

# DuPont™ Crastin® T841FR1 NC010

## THERMOPLASTIC POLYESTER RESIN

产品

Common features of Crastin® thermoplastic polyester resin include mechanical and physical properties such as stiffness and toughness, heat resistance, friction and wear resistance, excellent surface finishes and good colourability. Crastin® thermoplastic polyester resin has excellent electrical insulation characteristics and high arc-resistant grades are available. Many flame retardant grades have UL recognition (class V-0). Crastin® thermoplastic polyester resin typically has high chemical and heat ageing resistance.

The good melt stability of Crastin® thermoplastic polyester resin normally enables the recycling of properly handled production waste.

If recycling is not possible, DuPont recommends, as the preferred option, incineration with energy recovery (-24 kJ/g of base polymer) in appropriately equipped installations. For disposal, local regulations have to be observed.

Crastin® thermoplastic polyester resin typically is used in demanding applications in the electronics, electrical, automotive, mechanical engineering, chemical, domestic appliances and sporting goods industry.

**Crastin® T841FR1 is a 10% glass fibre reinforced, flame retardant, polybutylene terephthalate for injection molding. It has improved impact resistance and good surface finish of molded parts.**

总说明	数值	单位	测试标准
树脂鉴别	PBTC-GF10FR(17)	-	ISO 1043
产品标识码	PBTC-GF10FR(17)	-	ISO 11469
流变性能	数值	单位	测试标准
模塑收缩率, 平行	0.7	%	ISO 294-4, 2577
模塑收缩率, 垂直	1.2	%	ISO 294-4, 2577
熔体粘度	240	Pa s	ISO 11443
机械性能	数值	单位	测试标准
拉伸模量	3900	MPa	ISO 527-1/-2
断裂应力	70	MPa	ISO 527-1/-2
断裂伸长率	4.7	%	ISO 527-1/-2
拉伸蠕变模量			ISO 899-1
1h	3000	MPa	
1000h	2000	MPa	
无缺口简支梁冲击强度			ISO 179/1eU
+23°C	46	kJ/m <sup>2</sup>	
-30°C	40	kJ/m <sup>2</sup>	
简支梁缺口冲击强度			ISO 179/1eA
+23°C	8.5	kJ/m <sup>2</sup>	
-30°C	5	kJ/m <sup>2</sup>	
热性能	数值	单位	测试标准
熔融温度, 10°C/min	205	°C	ISO 11357-1/-3
热变形温度			ISO 75-1/-2
1.80 MPa	170	°C	
8.00 MPa	66	°C	
维卡软化温度, 50°C/h 50N	180	°C	ISO 306
熔体	0.23	W/(m K)	-
熔体的比热	1970	J/(kg K)	-
相对温度指数, 电气性能			UL 746B
0.75mm	130	°C	
1.5mm	130	°C	
3mm	130	°C	
6mm	130	°C	
相对温度指数, 冲击性能			UL 746B
0.75mm	115	°C	
1.5mm	130	°C	
3mm	130	°C	
6mm	130	°C	

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相对温度指数, 强度			UL 746B
0.75mm	115	°C	
1.5mm	130	°C	
3mm	130	°C	
6mm	130	°C	
<b>燃烧性能</b>	<b>数值</b>	<b>单位</b>	<b>测试标准</b>
1.5mm名义厚度时的燃烧性	V-0	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	V-0	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	30	%	ISO 4589-1/-2
灼热丝可燃指数, 3mm	960	°C	IEC 60695-2-12
FMVSS Class	DNI	-	ISO 3795 (FMVSS 302)
<b>电性能</b>	<b>数值</b>	<b>单位</b>	<b>测试标准</b>
相对介电常数.			IEC 62631-2-1
100Hz	4	-	
1MHz	3.8	-	
介质损耗因子			IEC 62631-2-1
100Hz	100	E-4	
1MHz	180	E-4	
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	27	kV/mm	IEC 60243-1
相对漏电起痕指数	250	-	IEC 60112
电气强度, 20s	16	kV/mm	IEC 60243-1
<b>其它性能</b>	<b>数值</b>	<b>单位</b>	<b>测试标准</b>
吸湿性, 2mm	0.15	%	类似ISO 62
吸水性, 2mm	0.35	%	类似ISO 62
密度	1540	kg/m³	ISO 1183
熔体密度	1310	kg/m³	-
<b>注塑</b>	<b>数值</b>	<b>单位</b>	<b>测试标准</b>
建议干燥	是		-
干燥温度	≥ 120	°C	-
干燥时间, 除湿干燥机	2 - 4	h	-
加工前水分含量	≤ 0.04	%	-
优良熔体温度	250	°C	-
注塑 熔体温度	240	°C	-
注塑 熔体温度	260	°C	-
优良模具温度	110	°C	-
模具温度	100	°C	-
模具温度	120	°C	-
保压范围	≥ 60	MPa	-
保压时间	3	s/mm	-
背压	As low as possible		-
喷射温度	150	°C	-
<b>典型数据</b>			
加工方法	• 注塑	• 异型材挤出成型	• 片材挤出成型
供货形式	• 粒料		
添加剂	• 脱模助剂		
地区供应	• 北美 • 欧洲	• 亚太 • 中南美洲	• 中东/非洲 • Global

