



Crastin® HR5315HFS BK591

THERMOPLASTIC POLYESTER RESIN

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® HR5315HFS is a 15% glass reinforced PBT with high flow, moderately toughened, hydrolysis resistant (HR) polybutylene terephthalate for injection moulding.

总说明

树脂鉴别	PBT-IGF15	ISO 1043
制品标识码	>PBT-IGF15<	ISO 11469

流变性能

熔体体积流动速度, MVR	13 cm ³ /10min	ISO 1133
熔体质量流动速率	18 g/10min	ISO 1133
温度	250 °C	ISO 1133
负荷	2.16 kg	ISO 1133
熔体质量流率, 温度	250 °C	ISO 1133
熔体质量流率, 载荷	2.16 kg	ISO 1133
粘数.	110 cm ³ /g	ISO 307, 1157, 1628
Intrinsic viscosity	0.9 -	ISO 307, 1157, 1628
模塑收缩率, 平行	0.5 %	ISO 294-4, 2577
模塑收缩率, 垂直	1.1 %	ISO 294-4, 2577
熔体粘度	175 Pa.s	ISO 11443

机械性能

拉伸模量	5000 MPa	ISO 527-1/-2
断裂应力	95 MPa	ISO 527-1/-2
断裂伸长率	3.3 %	ISO 527-1/-2
弯曲强度	143 MPa	ISO 178
简支梁无缺口冲击强度, +23°C	57 kJ/m ²	ISO 179/1eU
简支梁缺口冲击强度, +23°C	11 kJ/m ²	ISO 179/1eA



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简支梁缺口冲击强度, -30°C	6 kJ/m ²	ISO 179/1eA
Poisson's ratio	0.35 -	

热性能

熔融温度, 10°C/min	225 °C	ISO 11357-1/-3
玻璃化转变温度, 10°C/min	65 °C	ISO 11357-1/-2
热变形温度, 1.80 MPa	200 °C	ISO 75-1/-2
热变形温度, 0.45 MPa	220 °C	ISO 75-1/-2
温度指数, 拉伸强度	152 °C	IEC 60216-1
温度指数, 拉伸强度	186 °C	IEC 60216-1

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
燃烧性 - 氧指数	20 %	ISO 4589-1/-2
灼热丝燃烧指数, 0.75mm	750 °C	IEC 60695-2-12
灼热丝燃烧指数, 1mm	775 °C	IEC 60695-2-12
灼热丝燃烧指数, 1.5mm	750 °C	IEC 60695-2-12
灼热丝燃烧指数, 3mm	775 °C	IEC 60695-2-12
灼热丝起燃温度, 0.75mm	775 °C	IEC 60695-2-13
灼热丝起燃温度, 1mm	800 °C	IEC 60695-2-13
灼热丝起燃温度, 1.5mm	775 °C	IEC 60695-2-13
灼热丝起燃温度, 3mm	800 °C	IEC 60695-2-13
FMVSS Class	B -	ISO 3795 (FMVSS 302)
燃烧速率, 厚度: 1毫米	32 mm/min	ISO 3795 (FMVSS 302)

电性能

介质损耗因子, 100Hz	100 E-4	IEC 62631-2-1
介质损耗因子, 1MHz	100 E-4	IEC 62631-2-1
体积电阻率	>1E13 Ohm.m	IEC 62631-3-1
表面电阻率	3E13 Ohm	IEC 62631-3-2
介电强度	35 kV/mm	IEC 60243-1
相对漏电起痕指数	575 ^[1] -	IEC 60112

[1]: PTI = 550V

其它性能

吸湿性, 2mm	0.15 %	类似ISO 62
吸水性, 2mm	0.4 %	类似ISO 62
密度	1380 kg/m ³	ISO 1183
熔体密度	1140 kg/m ³	

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VDA性能

气候稳定delta I	-5.5	DIN 53236
气候稳定delta a	-0.2	DIN 53236
气候稳定delta b	-2.2	DIN 53236
气候稳定delta E	6	DIN 53236
气候稳定灰阶	2-3	ISO 105-A02

注塑

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	80 °C
模具温度	30 °C
模具温度	130 °C
保压范围	≥ 60 MPa
保压时间	3 s/mm
背压	As low as possible MPa
喷射温度	170 °C

