

How to

SAVE PROCESSING TIME *and* **ELIMINATE THE COST** of Hazardous Cyanide

Switch to E-Brite™ 50/50
Non-Cyanide Alkaline Silver Plating



BETTER DISTRIBUTION
SUPERIOR WHITENESS VS. COMPETING NON-CYANIDES
PREFERRED FOR INDUSTRIAL APPLICATIONS
STABLE BATH CHEMISTRY
SINGLE ADDITIVE
ENHANCED OPERATING ENVIRONMENT

EPI understands that today's plant environments demand silver plating meet a wide range of requirements. Our innovative E-Brite 50/50 non-cyanide alkaline silver plating does not need a separate strike versus cyanide silver, and has better adhesion over competing non-cyanide silver.

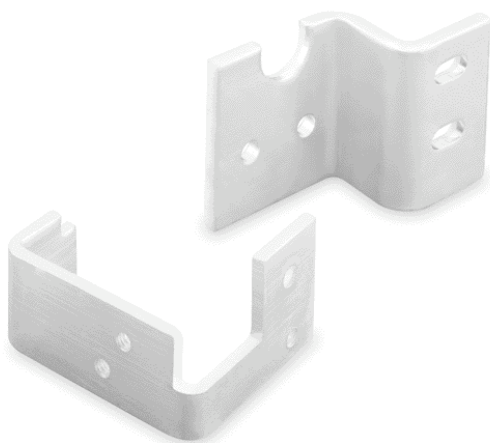
E-Brite 50/50 is cost-effective and easy-to-control, letting you save processing time while eliminating hazardous cyanide and its associated costs.

**Start taking advantage
of E-Brite 50/50 today!**

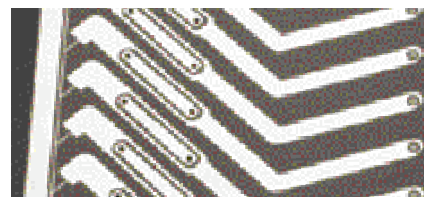
Send sample parts for plating.
Call 262-786-9330 or
e-mail: us-sales@epi.com
to request a Hull Cell test solution
or ask to install a pilot line.

E-Brite 50/50

An alkaline, cyanide-free plating process, that plates bright silver for electronic 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 and copper.
- Exceptional covering and throwing power:
 - Fine-grained, smooth, dense, hard silver plate.
 - Low porosity.
 - Excellent bonding properties.
- Supplied as a liquid concentrate, which contains 4 oz/gallon of silver. The concentrate is diluted with D.I. water.
- Not for decorative applications.



E-Brite 50/50 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 50/51**, electrolyte.

BATH MAKE-UP

	RACK PLATING		BARREL PLATING	
	OPTIMUM	RANGE	OPTIMUM	RANGE
E-Brite 50/50 concentrate	50%	40-60%	60%	50-70%
E-Brite 50/51 electrolyte	5%		10%	
D.I. Water	45%	55-35%	30%	40-20%
45% KOH solution to adjust pH to 9.0				

Anodes	Pure silver anodes should be used. Anode/cathode ratio 2:1
Filtration	Continuous filtration with 2-micron carbon filter is recommended to prevent roughness. A sulfur-free carbon pack must be maintained on the bath and changed weekly.

OPERATING CONDITIONS

	RACK PLATING		BARREL PLATING	
	OPTIMUM	RANGE	OPTIMUM	RANGE
SILVER METAL:	2.0 oz/gal	1.5-2.5 oz/gal	2.4 oz/gal	2-2.5 oz/gal
pH:	8.8	8.5-9.5	8.8	8.5-9.5
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 anodes, plus cathode rod agitation or air agitation on the cathodes.			

Step by Step Application

E-Brite 50/50 plates directly on copper, brass, bronze and electroless nickel without a strike plate of silver as required with cyanide silver processes. It will not plate directly on nickel and tin. A strike with EPI's **E-Brite Ultra Cu** alkaline non-cyanide copper is required prior to plating on nickel, steel, stainless steel, zincated aluminum and tin. Plating on copper and its alloys is accomplished as follows:

1. Clean with **E-Kleen 148-E** or **E-Kleen 190**
2. Cold water rinse
3. Electro clean with **E-Kleen 173**
4. Cold water rinse
5. Activate surface with **E-Pik 219**
6. Cold water rinse
7. Plate with **E-Brite 50/50**
8. Cold water rinse
9. Dip in 20% sulfuric acid solution
10. Cold water rinse
11. 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 50/50**. 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.

IMPORTANT NOTICE! For Industrial Use Only

The following is made in lieu of all warranties, expressed or implied, including the implied warranties of merchantability and fitness for purpose: seller's and manufacturer's only obligation shall be to replace such quantity of the product as proved to be defective. Before using, user shall determine the suitability of the product for its intended use, and user assumes all risk and liability whatsoever in connection therewith. **Neither seller nor manufacturer shall be liable either in tort or in contract for any loss or damage, direct, incidental or consequential, arising out of the use or the inability to use the product.**