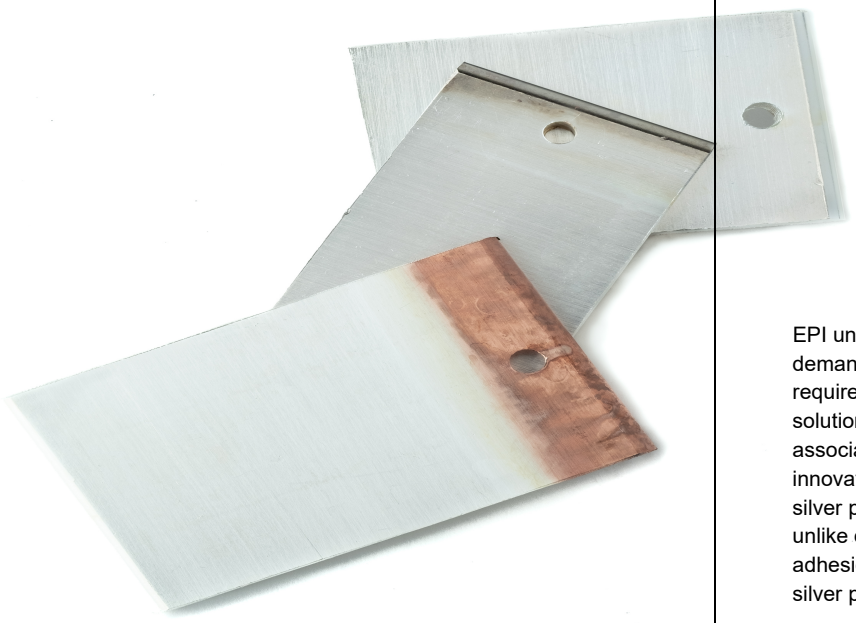
NON-CYANIDE ALKALINE SILVER PLATING

E-Brite™ 2.0 Ag

How to
SAVE MONEY *and* ELIMINATE THE COST
of Hazardous Cyanide

Switch to E-Brite™ 2.0 Ag, Low Silver Non-Cyanide Alkaline Silver Plating



BETTER DISTRIBUTION

STABLE BATH CHEMISTRY

INDUSTRIAL AND DECORATIVE APPLICATIONS

SUPERIOR WHITENESS VS. COMPETING NON-CYANIDES

TWO ADDITIVES

MEETS ASTM B-700 and AMS 2411J

ENHANCED OPERATING ENVIRONMENT

PLATES DIRECTLY TO NICKEL SUBSTRATES

EPI understands that current plant environment demands of silver plating to meet a wide range of requirements. Therefore, EPI created a unique solution to eliminating the costs, time, and effects associated with these extensive constraints. Our innovative E-Brite 2.0 Ag non-cyanide alkaline silver plating does not need a separate strike, unlike other cyanide silvers, and has better overall adhesion in comparison to competing non-cyanide silver plating.

E-Brite 2.0 Ag is cost-effective and easy to control. It saves processing time while also eliminates the hazardous effects associated with cyanide.

Start taking advantage of E-Brite 2.0 Ag today

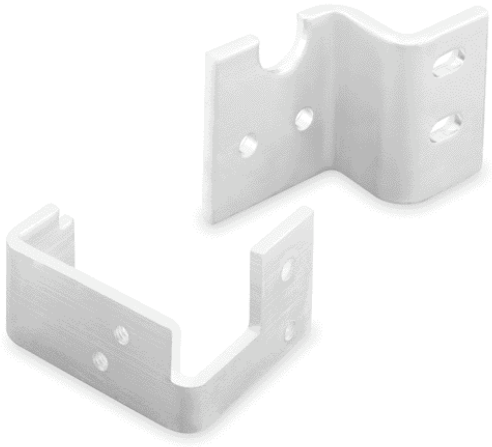
Send sample parts for plating.
Call 262-786-9330 or
e-mail: us-sales@epi.com
to request a Hull Cell test solution
or ask to install a pilot line.

EPI® ELECTROCHEMICAL PRODUCTS, INC.

