



## 恆祥龍®工程塑膠 物性表

### Technical Properties of HiShiRon® Engineering Plastics

性質	Characteristic	方法 Method of verification	單位 Unit	超高分子量 聚乙烯 UHMW PE
<b>I. 物理特性</b>		<b>I. Physical Properties</b>		
比重	Density	ISO 1183	g/cm <sup>3</sup>	0.93
吸水率 (飽和)	Water absorption	ISO 62	%	0.01
<b>II. 機械特性</b>		<b>II. Mechanical Properties</b>		
降伏點拉力強度	Tensile strength at yield	ISO 527-2	MPa	17
斷裂拉力強度	Tensile strength at break	ISO 527-2	MPa	40
斷裂伸長率	Elongation at break	ISO 527-2	%	≥ 50
彈性模數—拉力試驗後	Modulus of elasticity after tensile test	ISO 527-2	MPa	650
彈性模數—彎曲試驗後	Modulus of elasticity after flexural test	ISO 178	MPa	800
硬度—洛氏	Hardness - Rockwell	ISO 2039-2		-
硬度—薛氏D	Hardness - Shore D	DIN 53505		61
衝擊強度	Charpy impact strength at 23°C	ISO 179	kJ/m <sup>2</sup>	N. B.
磨擦係數	Friction coefficient	DIN 53375		0.25
<b>III. 熱特性</b>		<b>III. Thermal Properties</b>		
熱變形溫度—HDT/A	Heat deflection temperature - HDT/A	ISO 75-2	°C	42
最高使用溫度—短時間	Max. service temperature - Short term		°C	120
最高使用溫度—長期	Max. Service Temperature - Long term		°C	90
熱傳導係數	Thermal conductivity at 23 °C	DIN 11359	W/(K*m)	0.42
線性熱膨脹係數	Coefficient of linear thermal expansion	ISO 11359	10 <sup>-4</sup> * K <sup>-1</sup>	2.00
<b>IV. 電氣特性</b>		<b>IV. Electrical Properties</b>		
介電常數	Dielectric constant at 1 MHz	IEC 60250	10 <sup>6</sup> Hz	3.00
介電損失係數	Dielectric loss factor at 1 MHz	IEC 60250	10 <sup>6</sup> Hz	0.0001
體積阻抗	Volume resistivity	IEC 60093	Ohm (Ω) * cm	> 10 <sup>14</sup>
表面阻抗	Surface resistivity	IEC 60093	Ohm (Ω)	> 10 <sup>11</sup>
介電強度	Dielectric strength	IEC 60243-1	kV/mm	45
<b>V. 其他參考數據</b>		<b>V. Miscellaneous Data</b>		
燃燒能力	Flammability	UL 94	Class	HB

NOTE: 1 g/cm<sup>3</sup> = 1,000 kg/m<sup>3</sup>, 1 Mpa = 1 N/mm<sup>2</sup>, 1kV/mm = 1 MV/m

#### 聲明 / Statement :

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They are as HiShiRon® products and possible application.

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