



技術資料表
Technical Data Sheet

BIRTYPE

可見光遮蔽，紅外線穿透用料

Visible light shielding, infrared penetrating materials

樹脂 Resin PC Polycarbonate

規格 Grade BIR5Z-A75 BIR5Z-A70 BIR6Z-A8 BIR6Z-C9 BIR6Z-D4

來源 source 上禾伸企業

描述 Description

■紅外線穿透塑膠特性：應用於紅外線鏡、紅外線攝影機、焊接護目，紅外線的熱能、光能調節等，此可見光吸收 PC 塑料，黑色透光內帶有紅色視覺，塑料的特性在於在可見光範圍內不可透視，但能穿透 625-1600nm 以上波長的近紅外線區域。

Infrared penetrating plastic characteristics: used in infrared mirrors, infrared cameras, welding goggles, infrared thermal energy, light energy adjustment, etc. This visible light absorbs PC plastics, and the black light transmittance has red vision. The characteristics of plastics are in the range of visible light. It cannot see through, but it can penetrate the near-infrared region with wavelengths above 625-1600nm.

■紅外線透過率根據部件的厚度、工作波段和顏色要求，可以從 80%至 93%不等。

The infrared transmittance can vary from 80% to 93% according to the thickness of the part, the working band and the color requirements.

■良好的尺寸安定性，射出成型後，尺寸安定比較不易變形。

Good dimensional stability, after injection molding, the dimensional stability is less likely to deform.

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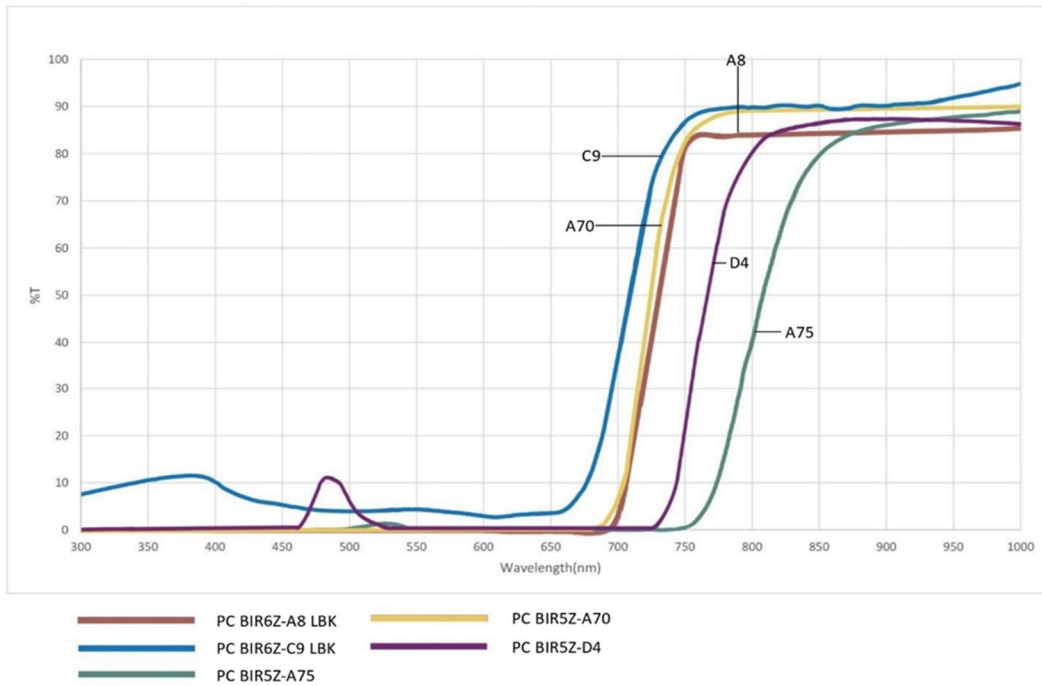
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■具有優秀的衝擊性，與極佳的耐熱溫度，HDT120°C 以上。

Has excellent impact resistance, and excellent heat resistance temperature, HDT120°C

成型模式 射出成型 押出成型

Forming mode Injection Molding Extrusion Molding



特性 Properties

BIR 紅外線用料規格	BIR5Z-A75	BIR5Z-A70	BIR6Z-A8	BIR6Z-C9	BIR6Z-D4
項目 Project	標準數值				
單位 Unit / 測試標準 Testing standards	Typical Value				
紅外光透過率 Infrared light transmittance (800~1100nm) % / thickness	≥80 / 1mm	≥80 / 1mm	≥80 / 2mm	≥80 / 2mm	≥80 / 1.5mm
可見光透過率 Visible light transmittance (400~700nm) % / thickness	<1 / 1mm	<1 / 1mm	<1 / 2mm	<10 / 2mm	<1 / 1.5mm
比重 Specific Gravity g/cm ³ / ASTM D792	1.2	1.2	1.2	1.2	1.2
流動指數 MFR,(MI) 300×1.2KG g/10min / ASTM D1238	20	20	10	22	18
收縮率-平行 Mold Shrinkage MD	0.5	0.5	0.5	0.5	0.5
收縮率-垂直 ⊥ Mold Shrinkage TD % / 3 mm t	-0.7	-0.7	-0.7	-0.7	-0.7
戶外使用評估 UV, water exposure or immersion	F1	F1	F1	F1	F1
耐燃性 Flammability	V2	V2	V2	V2	V2

DATE : 2022



顏色 Color	黑色 紅外光通過 Black infrared light passes through	黑色 紅外光通過 Black infrared light passes through	黑色 紅外光通過 Black infrared light passes through	黑色 紅外光通過 Black infrared light passes through	黑色 紅外光通過 Black infrared light passes through
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機械特性 Mechanical properties

伸張降伏強度 Tensile Strength at Yield kg/ cm ² / ASTM D638	720	720	650	630	680
斷裂伸張率 Tensile Elongation at Break % / ASTM D638	85	85	90	85	100
彎曲強度 Flexural Strength kg/ cm ² / ASTM D790	950	950	900	850	990
彎曲模數 Flexural Modulus kg/ cm ² / ASTM D790	23000	23000	23500	23000	23400
衝擊強度(缺口式)IZOD Impact (notched) 23°C kg-cm/cm / ASTM D256	70	70	70	60	68

熱力特性 Heat properties

熱變型溫度 18.54kg/ cm ² H D T °C / ASTM D648	128	128	125	125	129
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成型條件 Molding conditions

烘乾溫度 Drying temp. °C	120	烘乾時間 Drying time H	4-8
進料區溫度 Feed zone temp. °C	250~280	壓縮區溫度 Compression zone temp. °C	260~300
計量區溫度 Metering zone temp. °C	265~300	噴嘴溫度 Nozzle temp. °C	265~300
模具溫度 Mold temp. °C	70~100	射出壓力 Injection pressure Kg/ cm ²	**

*雖然上述信息是出於善意並被認為是準確的，但我們不保證依賴此類信息取得令人滿意的結果，並且不承擔因使用此類信息而引起的任何損失或損害的全部責任。*以上數值係僅供選擇用途品級之參考。

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