性能。

Minlon®尼龙树脂良好的热稳定性能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。

Minlon®尼龙树脂通常应用于有严苛要求的汽车、电气、电子、家用电器和建筑领域。

Minlon® 73M40 NC010是一种40% 矿物增强, 热稳定, 尼龙6

总说明

树脂鉴别	PA6-MD40	ISO 1043
制品标识码	>PA6-MD40<	ISO 11469
ISO名称	ISO 16396-PA6,MD40,M1GHNR,S14-060	

流变性能

	dry/cond.		
粘度	145/* ^[1]	cm ³ /g	ISO 307, 1157, 1628
模塑收缩率, 平行	0.8/-	%	ISO 294-4, 2577
模塑收缩率, 垂直	0.8/-	%	ISO 294-4, 2577

[1]: sulfuric acid 96%

机械性能

	dry/cond.		
拉伸模量	6000/2200	MPa	ISO 527-1/-2
断裂应力	87/59	MPa	ISO 527-1/-2
断裂伸长率	10/25	%	ISO 527-1/-2
弯曲模量	5900/2400	MPa	ISO 178
弯曲强度	135/60	MPa	ISO 178
拉伸蠕变模量, 1h	*/1400	MPa	ISO 899-1
拉伸蠕变模量, 1000h	*/850	MPa	ISO 899-1
简支梁无缺口冲击强度, +23°C	130/N	kJ/m ²	ISO 179/1eU
简支梁无缺口冲击强度, -30°C	95/95	kJ/m ²	ISO 179/1eU
简支梁缺口冲击强度, +23°C	5.5/8	kJ/m ²	ISO 179/1eA
简支梁缺口冲击强度, -30°C	4/5	kJ/m ²	ISO 179/1eA
悬臂梁缺口冲击强度, 23°C	5/7	kJ/m ²	ISO 180/1A
悬臂梁缺口冲击强度, -30°C	4/4.5	kJ/m ²	ISO 180/1A
Poisson's ratio	0.35/0.39	-	

Minlon® 73M40 NC010

MINERAL REINFORCED NYLON RESIN

热性能

	dry/cond.		
熔融温度, 10°C/min	221/*	°C	ISO 11357-1/-3
玻璃化转变温度, 10°C/min	70/-	°C	ISO 11357-1/-2
热变形温度, 1.80 MPa	110/*	°C	ISO 75-1/-2
热变形温度, 0.45 MPa	196/*	°C	ISO 75-1/-2
维卡软化温度, 50°C/h 50N	210/*	°C	ISO 306
线膨胀系数, 平行	65/*	E-6/K	ISO 11359-1/-2
线膨胀系数, 垂直	75/*	E-6/K	ISO 11359-1/-2
熔体	0.27	W/(m K)	
熔体的比热	1940	J/(kg K)	
相对温度指数, 电气性能, 0.75mm	65	°C	UL 746B
相对温度指数, 冲击, 0.75mm	65	°C	UL 746B
相对温度指数, 强度, 0.75mm	65	°C	UL 746B

燃烧性能

	dry/cond.		
厚度为h时的燃烧性	HB/*	class	IEC 60695-11-10
测试用试样的厚度	0.85/*	mm	IEC 60695-11-10
UL注册	yes/*	-	UL 94
FMVSS Class	SE/NBR	-	ISO 3795 (FMVSS 302)

其它性能

	dry/cond.		
吸湿性, 2mm	1.8/*	%	类似ISO 62
吸水性, 2mm	5.4/*	%	类似ISO 62
密度	1450/-	kg/m ³	ISO 1183
熔体密度	1280	kg/m ³	

VDA性能

	dry/cond.		
有机废气的热解吸分析	9	□ g/g	VDA 278
气味测试	3.5	class	VDA 270
雾化	0.15/*	mg	ISO 6452

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 %
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	0.2 m/s
优良模具温度	100 °C
模具温度	70 °C
模具温度	120 °C



