



**KWOLIN**  
國麗實業



# **ANTISTATIC POWDER COATING**

**抗靜電粉末塗料**

ISO 9001 & ISO 14001

第二版



The application areas for antistatic powder coatings include:  
抗靜電粉末塗料的應用領域包括：



● Electronic Products  
電子產品



● Industrial Devices  
工業設備



● Automotive / Aviation  
汽車和航空



● Medical Equipment  
醫療設備



● Military / Protective Equipment  
軍事和防護設備

## KWOLIN ANTISTATIC POWDER COATINGS OFFER THE FOLLOWING ADVANTAGES

- Excellent antistatic characteristics: Can maintain stable antistatic performance in industrial applications over the long term without dissipating due to wear.
- Environmentally friendly: The antistatic powder coatings do not contain organic solvents and pose issues with volatile organic compounds (VOCs). They reduce carbon emissions and meet environmental requirements.
- Excellent protection: Antistatic powder coatings form a uniform and hardened layer on the surface of objects through electrostatic spraying and high-temperature baking, providing scratch resistance, impact resistance, and corrosion resistance.

We can provide a small quantity of stocked black (RAL9005) and light gray (RAL7035) powder samples for you to confirm the effect. Additionally, we can customize designs based on your requirements for color, pattern, gloss, and different resin systems while imparting antistatic properties.

### 國麗抗靜電粉末塗料具有以下優勢

- 優異的抗靜電特性：工業應用中能夠長期穩定地保持抗靜電性能，不因磨耗而消散。
- 環保無污染：不含有機溶劑，無揮發性有機化合物(VOCs)的問題，降低碳排放量，符合環保要求。
- 保護性優良：通過靜電噴塗及高溫烘烤，在物品表面形成均勻的硬化塗層，具備耐刮磨、耐衝擊、抗腐蝕的性能。

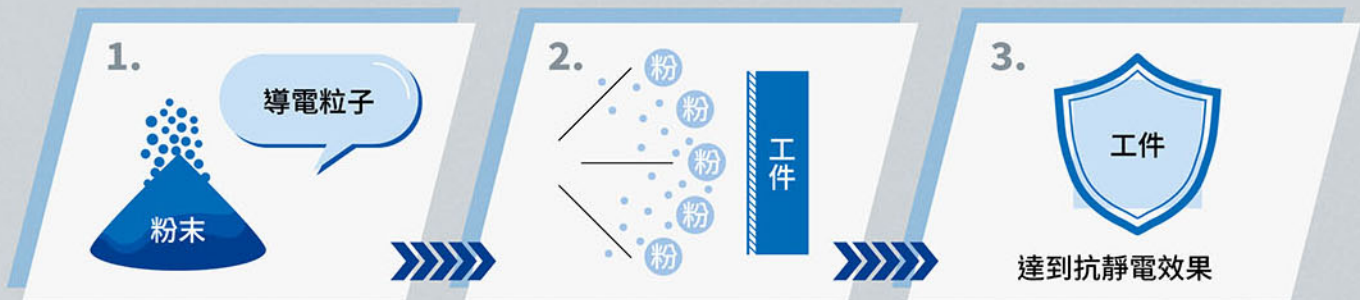
我們可提供少量在庫品黑色(RAL9005)及淺灰色(RAL7035)樣粉供您確認效果，亦可根據您所需求的顏色、花紋、光澤等不同樹脂體系為您客製化設計，並賦予抗靜電性能。



## TECHNICAL INFORMATION 抗靜電粉末塗料原理

By uniformly dispersing conductive particles in powder coatings, a conductive layer is formed when applied to the workpiece. This layer disperses charges across the entire surface or substrate, preventing the accumulation of electrons on the object's surface and reducing static accumulation and discharge risks.

透過導電粒子均勻分散於粉末塗料中，再塗裝於工件上，形成一個導電塗層，可將電荷分散到整個表面或基底材中，防止電子在物體表面累積，從而減少靜電的累積和放電風險。



## BENEFITS 抗靜電粉末塗料益處



SAFE WORKPLACE

Enhance workplace safety by preventing static electricity-related accidents such as fires and explosions.  
提高工作場所的安全性，避免靜電會引起火災、爆炸等安全事故。



SERVICE LIFE

Protect sensitive products like electronic components and ICs, preventing damage and extending their lifespan by avoiding static interference.  
保護電子元件、IC等敏感產品造成損害，防止靜電干擾，延長其使用壽命。



IMPROVED EFFICIENCY

Meet the antistatic requirements of facilities like semiconductor plants and electronic assembly factories, improving equipment stability and operational efficiency.  
符合半導體工廠、電子組裝廠等廠房設備的抗靜電要求，提高設備運行的穩定性和工作效率。




# REPORTS DEMONSTRATION

According to ASTM D257-14 verified by SGS, Kwolin ATS Light Gray Antistatic Powder Coating owns extremely excellent antistatic properties.