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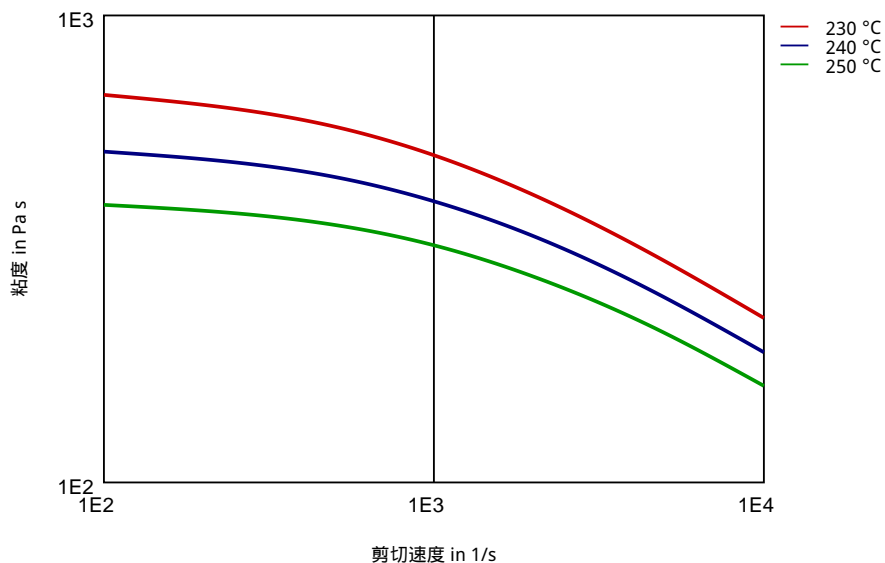


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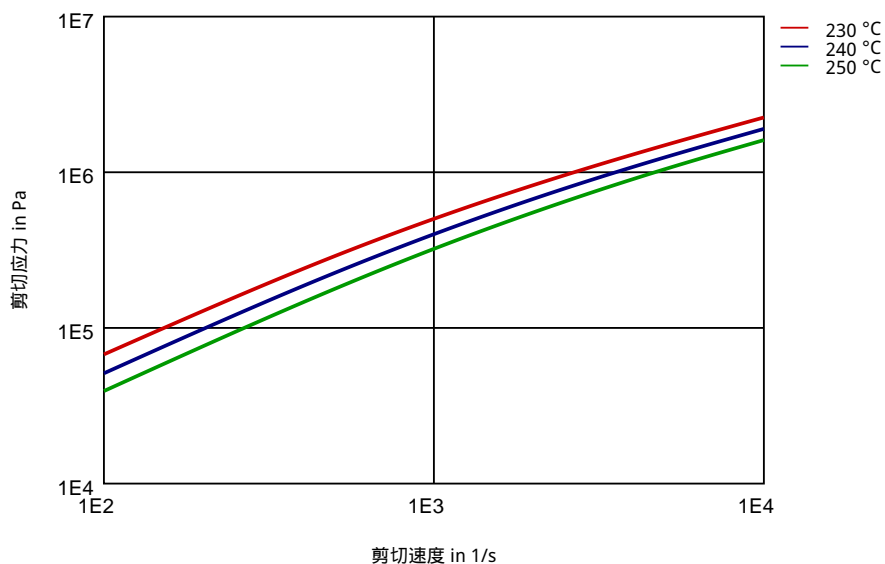
## THERMOPLASTIC POLYESTER RESIN