Minlon[®] 73M40 NC010

MINERAL REINFORCED NYLON RESIN

保压范围
保压时间
喷射温度

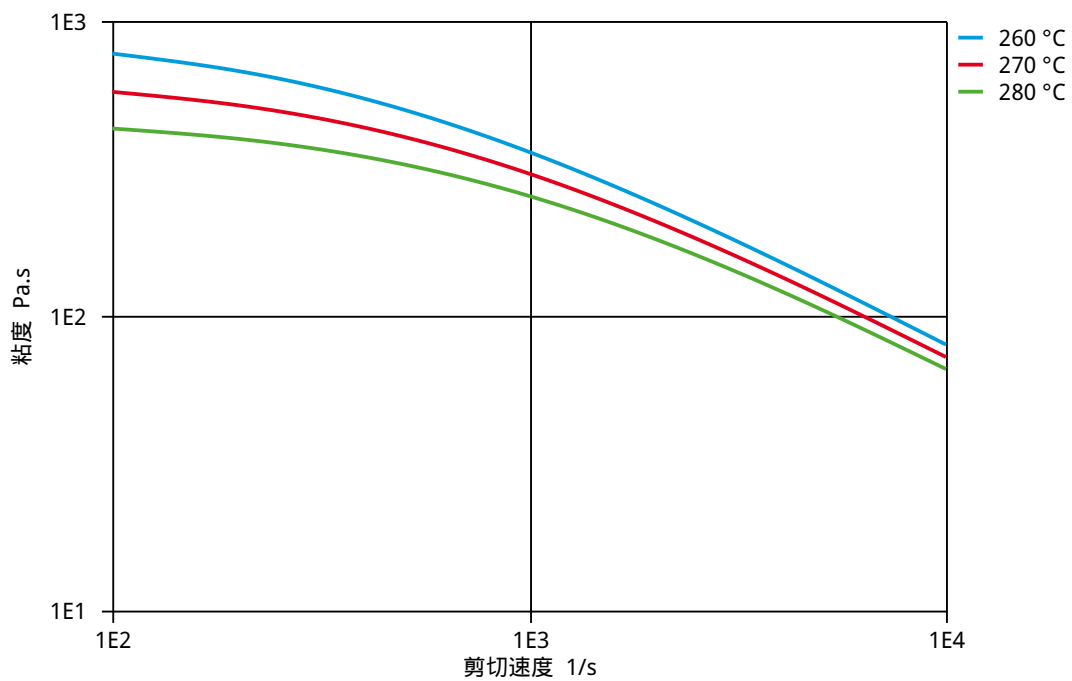
50 - 100 MPa
3 s/mm
210 °C

典型数据

添加剂

脱模助剂

粘度 - 剪切速度

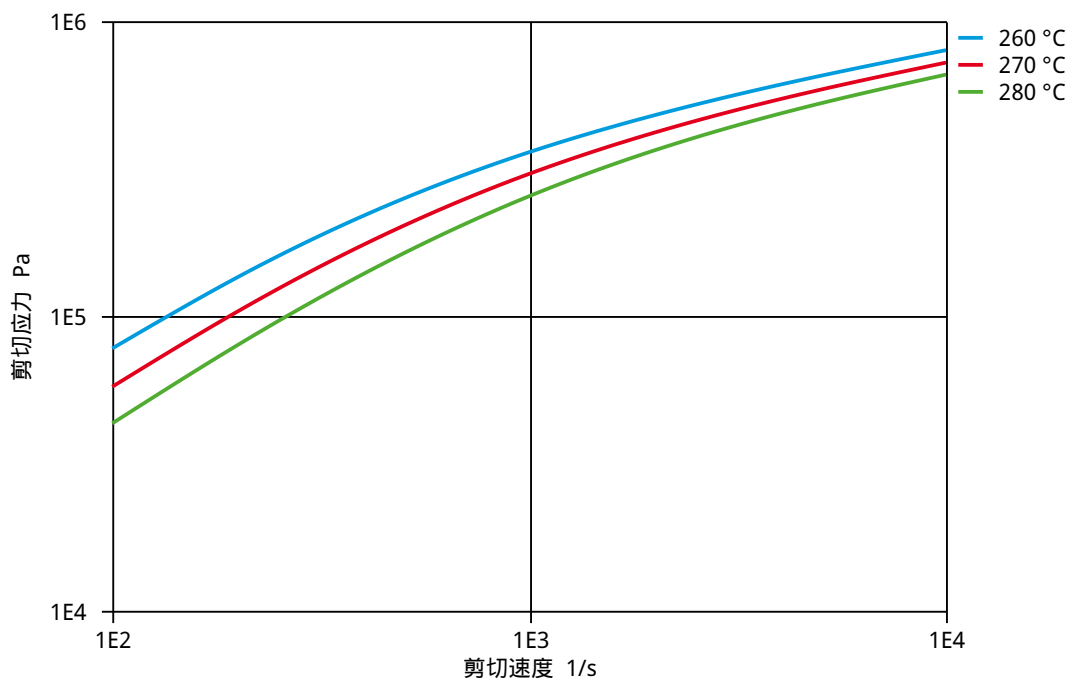




