



Introduction 簡介

The Materials Testing Laboratory of HKPC is an accredited laboratory under the Hong Kong Laboratory Accreditation Scheme (HOKLAS). The Laboratory provides manufacturing support and testing services on materials, surface coatings and product failure analysis, as well as consultancy services for establishment of laboratory.

香港生產力促進局-材料科技部實驗室是通過香港實驗所認可計劃 (HOKLAS) 認可的實驗室。本實驗室對製造業提供技術支援及物料測試服務，包括表面塗層分析，產品失效分析，以及設立實驗室等諮詢服務。

Test Services 測試服務

Watch Industry (鐘錶業) :

- Nickel release test (鎳釋放測試)
- Artificial sweat test (人工汗液測試)
- Stainless steel composition test (不銹鋼成分測試)
- Mechanical /Functional test (機械功能試驗)
- Azo dye test (偶氮染料測試)
- Accelerated weathering test (加速老化測試)
- Phthalates test (鄰苯二甲酸鹽測試)

Others (其他) :

- Failure analysis (失效分析)
- Surface analysis by SEM/ XPS (電子顯微鏡 / X射線光電子能譜表面分析)
- X-ray screening for RoHS (RoHS - X射線篩選分析)
- Plating solution/waste water analysis (電鍍溶液或廢水分析)

Jewellery Industry (珠寶業) :

- Precious metal (platinum, gold, silver) content test (貴金屬 (鉑, 金, 銀) 成色測試)
- Nickel release test(鎳釋放測試)
- Artificial sweat test (人工汗液測試)
- Nickel content analysis (鎳含量測試)
- Raman spectroscopy analysis of Jade and Gemstone (拉曼光譜測試)

General test (一般測試) :

- Vickers hardness test (維氏硬度)
- Coating thickness test (塗層厚度測試)
- Salt spray test (鹽霧測試) & other corrosion test (其他腐蝕測試)
- Abrasion test (耐磨測試)
- Color measurement (顏色測試)
- TGA & DSC thermal analysis (熱重分析儀及熱示差掃描卡量計測試)

Construction Material (建材) :

- Taber test (轉盤耐磨測試)
- Stainless steel or aluminum composition test (不銹鋼/ 鋁合金成分測試)
- Fourier Transform Infrared Microscope (FTIR) analysis (紅外線光譜儀)
- QUV & QSUN Aging Test (紫外老化試驗箱及氙燈試驗箱老化測試)

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Test Methods 測試方法

1. Material Analysis 材料分析

1.1 Precious Metal 貴金屬

- Platinum content test (鉑金成色測試) ISO/DIS 11494
- Silver content test (銀成色測試) ISO 11427
- Gold content test (金成色測試) ISO 11426

1.2 Alloy Materials 合金材料

- Stainless steel composition test (不銹鋼成分測試) ASTM E1086, ASTM E1019
- Stainless steel or aluminum composition test
(不銹鋼/鋁合金成分測試) ASTM E1086

1.3 Green Materials 綠色材料

- X-ray screening for RoHS (RoHS - X射線篩選分析) EN 62321
- Azo dye test (偶氮染料測試) EN 14362, ISO/ TS 17234
- Nickel content analysis (鎳含量測試) BS EN 1810
- Phthalates test (鄰苯二甲酸鹽測試) In-house method

1.4 Material Identification 材料鑑定

- Surface analysis by SEM/ XPS
(電子顯微鏡 / X射線光電子能譜表面分析) In-house method
- Fourier Transform Infrared Microscope
(FTIR) analysis (紅外線光譜儀) In-house method
- Raman spectroscopy analysis of Jade and Gemstone
(拉曼光譜測試) In-house method

2. Material Properties 材料特性

2.1 Coating Thickness 塗層厚度

- Coating thickness test (塗層厚度測試) ASTM B487, ASTM B568
- Microsection method - Destructive (顯微方法 - 破壞性) ASTM B487
- X-ray fluorescence method - Non-destructive
(X射線熒光法 - 非破壞性) ASTM B568

2.2 Corrosion Properties 腐蝕特性

- Nickel release test (鎳釋放測試) BS EN 12472, BS EN 1811, BS EN 16128
- Artificial sweat test (人工汗液測試) ISO 3160-2
- Salt spray test (鹽霧測試) ASTM B117, ISO 9227

2.3 Wear Resistance 耐磨

- Abrasion test (耐磨測試) ISO 3160-3
- Taber test (轉盤耐磨測試) ISO 10074

2.4 Accelerated Weathering Test 加速老化測試

- QUV & QSUN Aging Test (紫外老化試驗箱及氙燈試驗箱老化測試)
ASTM G154, ASTM G155

2.5 Others 其他

- Vickers hardness test (維氏硬度測試)
- Tensile test (拉伸試驗)
- Impact test (衝擊試驗)
- Compression test (壓縮試驗)
- Scratch test (刮痕試驗)
- Ball crater tester (球磨弧坑檢測儀)

3. Quality Control / R&D 品質控制 / 研究

3.1 Plating Solution/Wastewater Analysis 電鍍溶液或廢水分析

3.2 Thermal Analysis 熱分析

- TGA & DSC thermal analysis (熱重分析儀及熱示差掃描卡量計測試)

3.3 Color Measurement 顏色測試