典型数据

添加剂 脱模助剂

成型

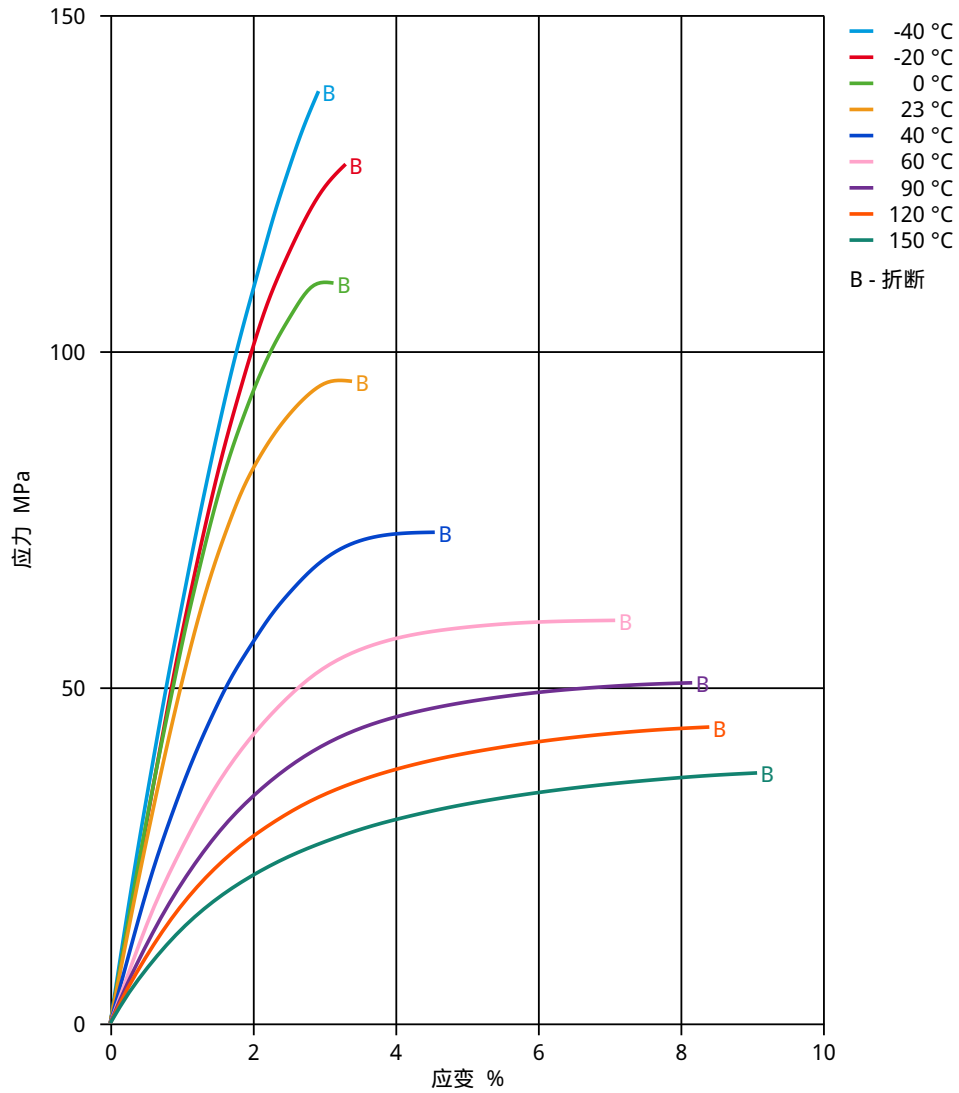
注塑

Use of hot-runners is possible with Crastin® HR resins. However we do not recommend temperature settings above 270°C and residence times at 265°C should be below 10 minutes. In case of longer residence times using hot-runners, for example after a shut-down, the complete system must be purged with glass reinforced Crastin® (type SK602/605) before starting up again. For successful processing of Crastin® HR with hot-runners, care should be taken to maintain a uniform temperature, avoid hot-spots and long residence times.

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THERMOPLASTIC POLYESTER RESIN

应力 - 应变.

