



技術資料表 Technical Data Sheet

1WSWNCTYPE

聚酯類，耐磨耗，抗重壓、低導電級

Polyester, wear-resistant, heavy-pressure resistant, low conductivity level

樹脂 Resin **TPU 聚酯類** Thermoplastic Polyurethane polyester
規格 Grade 1WSWNC191D-F2 BK
來源 source 上禾伸企業

描述 Description

- 添加環保耐磨添加劑，耐磨耗效能超高。
Adding environmentally friendly wear-resistant additives, the wear resistance is extremely high.
- 優良的反撥彈性、抗撕裂佳。抗水解優，抗候性佳。
Excellent kickback elasticity and tear resistance. Excellent resistance to hydrolysis and weather resistance.
- 添加奈米碳管，抗靜電、靜電消散，低導電。
Added carbon nanotubes, anti-static, static dissipation, and low conductivity.
- 抗張強度及斷裂延伸率大，優秀彎曲強度。
High tensile strength and elongation at break, excellent flexural strength.
- 可耐低溫-35~-50℃。
Can withstand low temperature -35~-50℃.
- 耐油、耐潤滑油及耐脂肪族碳氫有機溶劑。
Oil resistance, lubricating oil resistance and aliphatic hydrocarbon organic solvent resistance.
- 具抗氧、臭氧及耐老化之特性。
With anti-oxidation, ozone and anti-aging properties.
- 可和 PC、PC/ABS 雙次射出黏合。
It can be bonded with PC and PC/ABS by double injection.
- 是綠色環保塑料，對環境非常友善，可短期內，在自然環中分解，低汙染。
It is a green and environmentally friendly plastic, which is very friendly to the environment. It can be decomposed in the natural environment in a short period of time and has low pollution.

應用 application

墊片、軸襯、管件、電線電纜、運動鞋底、運動器材以及機械零件等。
Gaskets, bushings, rubbers, films, pipes, wires and cables, sports shoe soles, sports equipment and mechanical parts, etc.

成型模式 射出成型 押出成型
Forming mode Injection Molding Extrusion Molding

特性 Properties

項目 Project	單位 Unit	測試標準 Testing standards	標準數值 Typical Value
硬度 Rockwell Hardness	Shore D	ASTM D-2240	62 ±2
比重 Specific Gravity	g/cm ³	ASTM D-792	1.29

機械特性 Mechanical properties

伸張降伏強度 Tensile Strength at Yield			220
伸張斷裂強度 Tensile Strength at Break	kg/cm ²	ASTM D638	120
拉伸模數 Tensile Modulus			8400
斷裂伸張率 Tensile Elongation at Break	%		60
彎曲強度 Flexural Strength	kg/cm ²	ASTM D790	190
彎曲模數 Flexural Modulus			3900
衝擊強度(缺口式)IZOD Impact (notched)	23°C kg-cm/cm	ASTM D256	16

熱力特性 Heat properties

熱變型溫度 4.6kg/cm ² H D T	°C	ASTM D648	62
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電氣特性 Electrical properties

體積固有阻抗 Volume inherent impedance	Ω-cm	ASTM D257	10 ⁴⁻⁷
表面阻抗 Surface resistivity	Ω		10 ⁴⁻⁷

射出成型條件 Injection molding conditions

烘乾溫度 Drying temp. °C	95	烘乾時間 Drying time H	3-5
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■TPU 塑料具有吸濕性，樹脂的預乾燥始終是加工前的必要步驟。依氣候，暴露在大氣中的顆粒會很快吸收水分。水分可能會導致聚合物的裂解，以及在模製和擠出部件中形成氣泡或條紋。為了確保高效和成功加工成優質部件，請參考建議烘乾溫度及時間。

TPU resin has hygroscopicity, and pre-drying of TPU resin is always a necessary step before processing. Relying on the climate, particles exposed to the atmosphere will quickly absorb moisture. Moisture may cause partial degradation of the polymer and formation of air bubbles or streaks in molded and extruded parts. In order to ensure efficient and successful processing into high quality parts, please refer to the recommended drying temperature and time.

進料區溫度 Feed zone temp. °C	175~190	壓縮區溫度 Compression zone temp. °C	175~195
計量區溫度 Metering zone temp. °C	175~195	噴嘴溫度 Nozzle temp. °C	185~200

■TPU 塑料成型溫度以低標為設定基準試做，逐步以 5°C 升高成型溫度，直到適合成型溫度即可，否則溫度過高，產品容易產生變色、過火熱烈解。

The molding temperature is tested by setting the low standard as a reference, and gradually increasing the molding temperature by 5°C until it is suitable for the molding temperature. Otherwise, the temperature is too high, and the product is prone to discoloration and overheating.

供應與儲存 Supply and Storage

■塑料以顆粒形式提供，包裝在 25kg 防潮袋中。

The plastic is supplied in pellet form, packaged in a 25kg moisture-proof bag.

■所有塑料在包裝前都已經乾燥。

All plastics are dried before packaging.

■塑料應儲存在陰涼乾燥的環境中，直到使用前為止。



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Plastic should be stored in a cool, dry environment until just before use.

- 塑料儲存溫度不應超過 30°C。如果僅從袋中使用一部分 TPU 樹脂，則其餘 TPU 樹脂應該緊密封閉。

Plastic storage temperature should not exceed 30°C. If only a portion of the TPU resin is used from the bag, the rest of the TPU resin should seal tightly.

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