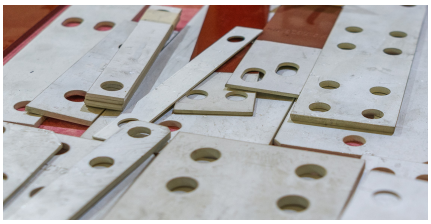
Learn More
>> *See reverse for Bath Make-up, Operating Conditions and Applications.*

E-Brite 2.0 Ag

An alkaline, cyanide-free plating process, that plates bright silver for electronic, decorative, and industrial uses, eliminating the high cost of waste treatment of cyanide.



- Operates at room temperature and can be utilized in both rack and barrel plating.
- Plates directly – does not require a separate silver strike – on silver, brass, bronze, copper, and nickel.
- Exceptional covering and throwing power:
  - Fine-grained, smooth, dense, hard silver plate.
  - Low porosity.
  - Excellent bonding properties.
- Supplied as a liquid concentrate, which contains 5 oz/gallon of silver. The concentrate is diluted with D.I. water.



E-Brite 2.0 Ag has many benefits over cyanide silver:

- Eliminates the dangers and extensive costs of hazardous cyanide in the workplace, improving employee health and safety.
- Superior adhesion.
- Cost effective – plates out of the silver anodes, not the solution.
- Easy to control with a single maintenance additive, **E-Brite 2.0 Ag-E**, electrolyte.

BATH MAKE-UP

	RACK PLATING OPTIMUM	RACK PLATING RANGE	BARREL PLATING OPTIMUM	BARREL PLATING RANGE
E-Brite 2.0 Ag concentrate	40%	25-45%	30%	25-35%
E-Brite 2.0 Ag-E	25%	25-45%	40%	20-35%
E-Brite 2.0 Ag-B	1%	0.8 - 1.5%	1%	0.8 - 1.5%
D.I. Water	34%	55 - 35%	30%	39 - 19%
45% KOH solution to adjust pH to 10.0				

Anodes Pure silver anodes should be used. Anode/cathode ratio 2:1.

Filtration Continuous filtration with 1 micron filter is recommended to prevent roughness.

OPERATING CONDITIONS

	RACK PLATING OPTIMUM	RACK PLATING RANGE	BARREL PLATING OPTIMUM	BARREL PLATING RANGE
SILVER METAL:	2.0 oz/gal	1.5-2.5 oz/gal	1.5 oz/gal	1.2-2.5 oz/gal
pH:	10	9.5-10.5	10	9.5-10.5
TEMPERATURE:	68° F	60° - 75° F	68° F	60° - 75° F
CATHODE CURRENT DENSITY:	3-10	2-20 ASF	1-3	0.5-5 ASF
ANODE CURRENT DENSITY:	–	2-10 ASF	–	2-10 ASF
AGITATION:	Air agitation on the cathodes.			

Step by Step Application

E-Brite 2.0 Ag plates directly on copper, brass, bronze, and nickel without a strike plate of silver as required with cyanide silver processes. It will not plate directly on tin. A strike with **EPI's E-Brite Ultra Cu** alkaline non-cyanide copper is required prior to plating on steel, stainless steel, zincated aluminum and tin. Plating on copper and its alloys is accomplished as follows:

- Clean with ***E-Kleen 153*** or ***E-Kleen 196***
- Cold water rinse
- Electro clean with ***E-Kleen 153***
- Cold water rinse
- Activate surface with ***E-Pik 219***
- Cold water rinse
- Plate with ***E-Brite 2.0 Ag***
- Cold water rinse
- Dip in 5% sulfuric acid solution
- Cold water rinse
- Anti-tarnish solution **E-Tec 529**
- Dry.

Call or e-mail for more info:
262-786-9330
us-sales@epi.com

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CAUTION: There is the possibility of chronic health effects with **E-Brite 2.0Ag**. The absorption of silver compounds into the circulation and the deposition of reduced silver in various tissues of the body may result in the production of generalized grayish pigmentation of the skin and mucous membranes (argyria). Generalized argyria develops after 2 to 25 years of exposure. Ingestion is harmful and may cause death.

 February 2021