Minlon[®] 73M40 NC010

MINERAL REINFORCED NYLON RESIN

剪切应力 - 剪切速度

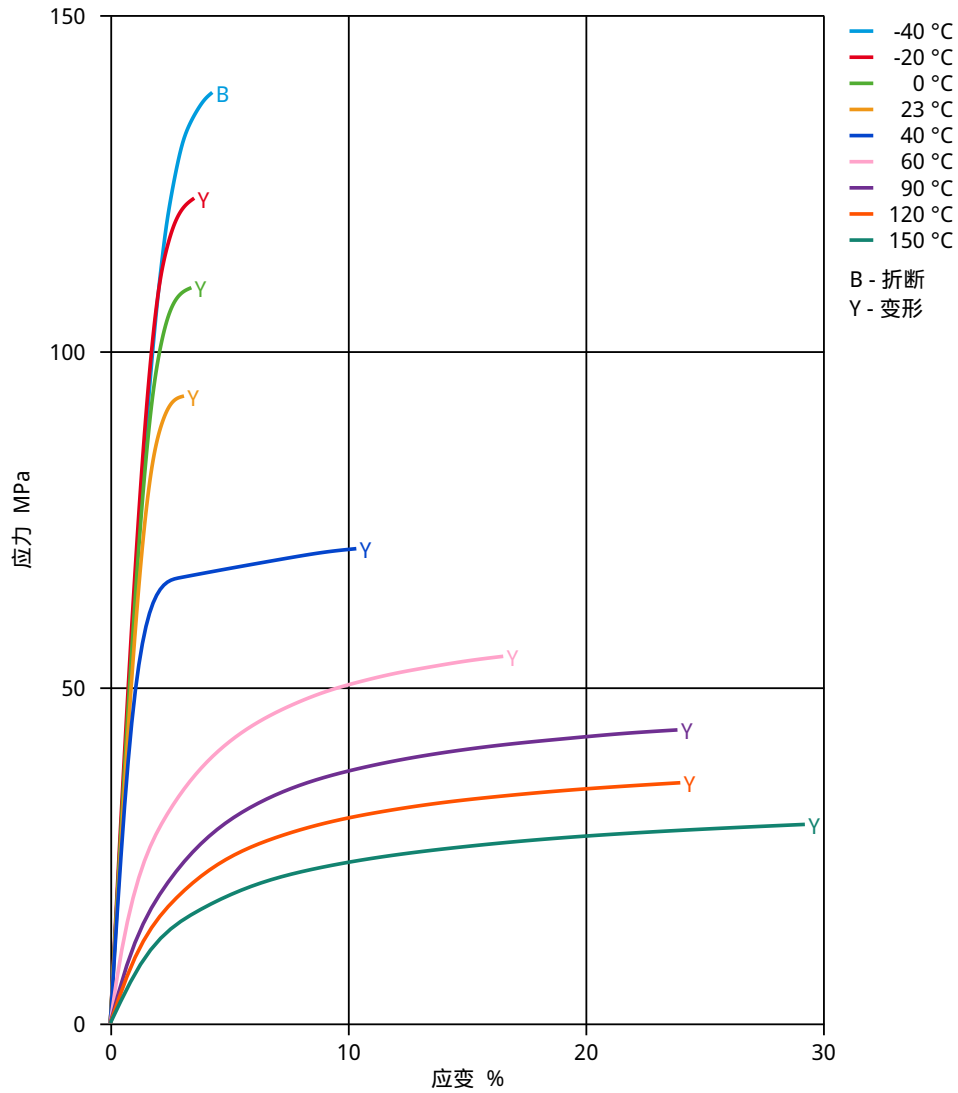




Minlon® 73M40 NC010

MINERAL REINFORCED NYLON RESIN

应力 - 应变. (dry)

