



## 技術資料表 Technical Data Sheet

### FCTYPE

添加複合 30%碳纖，高剛性、耐熱，耐磨，永久抗靜電、靜電消散、低導電規格

Add 30% carbon fiber composite, high rigidity, heat resistance, wear resistance, permanent antistatic, static dissipation, low conductivity specifications

樹酯 Resin PA12 Polyamide12

規格 Grade FC16-B3 BK

來源 source 上禾伸企業

### 描述 Description

Nylon 12 (Polyamide 12, 尼龍 12) · 為熱可塑性半結晶型塑膠。與其他熱可塑性塑膠相比，在強度、延展性、耐磨性及耐熱性上提供了卓越的平衡，並有很好的流動性及寬廣的加工成型範圍，使其成為最普遍被使用的工程塑膠之一。Nylon 12 的吸濕性低於 Nylon 6/6、Nylon 6、Nylon 6/10，使其不同的環境濕度下可維持良好的尺寸安定性，並在低溫環境有卓越的韌性及耐衝擊性。其他優點如耐化學性佳、低比重、高改質複合性。

Nylon 12 (Polyamide 12, nylon 12) is a thermoplastic semi-crystalline plastic. Compared with other thermoplastic plastics, it provides an excellent balance in strength, ductility, wear resistance and heat resistance, and has good fluidity and a wide range of processing and molding, making it one of the most commonly used engineering plastics. The hygroscopicity of Nylon 12 is lower than that of Nylon 6/6, Nylon 6, and Nylon 6/10, which allows it to maintain good dimensional stability under different environmental humidity and has excellent toughness and impact resistance in low temperature environments. Other advantages include good chemical resistance, low specific gravity, and high modified composite properties.

■添加 30%CF 碳纖複合，高剛性強化、耐熱強化，耐磨、耐磨耗。低收縮、尺寸安定性高，永久抗靜電、靜電消散，低導電。

Add 30% CF carbon fiber composite, high rigidity reinforcement, heat resistance reinforcement, wear resistance, abrasion resistance. Low shrinkage, high dimensional stability, permanent antistatic, static dissipation, low conductivity.

■Nylon 12 低吸濕的特性，成型後，自然環境中放置吸濕後，相關物性變化小，維持一定的物性水準。

Nylon 12 has the property of low moisture absorption. After molding, after being placed in the natural environment to absorb moisture, the related physical properties change little and maintain a certain level of physical properties.

### 成型模式

### Forming mode

射出成型

Injection Molding

## 特性 Properties

| 項目<br>Project               | 測試標準<br>Testing standards | 單位<br>Unit        | 標準數值<br>Typical Value |
|-----------------------------|---------------------------|-------------------|-----------------------|
| 填充劑含量 Filler Content        |                           | %                 | 30                    |
| 比重 Specific Gravity         | ASTM D792                 | g/cm <sup>3</sup> | 1.18                  |
| 流動指數 MFR,(MI) 220×2.16KG    | ASTM D1238                | g/10min           | 15                    |
| 收縮率-平行    Mold Shrinkage MD | 3 mm t                    | %                 | 0.2                   |
| 收縮率-垂直 ⊥ Mold Shrinkage TD  |                           |                   | ~0.4                  |
| 耐燃性 Flammability            | UL-94                     |                   | HB                    |
| 顏色 Color                    |                           |                   | Black color           |

## 機械特性 Mechanical properties

|                                   |                 |                     |       |
|-----------------------------------|-----------------|---------------------|-------|
| 伸張降伏強度 Tensile Strength at Yield  |                 | kg/ cm <sup>2</sup> | 1400  |
| 伸張斷裂強度 Tensile Strength at Break  | ASTM D638       |                     | 1000  |
| 斷裂伸張率 Tensile Elongation at Break |                 | %                   | 5     |
| 彎曲強度 Flexural Strength            | ASTM D790       | kg/ cm <sup>2</sup> | 2150  |
| 彎曲模數 Flexural Modulus             |                 |                     | 92500 |
| 衝擊強度(缺口式)IZOD Impact (notched)    | ASTM D256       | 23°C kg-cm/cm       | 20    |
| 硬度 Rockwell/Shore Hardness        | ASTM D785/D2240 | D                   | 77    |

## 熱力特性 Heat properties

|                                   |           |    |     |
|-----------------------------------|-----------|----|-----|
| 熱變型溫度 18.54kg/ cm <sup>2</sup>    |           |    | 160 |
| Heat distortion temperature H D T | ASTM D648 | °C |     |
| 熱變型溫度 4.6kg/ cm <sup>2</sup>      |           |    | 170 |
| Heat distortion temperature H D T |           |    |     |
| 熔融溫度 Melting temperature          | DSC       |    | 175 |

## 電氣特性 Electrical properties

|                                  |           |      |                   |
|----------------------------------|-----------|------|-------------------|
| 體積固有阻抗 Volume inherent impedance | ASTM D257 | Ω-cm | 10 <sup>3-4</sup> |
| 表面阻抗 Surface resistivity         |           | Ω    | 10 <sup>3-4</sup> |

塑料狀態 plastic state 乾燥 dry

## 成型條件 Molding conditions

|                              |         |                                             |         |
|------------------------------|---------|---------------------------------------------|---------|
| 烘乾溫度 Drying temp. °C         | 80~100  | 烘乾時間 Drying time H                          | 4       |
| 進料區溫度 Feed zone temp. °C     | 195~210 | 壓縮區溫度 Compression zone temp. °C             | 195~215 |
| 計量區溫度 Metering zone temp. °C | 200~220 | 噴嘴溫度 Nozzle temp. °C                        | 200~230 |
| 模具溫度 Mold temp. °C           | 60~100  | 射出壓力 Injection pressure Kg/ cm <sup>2</sup> | 300~700 |

\*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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