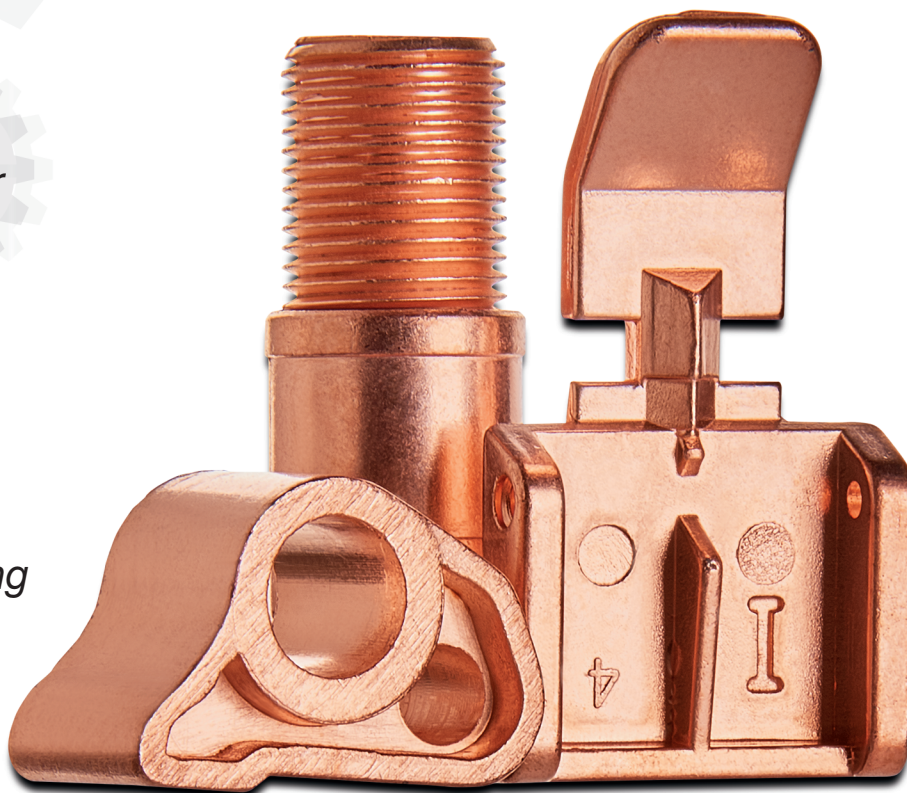


E-Brite™ 5.0 Cu

Switch to the E-Brite™ 5.0 Cu
Non-Cyanide Alkaline Copper Plating

UPGRADE ADHESION and THROW OUT THE COST of hazardous Cyanide

- *Surefire Immersion Copper*
- *Provides Stronger Adhesion*
- *Unique Greater Throwing Power*
- *Formulated for barrel plating zinc die casts and rack applications*



Our 5th generation, E-Brite 5.0 Cu non-cyanide alkaline copper plating, provides superior coverage over cyanide copper and better adhesion versus competing non-cyanide copper.

E-Brite 5.0 Cu is a sustaining, easy-to-control process that lets you upgrade adhesion while taking out hazardous cyanide and its accompanying costs.

**Start taking advantage of
E-Brite 5.0 Cu 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.

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

EPI Electrochemical
Products Inc.

E-Brite™ 5.0 Cu

A fifth generation cyanide-free, alkaline copper plating process with coverage greater than cyanide copper, especially in barrel plating of Zamac alloys.

- Inexpensive and easy to use - replenishes the copper in the solution by dissolving copper anodes.
- Plates directly on steel, copper, brass, stainless steel, zincated aluminum, electroless nickel and sulfamate nickel as well as die-cast zinc surfaces - without a separate strike and without going in live.
- Single additive bath produces superior results in both barrel and rack installations - either as a strike or a plate bath.
- Outstanding pre-plate copper strike for bright nickel, acid copper, tin and solder plates - excellent heat-treat stop-off and EMI shield.
- No carbonates to be treated and contains no strong chelators.
- Copper deposit is fine grained, smooth, dense, and ductile:
 - Non-porous with excellent bonding properties.
 - Uniform low current density distribution - excellent micro-throw.
 - Fine-grained copper deposit under nickel/chrome improves the overall corrosion resistance - helps nickel cover farther into low current areas.
- Compiles with specifications: **MIL-C-14550B** and **SAE-AMS-2418F** for copper plating.

E-Brite 5.0 Cu has many benefits:

- Eliminates the dangers and extensive costs of hazardous cyanide in the workplace, improving employee health and safety.
- Lower copper concentration, which means less sludge generation.
- Finer grain than cyanide copper - increases the density of the deposit.
- Lower operating temperatures reduce energy costs.

BATH MAKE-UP *A new solution of the E-Brite 5.0 Cu process will require the addition of:*

RACK PLATING

CONCENTRATION	OPTIMUM	RANGE
E-Brite 5.0 Cu	40% by volume	30-50% by volume
E-Brite 5.0 Cu "E"	10% by volume	8-12% by volume
E-Brite 5.0 Cu "pHA"	8% by volume	5-10% by volume
Copper Metal	1 oz/gal	0.8-1.2 oz/gal

BARREL PLATING

OPTIMUM	RANGE
40% by volume	30-50% by volume
10% by volume	8-12% by volume
8% by volume	5-10% by volume
1 oz/gal	0.8-1.2 oz/gal

E-Brite 5.0 Cu is a liquid concentrate, which contains 2.4 oz/gallon of copper and all components of the bath. It is used to make up a new solution. The E-Brite 5.0 Cu "E" electrolyte is added to maintain the bath and complexes the copper as it is dissolved from the anodes. A properly adjusted bath in regard to anode area requires only the addition of E-Brite 5.0 Cu "E" for proper operation.

OPERATING CONDITIONS

	RACK PLATING		BARREL PLATING	
	OPTIMUM	RANGE	OPTIMUM	RANGE
pH:	9.6	9.2-10.0	9.8	9.5-10.0
TEMPERATURE:	120° F	100°-140° F	120° F	100°-140° F
VOLTAGE:		1-6 Volts		15-18 Volts
CATHODE-CURRENT DENSITY:	10 ASF	5-25 ASF	4 ASF	2-8 ASF
	Minimum of 10 ASF in order to corrode the anodes and maintain the copper concentration in the bath.			
AGITATION:	Vigorous air mandatory for rack lines and also helpful in barrel lines. Use low pressure, large volume blowers only - not compressed air. Rack: 9 volts, Barrel: Minimum of 15 volts.			
RECTIFICATION:				
FILTRATION:	Continuous 5 micron with carbon pack.			

Step by Step Application

To plate on die-cast zinc surfaces:

1. Soak clean with **EPI's E-Kleen 163 or 153**
2. Cold water rinse
3. Electroclean in **E-Kleen 173 or 153**
4. Cold water rinse
5. Activate surface with immersion in **E-Pik 216**
6. Cold water rinse
7. Copper strike plate with **E-Brite 5.0 Cu** alkaline non-cyanide copper process for a minimum thickness of .0002"
8. Cold water rinse
9. Copper plate with **E-Brite 205-K** bright acid copper if desired, followed by nickel plating in **E-Brite 757** followed by **E-Brite Cr** chrome

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

EPI Electrochemical
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CAUTION: Do not work with the E-Brite 5.0 Cu solutions or other EPI products without first reading and understanding the **SAFETY DATA SHEET** furnished by EPI.

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.**