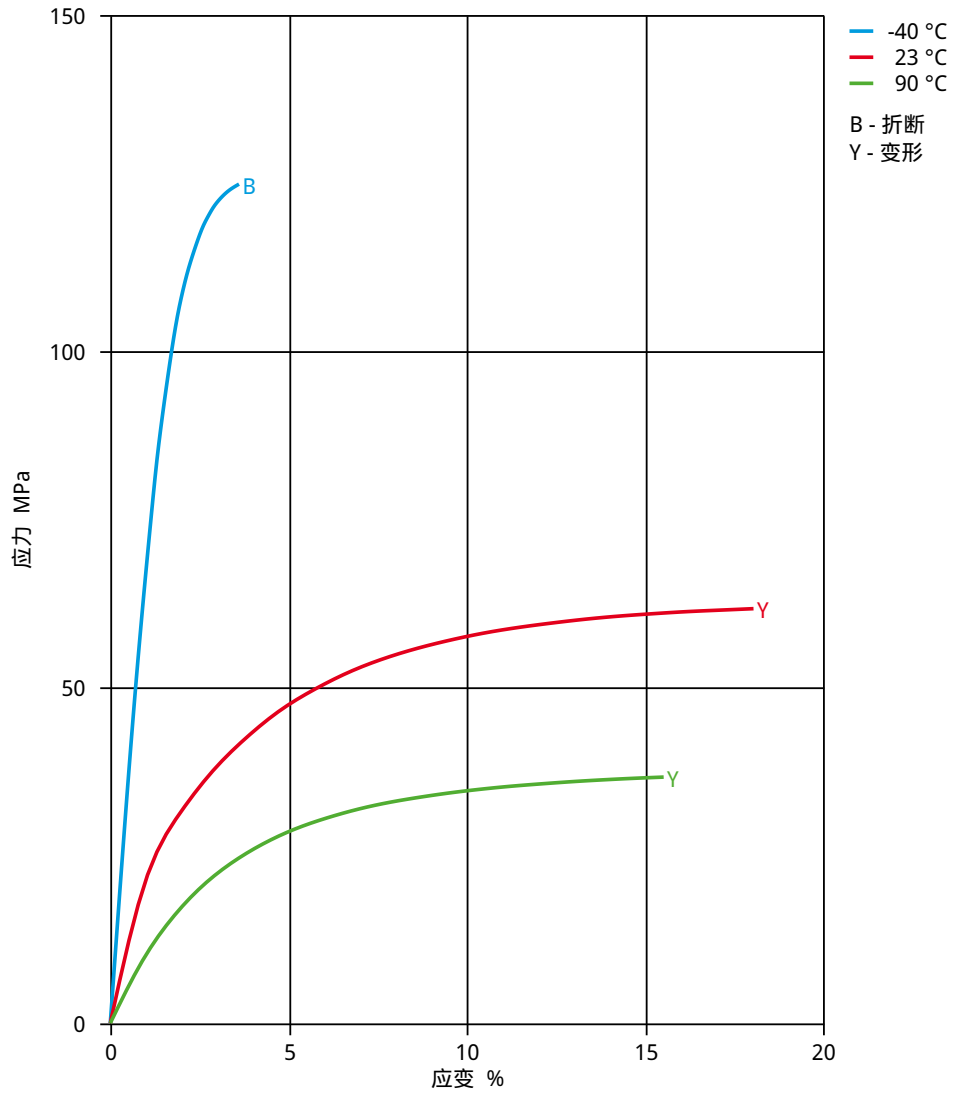




Minlon® 73M40 NC010

MINERAL REINFORCED NYLON RESIN

应力 - 应变. (cond.)