The lower the surface resistivity, the better the antistatic performance. Different industries and applications may require different surface resistivity levels for antistatic products:

- General static-sensitive products: Typically between  $10^9$  and  $10^{12}$   $\Omega/\square$ .
- Medical equipment: Typically between  $10^6$  and  $10^{11}$   $\Omega/\square$ .
- Electronic components, semiconductor manufacturing, electronic assembly, and antistatic flooring: Have high sensitivity to static and usually require lower surface resistivity, typically between  $10^4$  and  $10^9$   $\Omega/\square$ .



**Material and Engineering Laboratory-Taipei**

## TEST REPORT



REPORT NO. : HV-23-01074A  
PAGE : 2 OF 3  
REPORT DATE : MAR. 23, 2023

**Surface Resistivity**

Test Equipment :

Name	Brand	Model
INSULATION TESTER	TOA	SM-8220
ELECTRODE	TOA	SME-1044

Test Method :

ASTM D257-14                      Standard Test Methods for DC Resistance or Conductance of Insulating Materials.

Test Condition :

Sample Condition :                  at  $(23 \pm 2)$  °C and  $(50 \pm 5)$  % R.H.  
Applied Voltage :                    500 V  
Time of Electrification :            1 min.

Test Result:

Test Item(s)	Test Result(s)
Surface Resistivity ( $\Omega/\square$ )	$5.93 \times 10^8$

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The value of required specifications are for reference only.  
Conformity judgement is the Applicant's final verdict.

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**SGS Taiwan Ltd.**  
台灣檢驗科技股份有限公司

35, Wu Chuan Road, New Taipei Industrial Park, Wu Ku District, New Taipei City 248016, Taiwan /248016 新北市五股區新北產業園區五權路35號

t (886-2) 2288-3355      f (886-2) 2289-7857

**TWD 4431665**  
www.sgs.com.tw  
Member of SGS Group

# 報告說明

經SGS依據ASTM D257-14的測試方法驗證，國麗ATS淺灰色抗靜電粉末塗料具備極為優良的抗靜電性能。

表面電阻率越低，抗靜電性能則越好。不同行業和應用場合對於抗靜電產品的表面電阻率要求會有所不同。

- 一般靜電敏感產品：通常要求表面電阻率在 $10^9$ 到 $10^{12}$   $\Omega/\square$ 之間。
- 醫療設備：通常要求表面電阻率在 $10^6$ 到 $10^{11}$   $\Omega/\square$ 之間。
- 電子元件、半導體製造、電子裝配和防靜電地板：對靜電的敏感性非常高，通常要求更低的表面電阻率，通常在 $10^4$ 到 $10^9$   $\Omega/\square$ 之間。



材料暨工程實驗室-台北

## 試驗報告



報告編號：HV-23-01074

頁數：2 OF 3

報告日期：2023年03月23日

### 表面阻抗率

#### 試驗設備：

名稱	廠牌	型號
阻抗試驗儀	TOA	SM-8220
電極	TOA	SME-1044

#### 試驗方法：

ASTM D257-14 Standard Test Methods for DC Resistance or Conductance of Insulating Materials.

#### 試驗條件：

試驗環境：環境溫度( $23 \pm 2$ ) $^{\circ}\text{C}$ ，相對濕度( $50 \pm 5$ ) %  
試驗電壓：500 V  
試驗時間：1 min.

#### 試驗結果：

試驗項目	試驗結果
表面阻抗率( $\Omega/\square$ )	$5.93 \times 10^8$

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本報告若有提供規範值，該規範值僅供參考，合格之判定以委託單位實際要求為準

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SGS Taiwan Ltd.  
台灣檢驗科技股份有限公司

35, Wu Chuan Road, New Taipei Industrial Park, Wu Ku District, New Taipei City 248016, Taiwan /248016  
t (886-2) 2288-3355 f (886-2) 2289-7857

TWD 4431668  
新北市五股區新北產業園區五權路35號  
www.sgs.com.tw

Member of SGS Group





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國麗實業  
股份有限公司

**KWOLIN CO., LTD.**



📍 No. 19, Gongye 15th Rd., Taiping Dist., Taichung City 41154, Taiwan  
41154台中市太平區德隆里工業15路19號

☎ TEL: +886-4-2271-6619      ✉ EMAIL: [kwolin.mail@msa.hinet.net](mailto:kwolin.mail@msa.hinet.net)

☎ FAX: +886-4-2271-3099      🌐 WEB: [www.kwolin.com](http://www.kwolin.com)

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