图表

粘度 - 剪切速度



剪切应力 - 剪切速度



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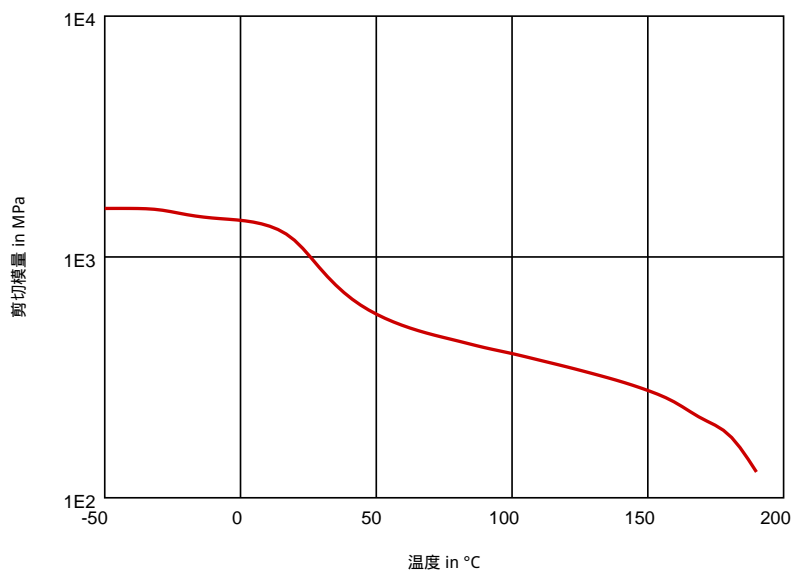


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## THERMOPLASTIC POLYESTER RESIN

动态剪切模量 - 温度



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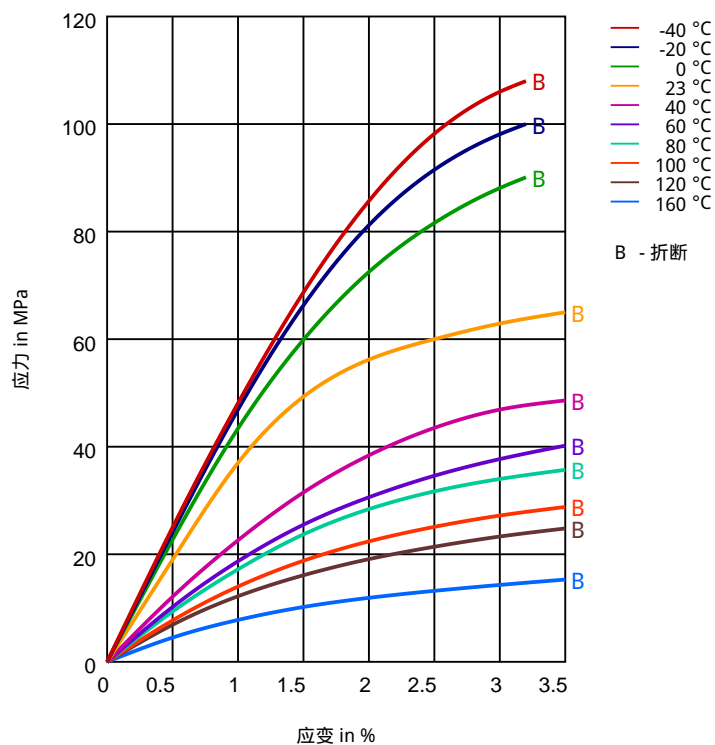


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## THERMOPLASTIC POLYESTER RESIN

应力 - 应变.