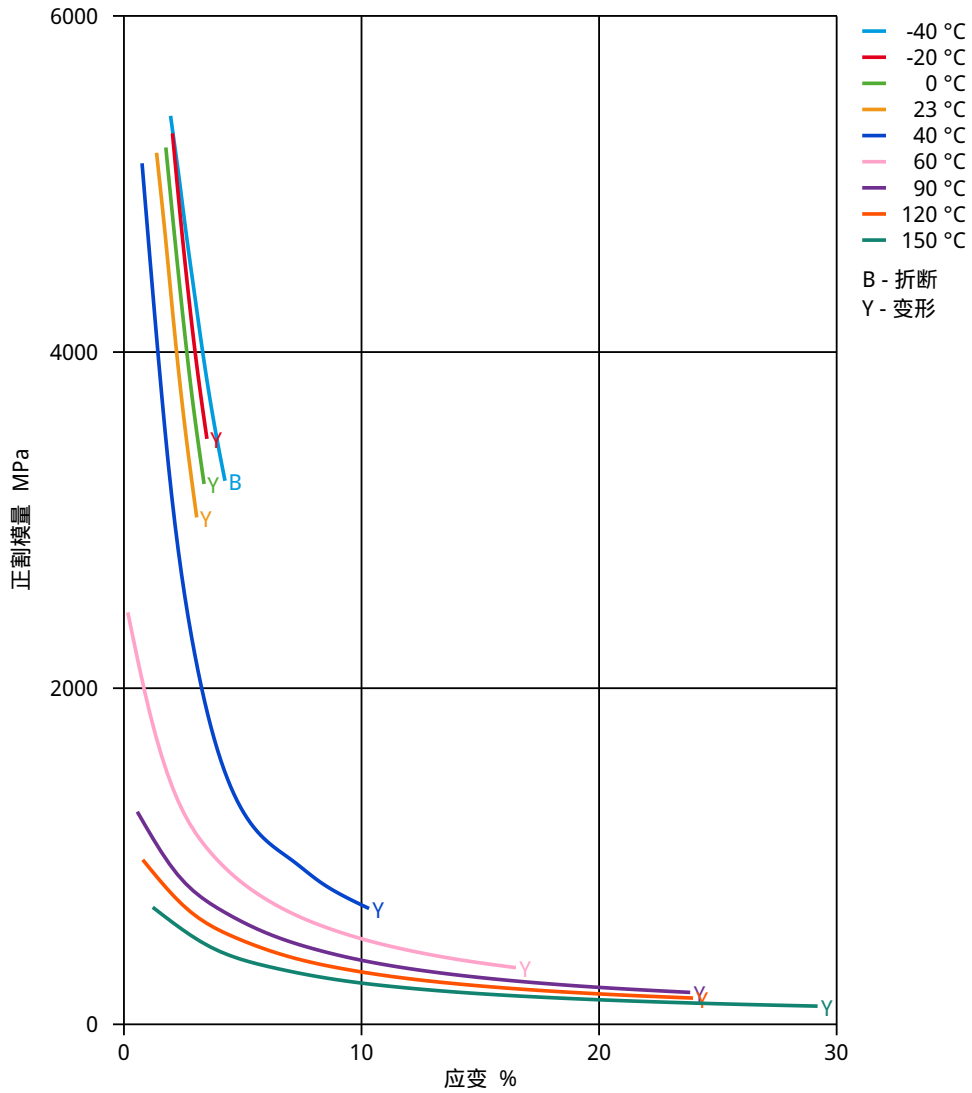




Minlon® 73M40 NC010

MINERAL REINFORCED NYLON RESIN

正割模量 - 应变. (dry)

