



技術資料表
Technical Data Sheet

AAT5TYPE

全效抗菌防黴防病毒級

Full-effect antibacterial, anti-mildew, anti-virus grade

樹脂 Resin PP Polypropylene Homopolymer

規格 Grade AAT5A-G3

來源 source 上禾伸企業

描述 Description

PP 塑料與無機銀添加劑複合改質，賦予產品優秀全面性的抗菌、防黴、防病毒性能，良好的耐熱性，無機銀添加劑熱裂解溫度達 $>450^{\circ}\text{C}$ ，適合用於高溫加工製程的產品。抗菌、防黴、防病毒效能會在塑料形成，抗菌表面防護，長時效性。

The composite modification of PP plastic and inorganic silver additives endows the product with excellent and comprehensive antibacterial, anti-mildew, anti-virus properties, good heat resistance, and the pyrolysis temperature of inorganic silver additives can reach $>450^{\circ}\text{C}$, which is suitable for products used in high-temperature processing processes. Antibacterial, anti-mildew, and anti-virus effects will be formed on the plastic, antibacterial surface protection, and long-lasting

無機銀抗菌防黴防病毒添加劑特點

Characteristics of inorganic silver antibacterial, mildew and antiviral additives :

- 無機銀全面抗菌、抗菌持久性在常溫濕度下可達5年。

Inorganic silver is fully antibacterial, and the antibacterial persistence can reach 5 years under normal temperature and humidity.

- 無機銀具有歐、美、日國際認證，無毒性可接觸食物。

Inorganic silver has European, American and Japanese international certification, non-toxic and can contact food.

- 無機銀可耐熱 $>450^{\circ}\text{C}$ ，抗菌劑不揮發，抗菌效果非常持久。

Inorganic silver can withstand heat $>450^{\circ}\text{C}$, the antibacterial agent is not volatile, and the antibacterial effect is very long-lasting.

- 無機銀之銀離子帶有正電荷，細菌的細胞壁帶有負電荷，銀會吸附於細菌的細胞壁，造成正負電不平衡，讓細菌產生破裂死亡。

The silver ion of inorganic silver has a positive charge, and the cell wall of the bacteria has a negative charge. The silver will be adsorbed on the cell wall of the bacteria, resulting in uneven positive and negative charges, causing the bacteria to rupture and die.

- 無機銀抗釋出銀離子滲透進入細菌細胞內部，並破壞細胞內結構（線粒體，液泡，核糖體），和生物分子（蛋白質，脂質和DNA）。

Inorganic silver resists the release of silver ions that penetrate into the interior of bacterial cells and damage intracellular

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structures (mitochondria, vacuoles, ribosomes), and biomolecules (proteins, lipids, and DNA).

■無機銀釋出的銀離子對病毒有很強的吸附和固定作用，可以與病毒表面某些蛋白質結合，影響病毒與細胞受體的相互作用，從而阻礙病毒與宿主細胞的結合，防止病毒侵入細胞。

The silver ions released by inorganic silver have a strong adsorption and immobilization effect on viruses, and can bind to certain proteins on the surface of viruses, affecting the interaction between viruses and cell receptors, thereby hindering the combination of viruses and host cells and preventing viruses from invading cells

■無機銀釋出的銀離子可與病毒核酸結合，使病毒去氧核糖核酸(DNA)或核糖核酸(RNA)的結構改變，影響病毒的複製和繁殖，使病毒失去活性。

The silver ions released by inorganic silver can combine with viral nucleic acid to change the structure of viral deoxyribonucleic acid (DNA) or ribonucleic acid (RNA), affect the replication and reproduction of the virus, and inactivate the virus.

■無機銀不會產生抗藥性，也對於抗藥性細菌有抑制效果。

Inorganic silver does not produce drug resistance, and also has an inhibitory effect on drug-resistant bacteria.

■無機銀經過洗滌或擦拭，依然可以保持良好的抗菌效果。

Inorganic silver can still maintain good antibacterial effect after washing or wiping.

成型模式

Forming mode

射出成型

Injection Molding

特性 Properties

項目 Project	單位 Unit	測試標準 Testing standards	標準數值 Typical Value
比重 Specific Gravity	g/cm ³	ASTM D792	0.91
流動指數 MFR,(MI) 230×2.16KG	g/10min	ASTM D1238	16
收縮率-平行 Mold Shrinkage MD	%	3 mm t	1.3
收縮率-垂直 ⊥ Mold Shrinkage TD			1.7
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			350
伸張斷裂強度 Tensile Strength at Break	kg/ cm ²	ASTM D638	250
拉伸彈性係數 Tensile Modulus			15000
斷裂伸張率 Tensile Elongation at Break	%		120
彎曲強度 Flexural Strength	kg/ cm ²	ASTM D790	520
彎曲模數 Flexural Modulus			14000
衝擊強度(缺口式)IZOD Impact (notched)	23°C kg-cm/cm	ASTM D256	2.5
硬度 Rockwell/Shore Hardness	R	ASTM D785	100

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熱力特性 Heat properties

熱變型溫度 18.54kg/ cm ² H D T			95
熱變型溫度 4.6kg/ cm ² H D T	°C	ASTM D648	110

成型條件 Molding conditions

烘乾溫度 Drying temp. °C	80	烘乾時間 Drying time H	1~2
進料區溫度 Feed zone temp. °C	210~225	壓縮區溫度 Compression zone temp. °C	220~235
計量區溫度 Metering zone temp. °C	225~245	噴嘴溫度 Nozzle temp. °C	225~255
模具溫度 Mold temp. °C	50	射出壓力 Injection pressure Kg/ cm ²	120~200

*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。*以上數值僅供選擇用途品級之參考。

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