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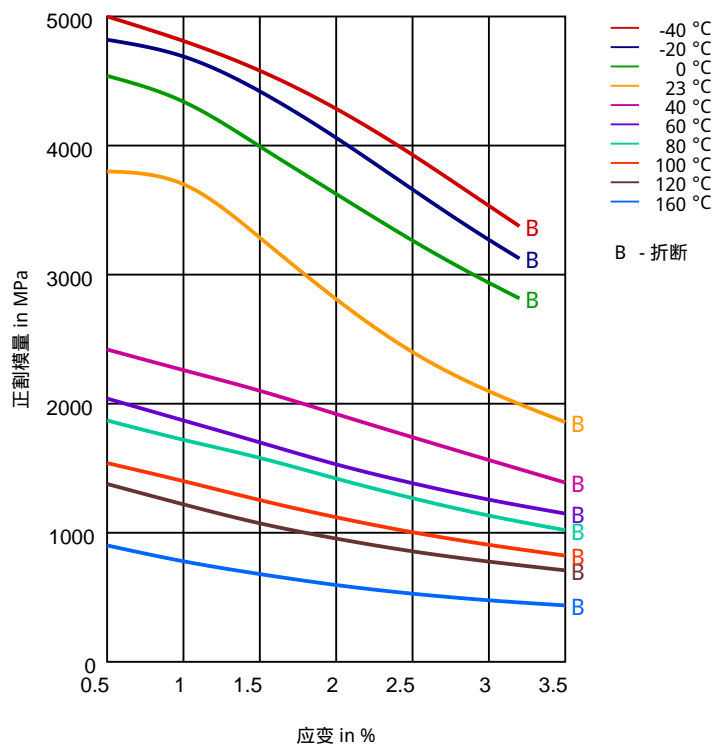


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## THERMOPLASTIC POLYESTER RESIN

正割模量 - 应变.



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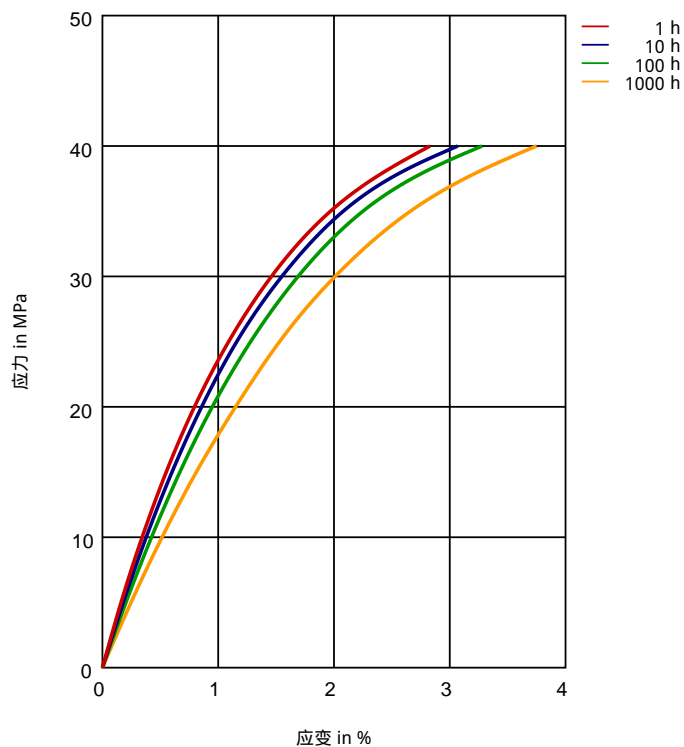
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## THERMOPLASTIC POLYESTER RESIN

应力 - 应变(等时的) 23°C



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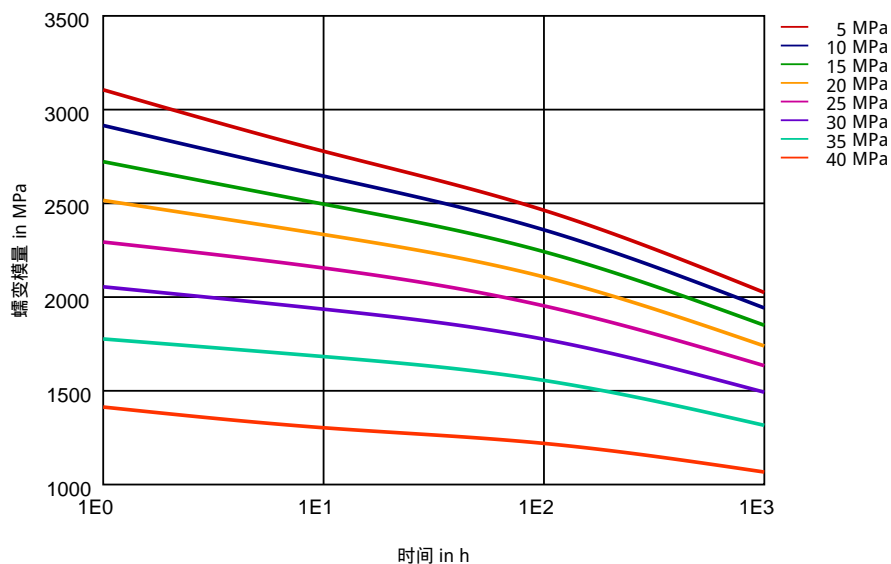


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## THERMOPLASTIC POLYESTER RESIN

蠕变模量 - 时间, 23°C



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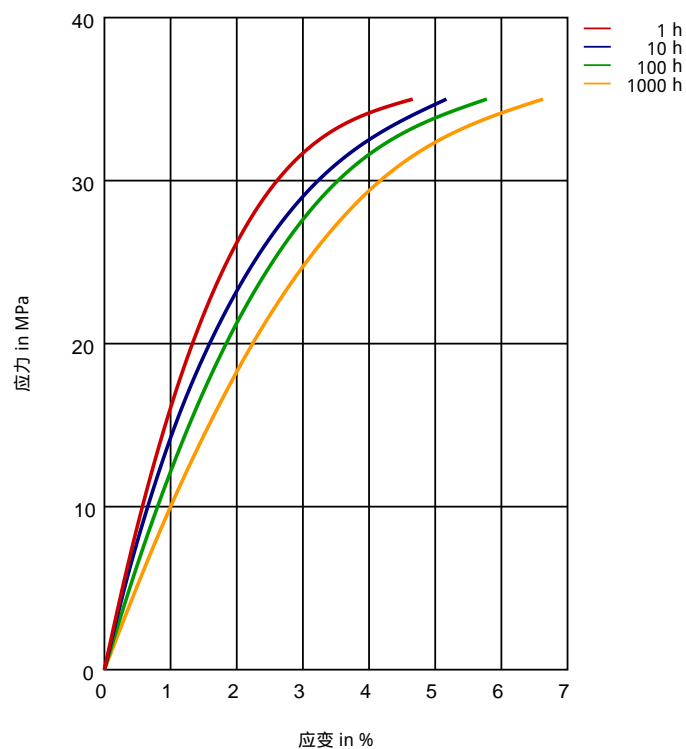




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## THERMOPLASTIC POLYESTER RESIN

应力 - 应变(等时的) 60°C



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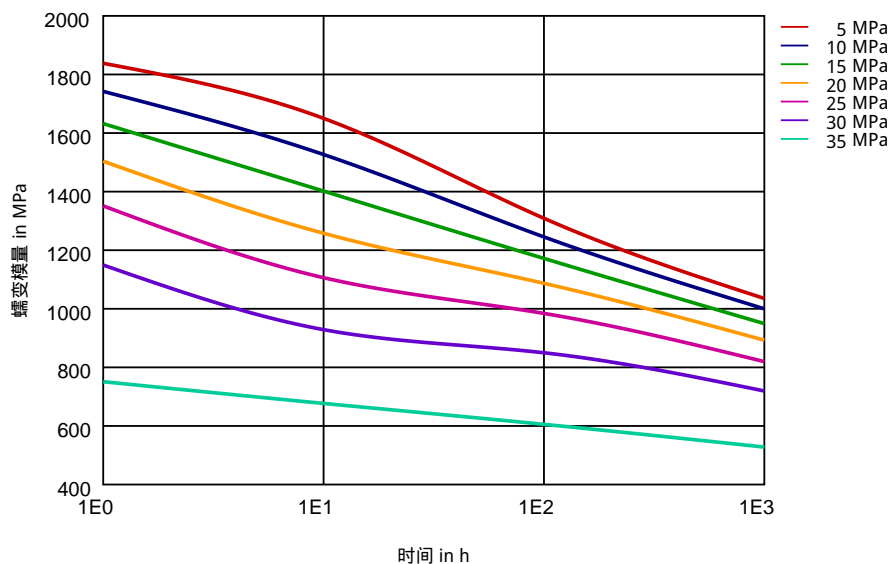


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## THERMOPLASTIC POLYESTER RESIN

蠕变模量 - 时间, 60°C



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## THERMOPLASTIC POLYESTER 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)

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## THERMOPLASTIC POLYESTER RESIN

- ✓ 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)

### 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).

联系杜邦以获得材料安全物性数据表、一般指南和/或其他关于排风、处理、清洗、干燥等的相关信息。除非特别指定，ISO机械性能测试样条厚度为4mm (Hytrel® 2mm)，IEC电性能测试样品厚度为2mm，所有的ASTM性能测试样条厚度为3.2mm，测试温度为23°C。

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警告：不要用于涉及永久植入人体的医疗应用。

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