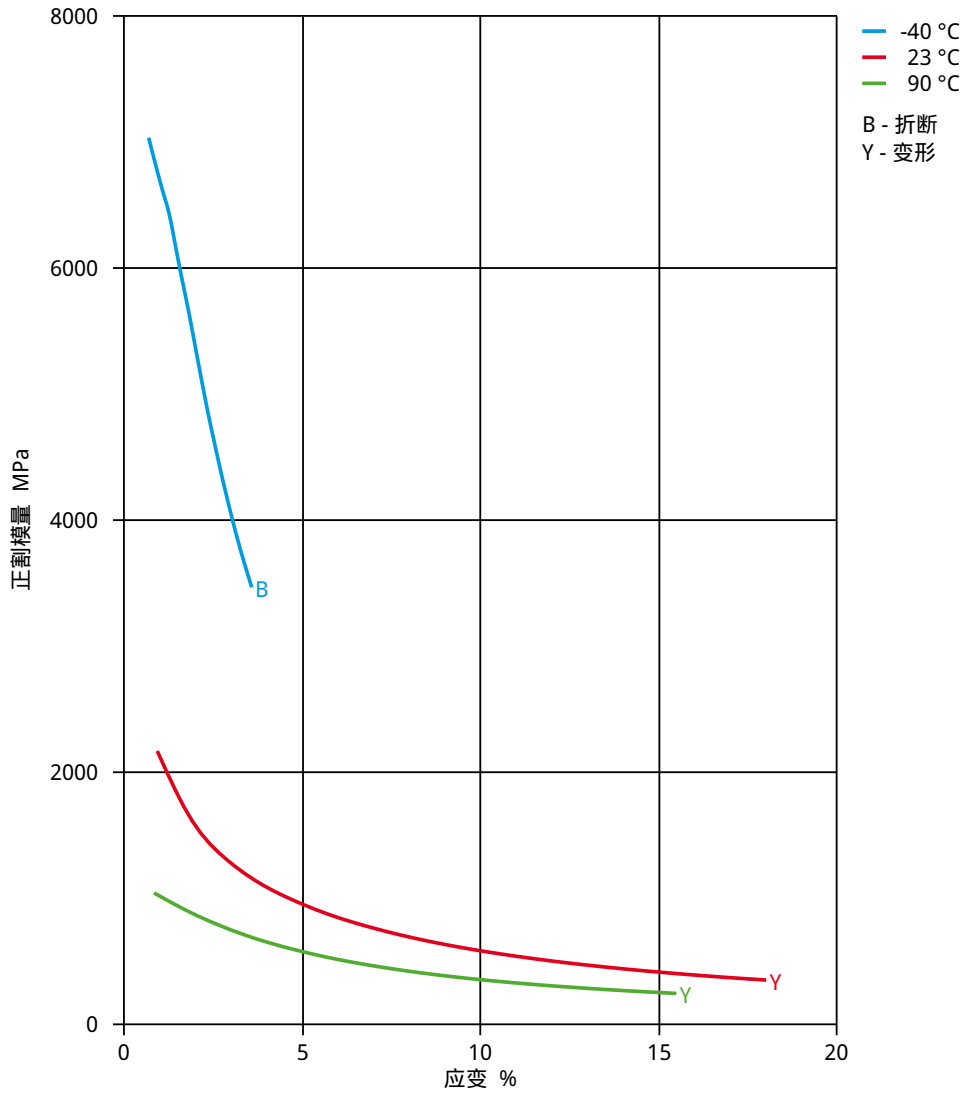




Minlon® 73M40 NC010

MINERAL REINFORCED NYLON RESIN

正割模量 - 应变. (cond.)

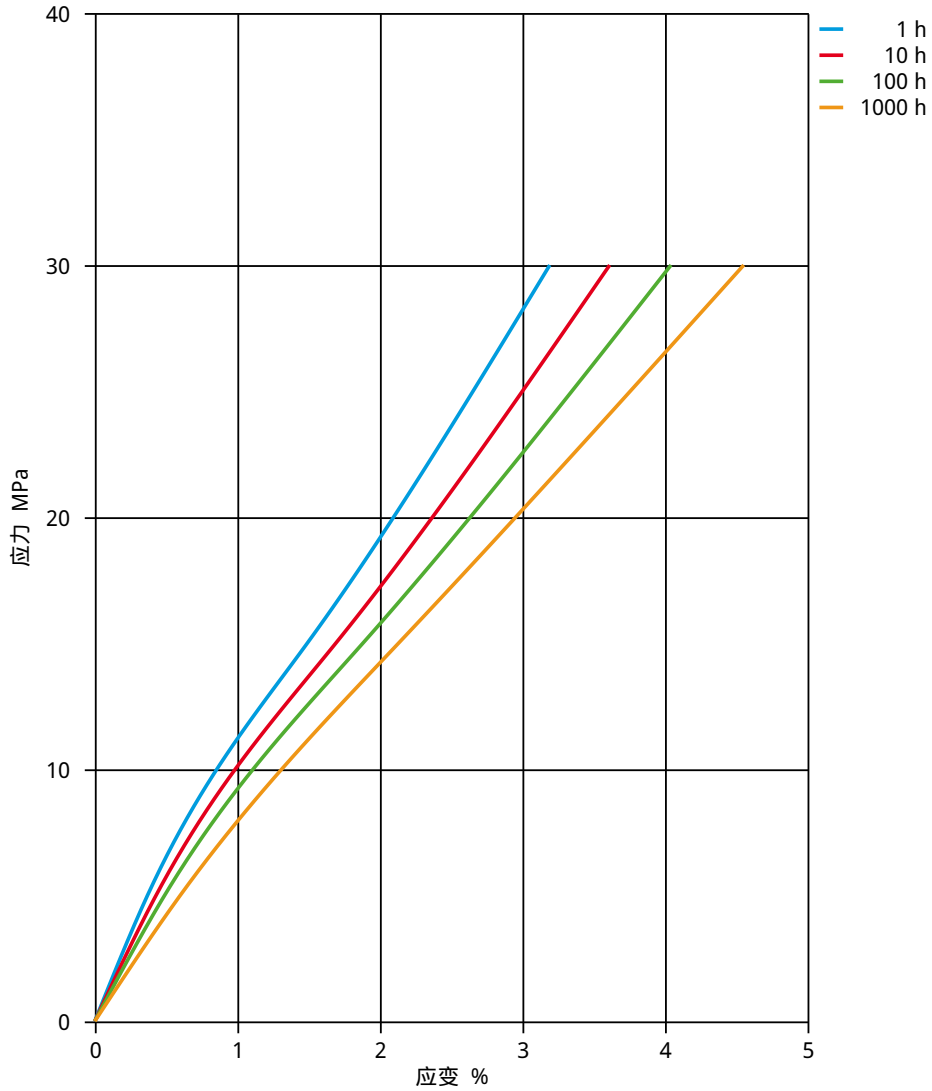




Minlon[®] 73M40 NC010

MINERAL REINFORCED NYLON RESIN

应力 - 应变(等时的) 23°C (cond.)