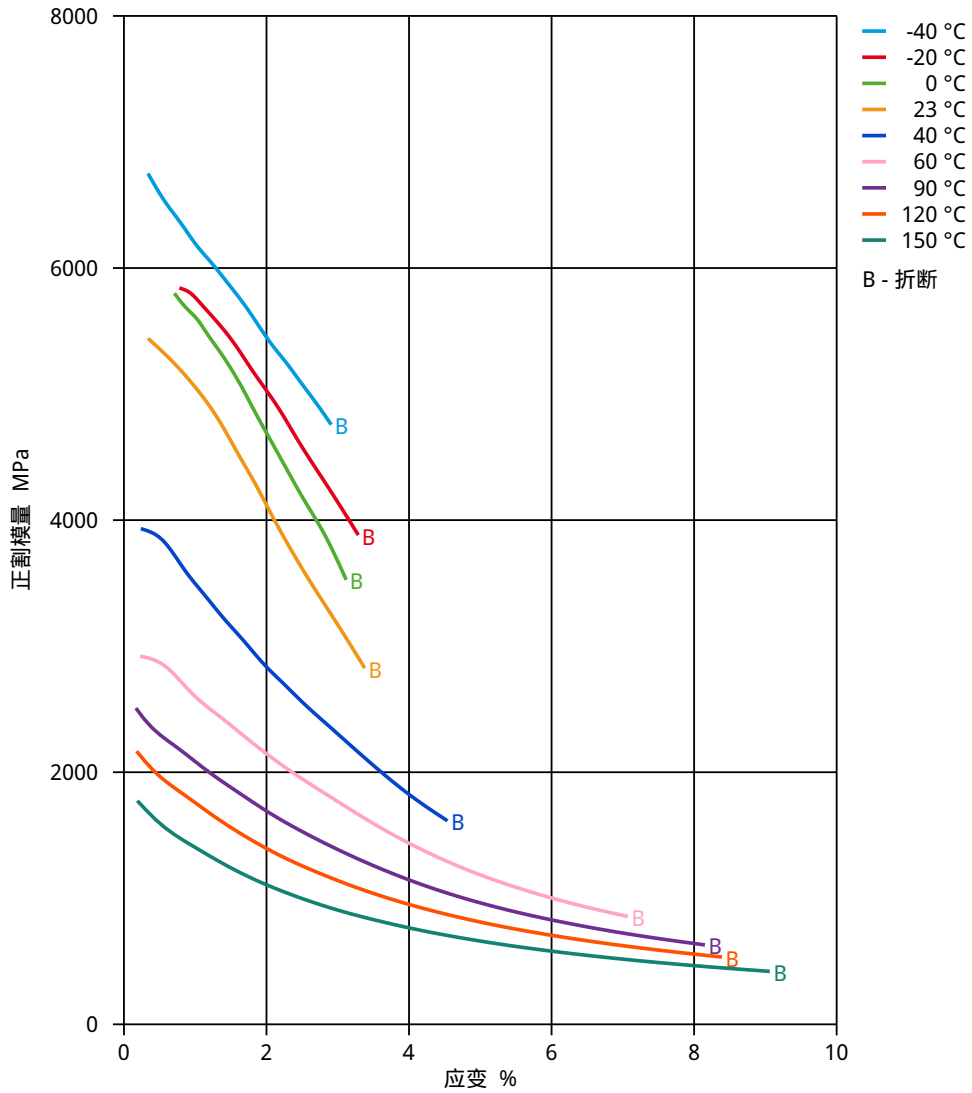




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正割模量 - 应变.

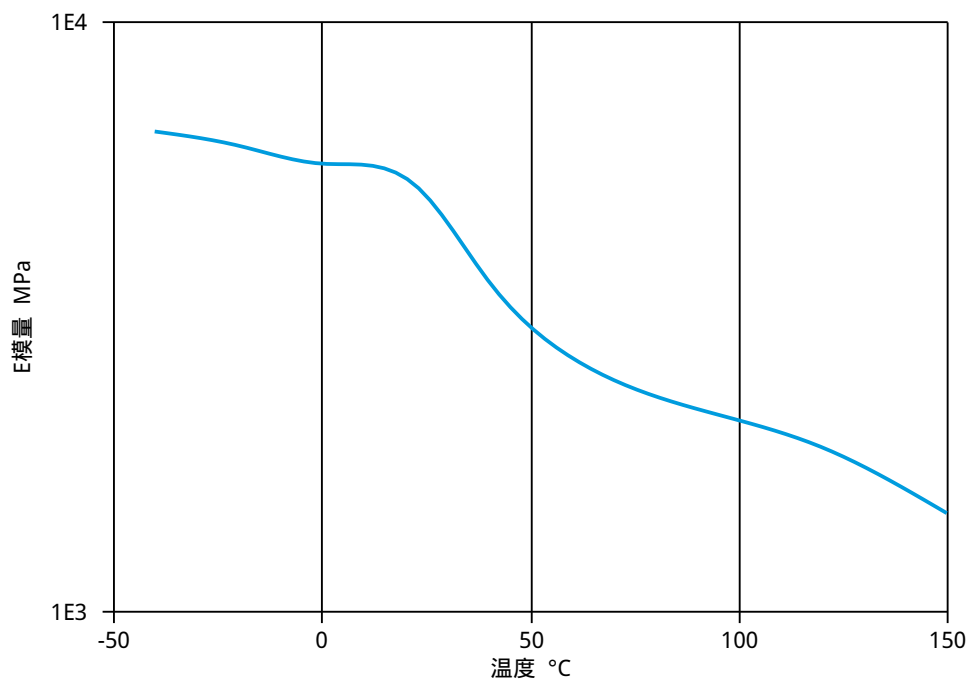




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THERMOPLASTIC POLYESTER RESIN

拉伸模量 - 温度



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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
- ✓ 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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