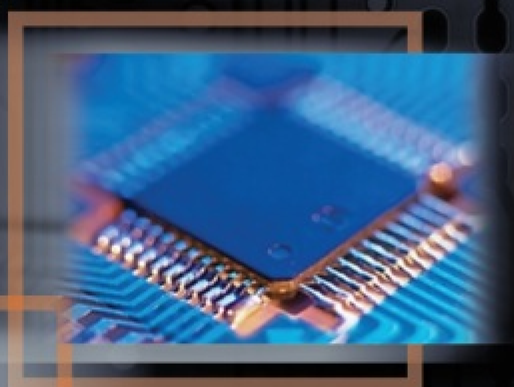
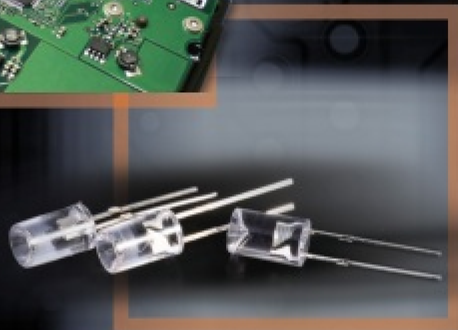
永星化工
WINSTAR CHEMICALS

电子产品系列
Electronics Plating Series





产品简介 Product Information

导线架专用 For IC Lead Frame

Ductile-Ni™ + STANNOMAX™

Ductile-Ni™ R-HT 镀锡前镍底层电镀工艺

Ductile-Ni™ R-HT Pre-tinned Nickel Plating Process

Ductile-Ni™ R-HT 可作为电子和机械五金镀锡层的底层，防止镀锡层变色；半光亮的镍层延展性好（25～30%），硬度良好（250～450HV），在热处理后仍有优异的可焊性；多层表面电镀层的可焊性甚高，满足电子装置的生产要求。

- Semi-bright deposit with good solder ability, ductility (25-30%) and hardness (250-450HV)
- Ideal for the bottom layer of electronic parts and mechanic hardware's tin coating
- Best Fit for Electronics goods with high requirements

STANNOMAX™ HSB 100 高速/ HSB 200 低速电镀光亮纯锡工艺 (滚/挂镀)

STANNOMAX™ HSB 100 High-Speed/ HSB 200 Low-Speed Pure Bright Tin Plating Process

STANNOMAX™ HSB 100/ HSB200 是一种甲基磺酸 (MSA) 的添加剂体系，镀层表面形态均匀、稳定、有机含量极低，能在宽阔的温度范围内得到极光亮效果及拥有极好的可焊性；特别适用于电子组件电镀。

- Fine bright deposits with the least organic substances and excellent solder ability
- Stable performance under different temperature range
- Ideal for electronic parts plating

STANNOMAX™ HSM 100 高速纯哑锡工艺

STANNOMAX™ HSM 100 High-Speed Pure Matt Tin Plating Process

STANNOMAX™ HSM 100 专门为中高速电镀设备而设计，可用于终端电镀以及线材或线路电镀。此添加体系可在宽阔的温度及电流密度范围内镀出有机物含量极少、覆盖能力强、延展性好、可焊性佳的纯锡镀层。镀层表面形态均匀而稳定，适用于"低须触线"无铅精饰。

- Lead-free process design for medium- to high-speed plating
- Smooth deposit with the least organic substance
- Wide working range for temperature and electric current density
- Excellent covering power, ductility and solder ability
- Ideal for terminal, cables and wires plating

产品简介 Product Information

LED 灯及微波发射器专用 For LED Lamp & Microwaver
SILVERMAX™

SILVERMAX™ HS-1（半光亮）及 HS-2（光亮）高速镀银工艺
SILVERMAX™ HS-1 (Semi-Bright) & HS-2 (Bright) High Speed Silver Plating Process

SILVERMAX™ HS-1 及 HS-2 是一种中性高速电镀工艺，外观均匀和无游离氰是其最大优点，而且电流密度较高，可以作喷镀处理；专门用于半导体，集成电路板和晶体管等部件。

- Uniform deposit
- Free of Cyanide ion
- High current density, suitable for spray plating
- Ideal for semiconductor, IC board, etc.