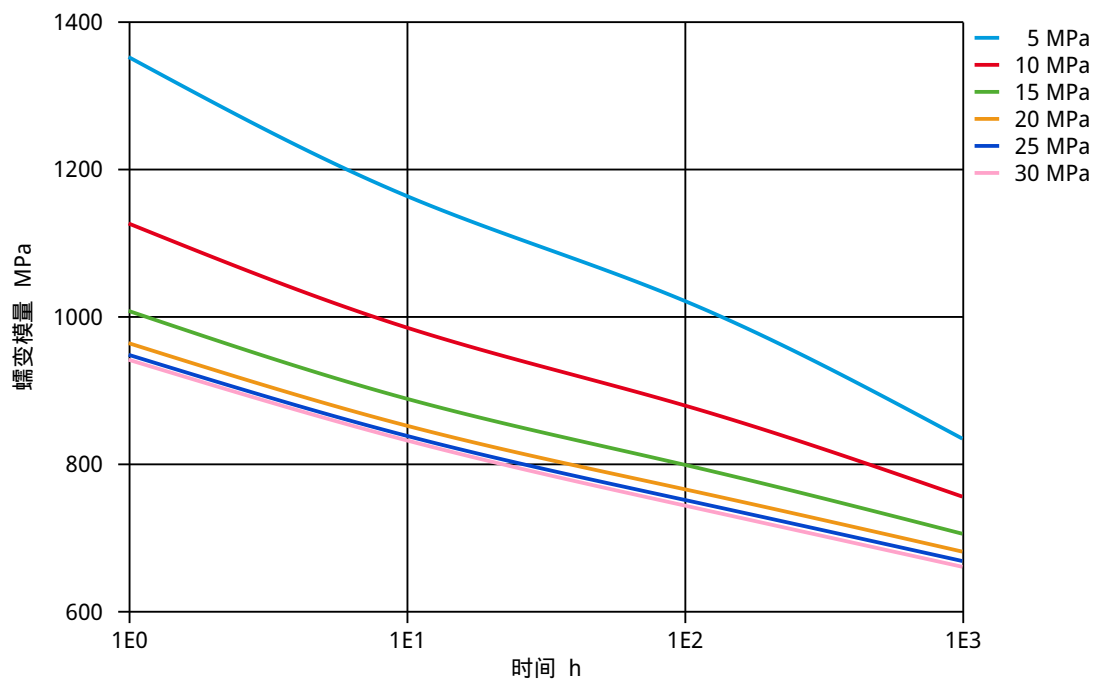




Minlon[®] 73M40 NC010

MINERAL REINFORCED NYLON RESIN

蠕变模量 - 时间. 23°C (cond.)

