



## 技術資料表 Technical Data Sheet

### E7WETYPE

PA66/TPEE 合金塑料，抗撞擊性、耐衝性能佳，低溫狀態穩定，超高延伸率，動態使用耐疲勞性佳，低吸濕性，良好加工性

PA66/TPEE alloy plastic offers excellent impact resistance and shock resistance, low-temperature stability, ultra-high elongation, good dynamic fatigue resistance, low moisture absorption, and good processability.

|           |                                          |
|-----------|------------------------------------------|
| 樹酯 Resin  | PA66/TPEE PA66/TPEE alloy                |
| 規格 Grade  | E7W75E-A1                                |
| 來源 Source | 上禾伸企業 SHANG HE SHEN ENTERPRISE CO., Ltd. |

#### 描述 Description

PA66/TPEE 合金，PA66 塑料的高剛性、高耐熱與熱塑性聚酯彈性體 TPEE 的高彈性、耐衝擊性、低溫穩定性結合的高分子合金。PA66/TPEE 合金能改善純 PA66 過於剛脆、低溫韌性不足、吸濕率過高不穩定的缺點，同時保有高耐衝、低溫耐寒穩定性，低溫維持高的延伸率性能，與良好的加工性。

PA66/TPEE alloy is a polymer alloy that combines the high rigidity and heat resistance of PA66 plastic with the high elasticity, impact resistance, and low-temperature stability of thermoplastic polyester elastomer TPEE.

The PA66/TPEE alloy improves upon the shortcomings of pure PA66, such as excessive rigidity and brittleness, insufficient low-temperature toughness, and high moisture absorption, while maintaining high impact resistance, low-temperature stability, high elongation at low temperatures, and good processability.

■耐熱性佳，維持 PA66 塑料的耐高溫特性，適合嚴苛、複雜環境運作的產品。抗撞擊性、耐衝性能佳，低溫狀態穩定，超高延伸率，常溫、低溫循環穩定性佳。

It exhibits excellent heat resistance, maintaining the high-temperature resistance of PA66 plastic, making it suitable for products operating in harsh and complex environments. It also boasts excellent impact resistance and shock resistance, low-temperature stability, ultra-high elongation, and excellent cycling stability at both room and low temperatures.

■兼具剛與柔，PA66 塑料優異的機械強度，同時引入 TPEE 塑料彈性體的撓曲優勢。且耐磨與耐疲勞，具備良好的抗反覆彎折能力與耐磨耗特性。

Combining rigidity and flexibility, PA66 plastic boasts excellent mechanical strength while incorporating the flexural advantages of TPEE plastic elastomers. It is also wear-resistant and fatigue-resistant, exhibiting good resistance to repeated bending and abrasion.

■吸濕率低，尺寸穩定性佳。優秀的流動性 Mi，容易加工。

It has low moisture absorption and excellent dimensional stability. It also exhibits excellent flowability (Mi) and is easy to process.

**應用 Application**

- ◆工業零件：需要承受動態疲勞、高剛性兼具韌性的機械齒輪或軸承。

Industrial parts: mechanical gears or bearings that need to withstand dynamic fatigue, possess high rigidity, and have toughness.

- ◆運動與消費品：高性能鞋材組件、運動器材結構件。

Sports and consumer products: high-performance footwear components and sports equipment structural parts.

- ◆汽車工業：引擎周邊扣件、耐震管道、結構保護套與高頻率受力卡扣。

Automotive industry: Engine peripheral fasteners, vibration-resistant pipes, structural protective sleeves, and high-frequency stress clips.

- ◆可替代硬度較高之 TPEE 塑料規格或是 PA12 塑料。

It can replace TPEE plastic or PA12 plastic, which have higher hardness.

**成型模式**

射出成型

**Forming mode**

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 |
|-----------------------------|---------------------------|-------------------|-----------------------|
| 比重 Specific Gravity         | ASTM D792                 | g/cm <sup>3</sup> | 1.43                  |
| 流動指數 MFR,(MI) 260×2.16KG    | ASTM D1238                | g/10min           | 28                    |
| 流動指數 MFR,(MI) 275×5KG       |                           |                   | 50                    |
| 收縮率-平行    Mold Shrinkage MD | 3 mm t                    | %                 | 1.4                   |
| 收縮率-垂直 ⊥ Mold Shrinkage TD  |                           |                   | ~1.8                  |
| 耐燃性 Flammability            | UL-94                     |                   | HB                    |
| 顏色 Color                    |                           |                   | natural color         |

**機械特性 Mechanical properties**

|                                   |                 |                     |       |
|-----------------------------------|-----------------|---------------------|-------|
| 伸張降伏強度 Tensile Strength at Yield  | ASTM D638       | kg/ cm <sup>2</sup> | 350   |
| 伸張斷裂強度 Tensile Strength at Break  |                 |                     | 260   |
| 拉伸模數 Tensile Modulus              |                 |                     | 13500 |
| 斷裂伸張率 Tensile Elongation at Break |                 |                     | 125   |
| 彎曲強度 Flexural Strength            | ASTM D790       | kg/ cm <sup>2</sup> | 450   |
| 彎曲模數 Flexural Modulus             |                 |                     | 11500 |
| 衝擊強度(缺口式)IZOD Impact (notched)    | ASTM D256       | 23°C kg-cm/cm       | 12    |
| 硬度 Rockwell/Shore Hardness        | ASTM D785/D2240 | D                   | 63    |

**熱力特性 Heat properties**

|                                   |           |    |        |
|-----------------------------------|-----------|----|--------|
| 熱變型溫度 18.54kg/ cm <sup>2</sup>    | ASTM D648 | °C | 60     |
| Heat distortion temperature H D T |           |    |        |
| 熱變型溫度 4.6kg/ cm <sup>2</sup>      |           |    | 95     |
| Heat distortion temperature H D T | DSC       |    | 255    |
| 熔融溫度 Melting temperature          |           |    |        |
| 塑料狀態 plastic state                |           |    | 乾燥 dry |



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### 建議成型條件 Recommended molding conditions

|                              |         |                                             |         |
|------------------------------|---------|---------------------------------------------|---------|
| 烘乾溫度 Drying temp. °C         | 80~100  | 烘乾時間 Drying time H                          | 2~4     |
| 進料區溫度 Feed zone temp. °C     | 245~265 | 壓縮區溫度 Compression zone temp. °C             | 255~275 |
| 計量區溫度 Metering zone temp. °C | 260~285 | 噴嘴溫度 Nozzle temp. °C                        | 265~290 |
| 模具溫度 Mold temp. °C           | 60~80   | 射出壓力 Injection pressure Kg/ cm <sup>2</sup> | 300~600 |

\*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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