SILVERMAX™ 光高厚银电镀工艺
SILVERMAX™ Hard Bright Silver Plating Process

此工艺是一种光亮镀银的特殊工艺，适合滚挂镀，一般应用于装饰性的卷标、餐具以及功能性的天线和电子组件等电镀中；镀液是有机物，不会分解出有害物质，而且非常稳定，容易维护，覆盖力极强，可在宽广的电流密度下(1.0-2.5 A/dm2)进行操作；纯银镀层无需抛光亦能达到光亮如镜般效果，且不易失去光泽，高温烘烤后也不易变色（180℃），导电率及硬度比普通的银镀层高（100-110 VPN）。

- Organic, stable, wide working current density range (1.0-2.5A/dm2)
- Enhance the corrosive resistance of the base metal
- Formed deposit: durable, hard (100-110VPN), mirror bright (even without buffering) and tolerate high temperature (180°C)
- Decompose NO harmful substance
- Suitable for barrel and rack plating and ideal for both decorative (such as labels & tableware) and functional (antenna & electronics) plating

SILVERMAX™ AGS/ AGS-T 水溶性银保护剂
SILVERMAX™ AGS & AGS-T Water Soluble Silver Protector

SILVERMAX™ AGS 及 AGS-T 是一种专门用于银或银镀层的水溶性防氧化剂，内含一种可溶于水的非常活跃氧化抑制剂，能迅速于工件表面形成一层很薄的疏水性保护层，不但能防止硫化银或其它有关的氧化反应发生，更不会影响工件的焊接性能；保护层无毒无刺激性，操作十分安全，能应用于珠宝、饰物、各类平面或管状器皿等工件；由于此保护剂的电阻力甚小，所以亦可应用于电子接外挂程序等。

- Non-toxic, non-irritated water-soluble anti-oxidant for Silver
- Deposit: a hydrophobic coating prevents silver parts from oxidation
- Good solder ability and low contact resistance
- Ideal for jewelry, accessories, utensils with flat surface or in tube-shape and electric connector

接插件专用 For Connectors

Ductile-Ni™ + AUOLLY™ + TINOL™

Ductile-Ni™ HSNSM 高速低应力氨基磺酸盐型镀镍工艺

Ductile-Ni™ HSNSM High Speed Low Stress Nickel Sulfamate Plating Process

Ductile-Ni™ HSNSM 特别适用于贵金属和非贵金属电镀的底层，其半光亮的镀层应力低及延展性佳；专门用于可溶性阳极体系的高速电镀设备。

- Design for high performance soluble anodise plating;
- Semi-bright deposit with low stress and good ductility;
- Ideal for the bottom layer of precious and non-precious metals.

Ductile-Ni™ HSNS 高速低应力硫酸盐型镀镍工艺

Ductile-Ni™ HSNS High Speed Low Stress Nickel Sulfate Plating Process

Ductile-Ni™ HSNS 采用不溶性阳极，专门为高速电镀设备而设；其半光亮的镀层拥有应力低和延展性佳的特点，故非常适合作为贵金属和非贵金属电镀的底层；主要用于印制线路板、接外挂程序、半导体、固体电路和其它电子元器件。

- Design for high performance soluble anodise plating;
- Semi-bright deposit with low stress and good ductility;
- Ideal for the bottom layer of precious and non-precious metals.
- Best fit for Printed Circuit Board, Plug-In Connectors, Semi-Conductors, Solid Circuit and Electronic Components

Ductile-Ni™ NSM 低应力氨基磺酸型镀镍工艺

Ductile-Ni™ NSM Low Stress Nickel Sulfamate Plating Process

Ductile-Ni™ NSM 是改良版的氨基磺酸型镀镍工艺，操作容易：开缸剂可直接使用，只需低电流电解处理，无需进行稀释或活性炭处理；半光亮镀层的应力低和延展性佳，适合作为贵金属及非贵金属电镀的底层；主要用于印制线路板、接外挂程序、半导体和其它电子元器件。

- Easy to operate: Ready-to-use make-up solution; no need to dilute or go through carbon treatment before use;
- Semi-bright fine deposit with low stress and good ductility;
- Ideal for the bottom layer of precious and non-precious metals
- Best fit for Printed Circuit Board, Plug-In Connectors, Semi-Conductors and Electronic Components

接插件专用 For Connectors

Ductile-Ni™ + AUOLLY™ + TINOL™

Ductile-Ni™ NS 低应力镀镍电镀工艺

Ductile-Ni™ NS Low Stress Nickel Plating Process

Ductile-Ni™ NS 是专为印制线路板、引线、接外挂程序、簧片等电子产品而设计的镀镍工艺；其镀镍层几乎无应力；特别适用于作金、钯、铑、银等贵金属的底层或作多层装饰铬的中间镀层。

- Deposit with almost NO stress
- Ideal for the bottom layer of precious metals (aurum, palladium, rhodium, silver) or layer between decorative chromium.
- Best fit for printed circuit boards, wires, plug-in connectors, spring plates and electronic components

AUOLLY™ 预镀金工艺

AUOLLY™ Gold Strike Plating Process

AUOLLY™ 是一种专门用于镀金前的弱酸性预镀金工艺，能确保镀金层的结合力及减低主镀金槽被污染的可能性；镀液含金量低（1g /L），阳极为不锈钢，经济实用；如镀完预镀金后，经过纯水清洗再镀金，会得到最理想的效果。

- A mild acid pretreatment for aurum plating
- Enhance the bonding power
- Minimize the possibility of bath contamination
- Uses stainless steel as the anode; contains only 1g/L Aurum; very economical
- Suggestion for better result: wash the work pieces with pure water after using AUOLLY™ pretreatment for Aurum Plating

AUOLLY™ AC 酸性耐磨硬金工艺

AUOLLY™ AC Acid-based Hard Gold Plating Process

AUOLLY™ AC 是含有钴盐的酸性耐磨镀金工艺，适宜滚镀、挂镀及选择镀，并可在电镀机中连续使用，一般应用于印刷线路板插头和接外挂程序等镀金中；此工艺操作简单，镀液稳定，镀金层均匀光亮，硬度高（120～190HV），可焊性好，接触电阻 0.6mΩ，具有极强的抗腐蚀能力及耐磨力（印制板插头镀金的插拔次数可达 1000 次之高），是现今最好的酸性耐磨镀金工艺。

- Stable and easy to operate; contains cobalt
- Excellent in corrosive and abrasion resistance
- Shinny and hard deposit (120~190HV)
- Good solder ability and low in contact resistance (0.6mΩ)
- Suitable for barrel, rack and optional, continuous plating
- Ideal for electronic devices such as circuit board plugs

接插件专用 For Connectors

Ductile-Ni™ + AUOLLY™ + TINOL™

AUOLLY™ AI 耐磨硬金工艺

AUOLLY™ AI Hard Gold Plating Process

AUOLLY™ AI 是一种酸性镀金方法，镀层为金钴合金，纯度 99.9%，硬度 140-145HV，延展性和耐磨性极佳，适用于镀印制线路板、接外挂程序和开关转换器等。

- An acid hard aurum plating process
- Aurum-cobalt deposit with 99.9% aurum
- Excellent ductility and abrasion resistant (Hardness of deposit: 140-145HV)
- Suitable for circuit boards, plugs and switches

AUOLLY™ AHD 高速镀金工艺

AUOLLY™ AHD High Speed Gold Plating Process

AUOLLY™ AHD 电流密度及电镀速度相当高；镀液的分散力良好；镀层为金钴合金，含金量达 99.8%，硬度达 170～180HV，耐磨性好，其接触电阻为 0.6mΩ，比重 17.4±0.1g /cm3，具有良好的机械、物理、化学性能，适合各种形式的选择镀，绝对满足电子、电气工业的需要。

- Aurum-cobalt deposit with 99.8%, aurum content
- Excellent abrasion resistance (Hardness of deposit: 170~180HV);
- High current density and good throwing power;
- Great mechanical, physical and chemical properties; ideal for various kinds of optional plating, including electronics and electrical appliances.

AUOLLY™ 浸镀金工艺

AUOLLY™ Immersion Gold Plating Process

AUOLLY™ 浸镀金工艺能在镍磷合金镀层上沉积一层 24K 薄金层，金层不但平滑，而且结晶细致；如基底材料光亮，镀层定必呈光亮；镀液可补充，有效降低生产成本。

- Capable of accumulating a thin 24K aurum deposit on the surface of Nickel Phosphorus Alloy;
- Fine, Smooth and Bright deposit;
- Economical operation: bath can be replenished.

接插件专用 For Connectors

Ductile-Ni™ + AUOLLY™ + TINOL™

TINOL™ NF-65 (滚镀) 及 NF-66/ NF-67 (挂镀) 无铅白铜锡电镀工艺

TINOL™ NF-65 (Barrel Plating) & NF-66/ NF-67 (Rack Plating) Lead Free White Cu/ Sn Process

TINOL™ NF-65 是一种不含铅的白铜锡电镀工艺，它可以产生白色光亮镀层，适合做表层镀钯或镀金前的底层。它可以免除镍镀层所引起的过敏，并满足ÖKO-TEK 的技术要求。镀层的耐蚀能力及抗磨能力强；可焊性好；摩擦系数低；可作为应用于装饰电镀及电子电镀的代镍工艺。

- Provides white bright deposit
- Deposit could be used as top coat or undercoat for palladium and gold plating
- Excellent in anti-corrosion, abrasion resistance, soldering heat resistance
- Low friction coefficient
- Eliminates allergy problems arose from nickel plating

印刷电路板专用 For Printed Circuit Board

CIRCUM-BRITE™

CIRCUM-BRITE™ CU8100HF 抗氧化铜保护剂

CIRCUM-BRITE™ CU8100HF Anti-oxidation Copper Protector

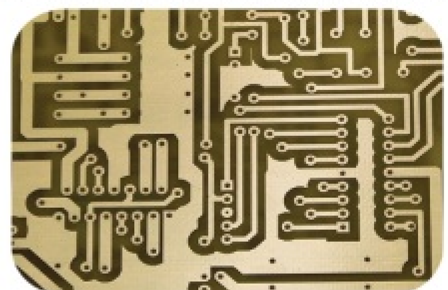
CIRCUM-BRITE™ CU8100HF 是一种防止化学或电镀铜层表面变暗及被氧化的保护剂，其不显眼的膜层之防腐能力是未经保护膜处理的铜面的几倍。此保护剂不含铬酸盐，经济环保；闪点甚高，极适用于需要有高闪点的操作条件；它更能在焊膜前保护铜线路不被氧化，在焊接前预热过程防止铜面变暗，增强铜的可焊性。

- Chromate-Free anti-oxidant for Copper and Electroless Copper
- Enhance solder ability and corrosion resistance power for Copper and Electroless Copper
- Economical & Environmental-friendly
- Suitable for processes required high flash point

CIRCUM-BRITE™ 2000 酸性光亮镀铜工艺

CIRCUM-BRITE™ 2000 Bright Acid Copper Plating Process

CIRCUM-BRITE™ ™ 2000 是一种酸性的光亮镀铜工艺，镀层拥有极好的光泽度和均镀能力，即使在穿孔镀上也能镀出极佳的效果；无应力的镀层适用于热循环测试；镀液不受分解产物影响，所以穿孔镀时不需长时间作碳处理。



- Ideal for perforated electroplating: capable for forming shinny & smooth deposit and frequent carbon treatment is not required.
- Stable solution, not affected by decomposed substance;
- Stress-free deposit is suitable for heat cycle test;
- Excellent leveling power;
- Shinny deposit

Know How,

Can Do.

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