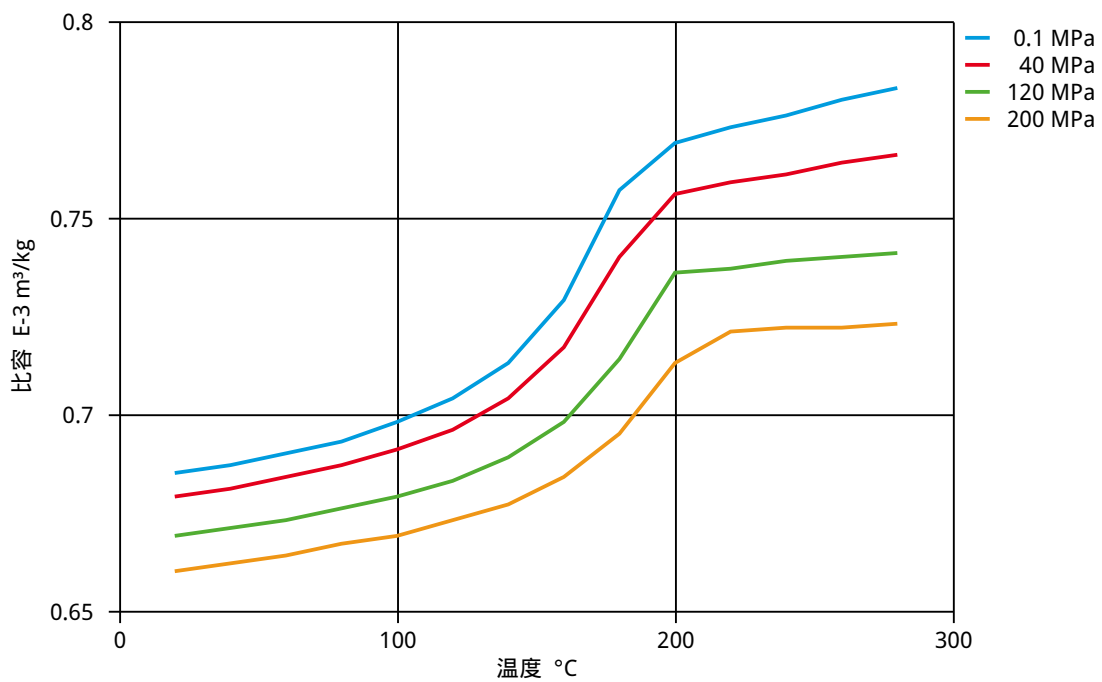




Minlon[®] 73M40 NC010

MINERAL REINFORCED NYLON RESIN

比容 - 温度(pvT)

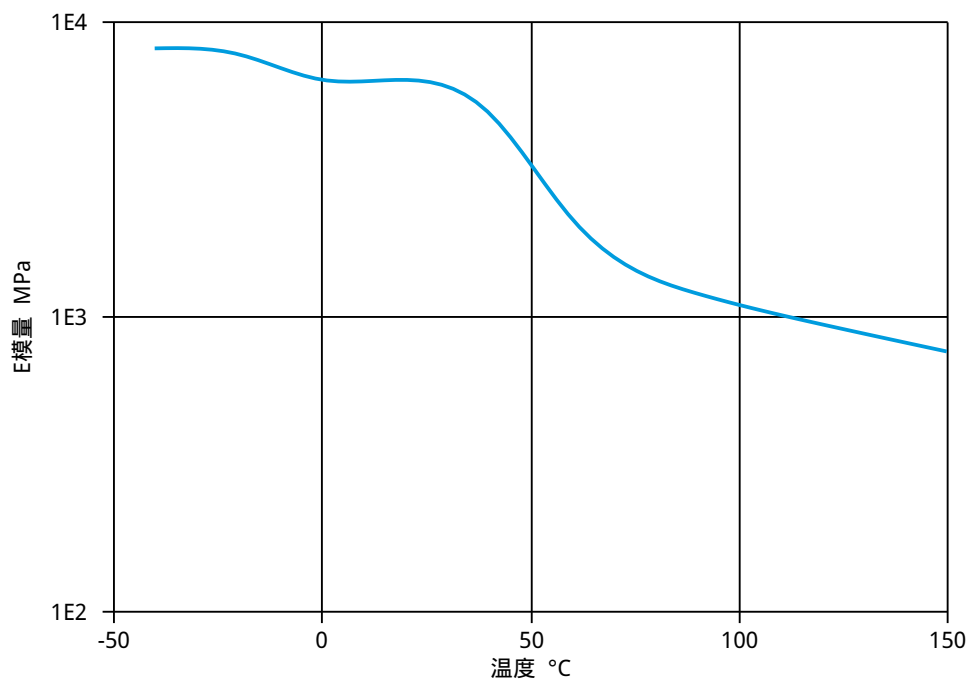




Minlon[®] 73M40 NC010

MINERAL REINFORCED NYLON RESIN

拉伸模量 - 温度 (dry)



Minlon[®] 73M40 NC010

MINERAL REINFORCED 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

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

Minlon[®] 73M40 NC010

MINERAL REINFORCED 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
- ✗ 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).

The information set forth herein is furnished free of charge, is based on technical data that DuPont believes to be reliable, and represents typical values that fall within the normal range of properties. This information relates only to the specific material designated and may not be valid for such material used in combination with other materials or in other processes. It is intended for use by persons having technical skill, at their own discretion and risk. This information should not be used to establish specification limits nor used alone as the basis of design. Handling precaution information is given with the understanding that those using it will satisfy themselves that their particular conditions of use present no health or safety hazards and comply with applicable law. Since conditions of product use and disposal are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information. As with any product, evaluation under end-use conditions prior to specification is essential. Nothing herein is to be taken as a license to operate or a recommendation to infringe on patents.

CAUTION: Do not use DuPont materials in medical applications involving implantation in the human body or contact with internal body fluids or tissues unless the material has been provided from DuPont under a written contract or other acknowledgement that is consistent with the DuPont policy regarding medical applications and expressly acknowledges the contemplated use. For further information, please contact your DuPont representative.

DuPont's sole warranty is that our products will meet our standard sales specifications in effect at the time of shipment. Your exclusive remedy for breach of such warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted. TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, DUPONT SPECIFICALLY DISCLAIMS ANY OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY, OR NON-INFRINGEMENT. DUPONT DISCLAIMS LIABILITY FOR ANY SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES.