



Delrin® 500AF

ACETAL RESIN

Delrin®聚甲醛树脂的共性包括优异的机械性能和物理性能比如高机械强度和刚性，优异的耐疲劳性能和抗冲击性，同时具有突出的耐潮湿、汽油、润滑剂、溶剂和多种其他中性化学品。Delrin®聚甲醛树脂还具有优良尺寸稳定性和良好的电绝缘性能，具有天然弹性、自润滑，可制成多种颜色和特殊规格。

Delrin®聚甲醛树脂通常应用于具有严苛要求的汽车、家用电器、运动、工业工程、电子和消费品工业。

Delrin® 500AF是一种20% PTFE纤维填充 中等粘度均聚甲醛具有低磨损和低摩擦性能

总说明

树脂鉴别	POM-SF20	ISO 1043
制品标识码	>POM-SF20<	ISO 11469

流变性能

熔体质量流动速率	5 g/10min	ISO 1133
熔体质量流率, 温度	190 °C	ISO 1133
熔体质量流率, 载荷	2.16 kg	ISO 1133
模塑收缩率, 平行	2.0 %	ISO 294-4, 2577
模塑收缩率, 垂直	1.4 %	ISO 294-4, 2577

机械性能

拉伸模量	2800 MPa	ISO 527-1/-2
断裂应力	50 MPa	ISO 527-1/-2
断裂伸长率	10 %	ISO 527-1/-2
弯曲模量	2500 MPa	ISO 178
压缩强度	110 MPa	ISO 604
简支梁无缺口冲击强度, +23°C	40 kJ/m ²	ISO 179/1eU
简支梁无缺口冲击强度, -30°C	35 kJ/m ²	ISO 179/1eU
简支梁缺口冲击强度, +23°C	3 kJ/m ²	ISO 179/1eA
简支梁缺口冲击强度, -30°C	3 kJ/m ²	ISO 179/1eA
悬臂梁缺口冲击强度, 23°C	3 kJ/m ²	ISO 180/1A
洛氏硬度	74 -	ISO 2039-2
洛氏硬度, Rockwell	119 -	ISO 2039-2
Poisson's ratio	0.37 -	

热性能

熔融温度, 10°C/min	178 °C	ISO 11357-1/-3
热变形温度, 1.80 MPa	92 °C	ISO 75-1/-2
热变形温度, 0.45 MPa	160 °C	ISO 75-1/-2
线膨胀系数, 平行	110 E-6/K	ISO 11359-1/-2
线膨胀系数, 垂直	100 E-6/K	ISO 11359-1/-2
相对温度指数, 电气性能, 1.5mm	105 °C	UL 746B
相对温度指数, 电气性能, 3mm	105 °C	UL 746B
相对温度指数, 冲击, 1.5mm	85 °C	UL 746B

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相对温度指数, 冲击, 3mm	85 °C	UL 746B
相对温度指数, 强度, 1.5mm	90 °C	UL 746B
相对温度指数, 强度, 3mm	90 °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	3 mm	IEC 60695-11-10
UL注册	yes -	UL 94
灼热丝燃烧指数, 3mm	600 °C	IEC 60695-2-12
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

相对介电常数., 1MHz	3.1 -	IEC 62631-2-1
介质损耗因子, 1MHz	90 E-4	IEC 62631-2-1
表面电阻率	>1E15 Ohm	IEC 62631-3-2
相对漏电起痕指数	600 -	IEC 60112

其它性能

吸湿性, 2mm	0.2 %	类似ISO 62
吸水性, 2mm	1 %	类似ISO 62
密度	1530 kg/m ³	ISO 1183
熔体密度	1280 kg/m ³	
吸水性, 浸泡 24小时	0.25 %	类似ISO 62

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	215 °C
注塑 熔体温度	210 °C
注塑 熔体温度	220 °C
螺杆切线速度	0.3 m/s
模具温度	90 °C
模具温度	80 °C
模具温度	100 °C
保压范围	80 - 100 MPa
保压时间	8 s/mm
回火时间, 可选	30 min/mm
回火温度	160 °C



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薄膜挤出成型

干燥温度	75 - 85 °C
干燥时间, 除湿干燥机	2 - 4 h
加工前水分含量	≤ 0.2 %
熔体温度	200 °C
熔体温度范围	195 - 205 °C

典型数据

添加剂

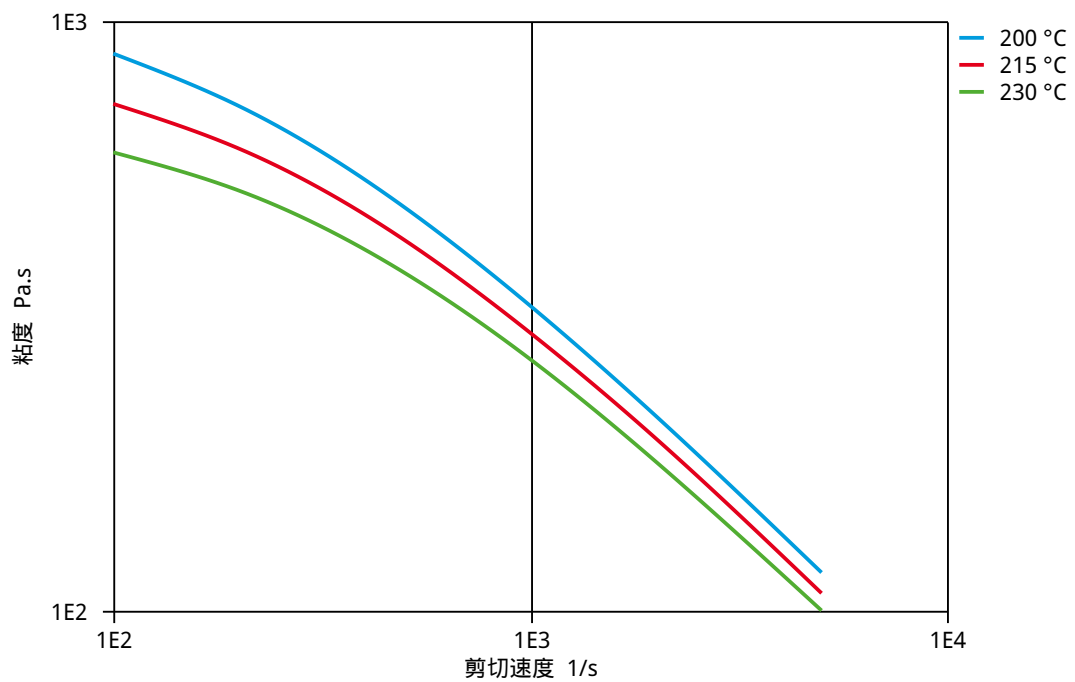
脱模助剂



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ACETAL RESIN

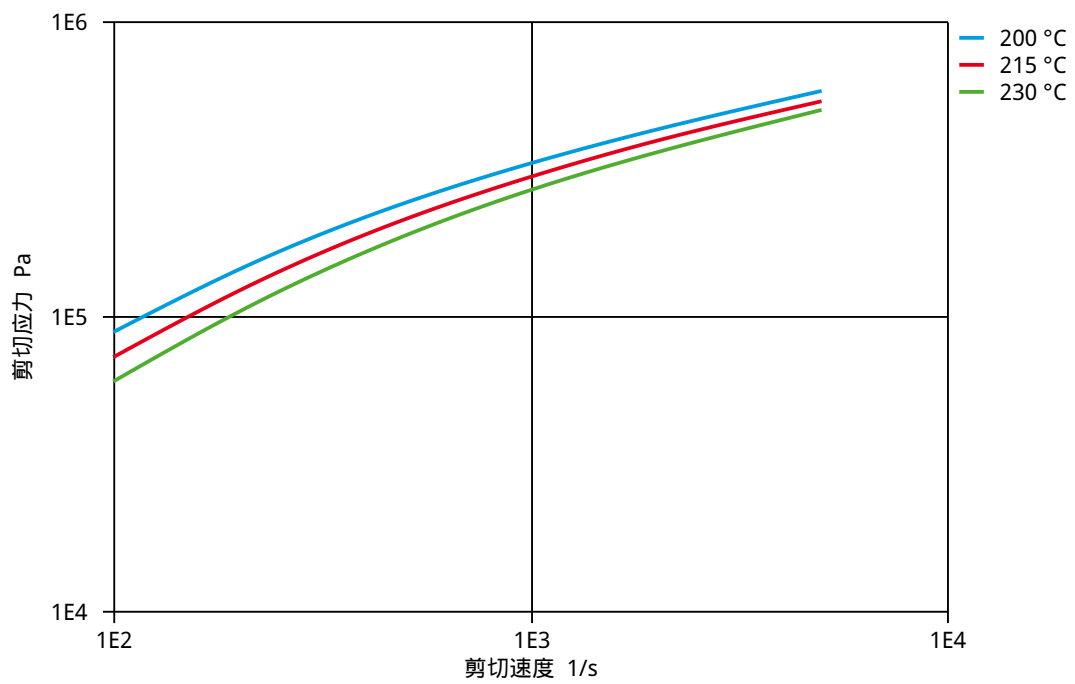
粘度 - 剪切速度



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ACETAL RESIN

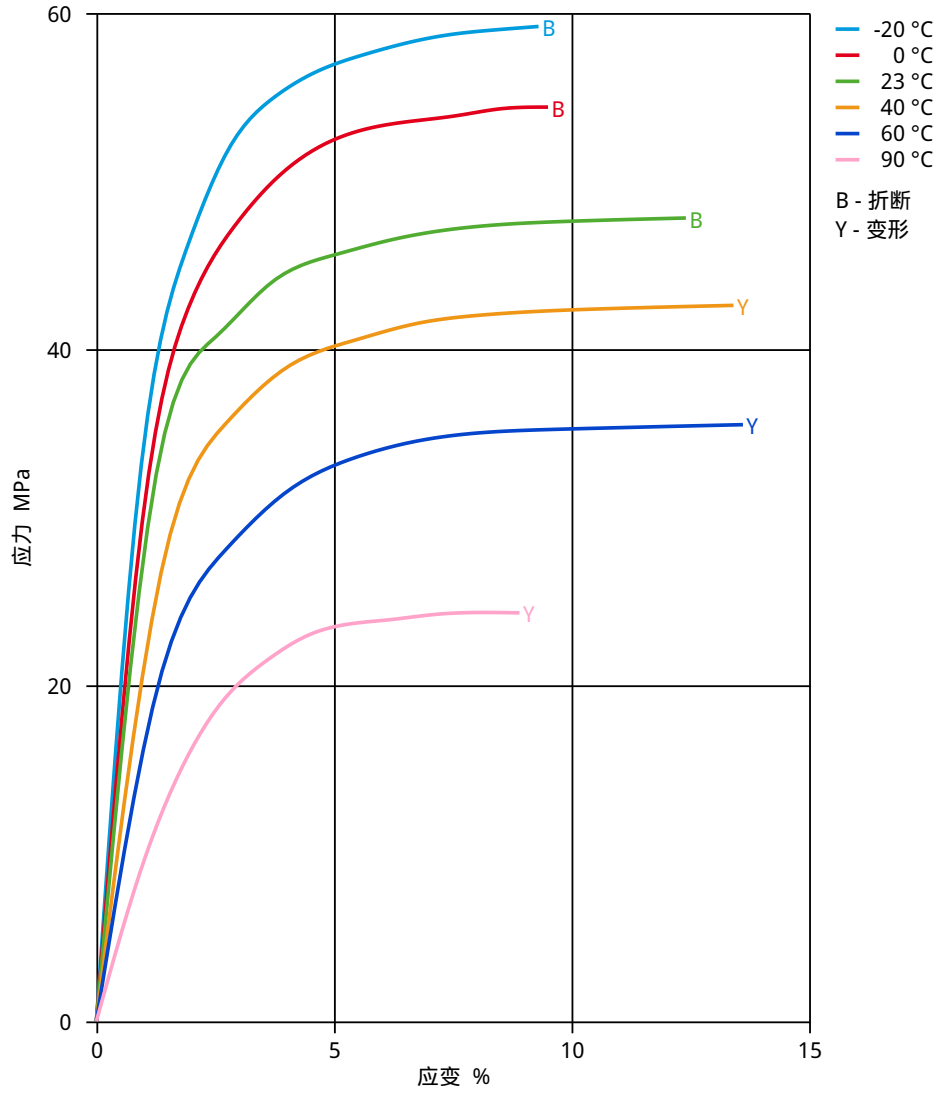
剪切应力 - 剪切速度



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ACETAL RESIN

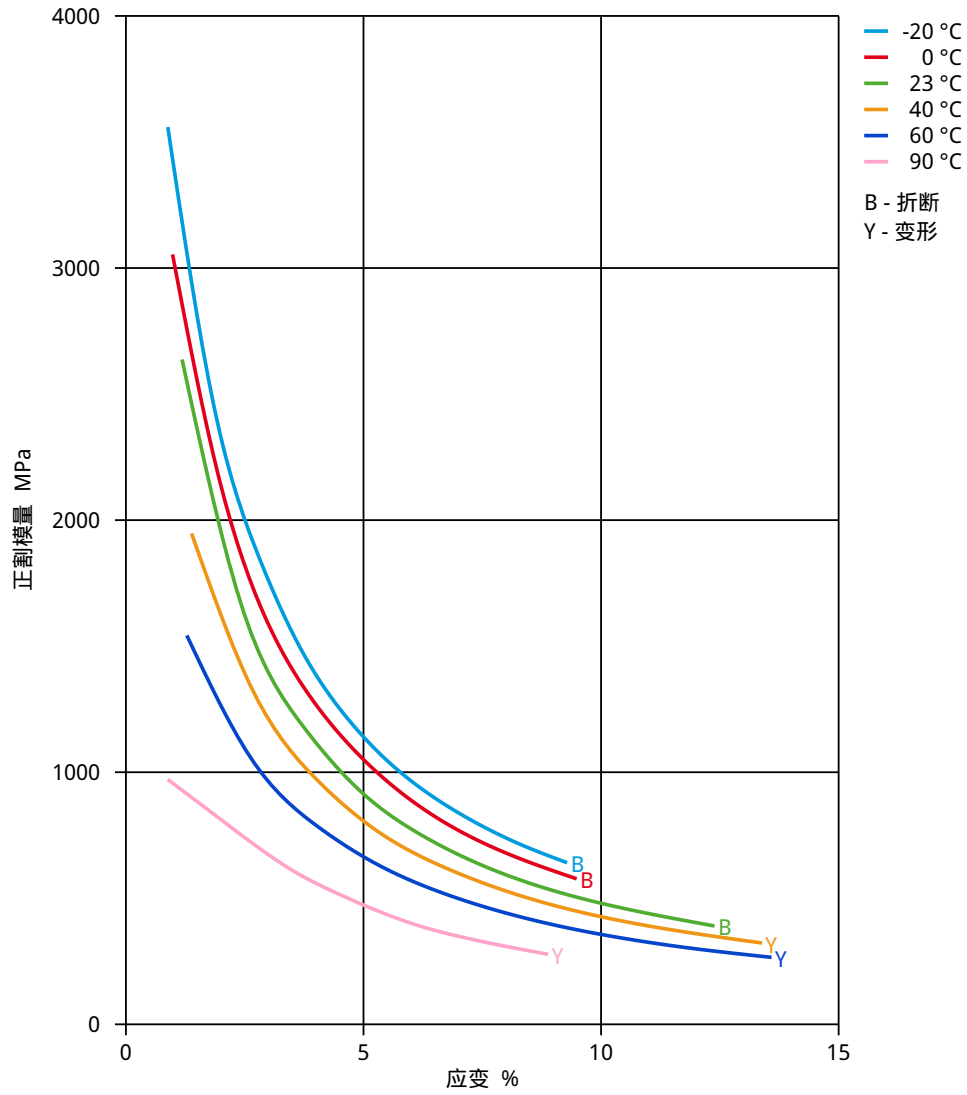
应力 - 应变.



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ACETAL RESIN

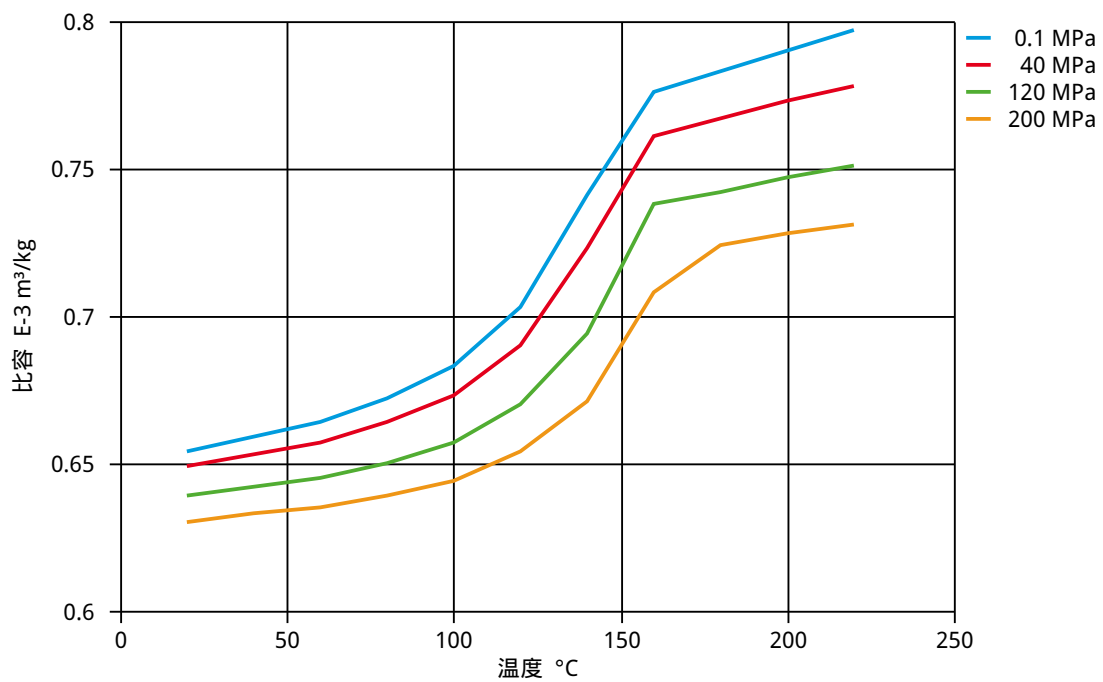
正割模量 - 应变.



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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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