

Metal Blackening Processes

With Room Temperature Formulations:

Insta-Blak 333 & 333 GEL

For iron, steel and powdered metal. Produces deep rich blackness and corrosion resistance equal to hot oxide blackening with no smutty rub-off problems common with other room temperature formulations. Blacken parts in-house with wide window of operation. No dimensional change of precision surface, no leaching out with powdered metal.

Insta-Blak 334

Swab-on or touch-up finish for iron and steel.

Insta-Blak Z-360

For zinc surfaces; replaces expensive black chromates.

Insta-Blak SS-370 & SS-370 GEL

For blackening stainless steel.

Insta-Blak A-380

Immersion process for aluminum.

With Mid Temp Oxide Formulation:

Kool-Blak 225

Save energy, blackens 225-235°F, no caustic fumes per military spec MIL-C-13924C, Class 1.

With Hot Oxide Formulations:

Ultra-Blak 400

A premium grade salt mixture that actually costs less to apply. Used at 285°F to produce a black oxide (magnetite) finish per military spec Mil-C-13924C, Class 1.

Ultra-Blak 400L

A highly concentrated liquid version of Ultra-Blak 400.

Ultra-Blak 404 & 404L

Black oxide salts for cast and malleable iron at 250°F.

Ultra-Blak 407 & 407L

Blackens stainless steel at 250°F per military spec. Mil-C-13924C, Class 4.

Ultra-Blak 420

Blackens copper and brass at 200°F.

Ultra-Blak 460

Black chemical conversion finish on zinc, 160°F.

Ultra-Blak 466

Black chemical conversion finish for nickel and high nickel alloys, 160°F.

Simply Superior - ask a user!

What you should know about us

We were founded in Milwaukee, Wisconsin in 1954 and our name has been synonymous with plating and metal finishing excellence. Our strides ahead track record includes development of the first single additive brightener for cyanide copper plating - first with a bright, leveling single additive nickel plating process - first with a single additive brass plating process - first with a non-cyanide alkaline copper plating process - developed **Insta-Blak**, the state of the art technology for room temperature blackening of metals - developed a non-cyanide alkaline silver plating process.

In addition to providing a wide range of top quality products, all of which can be used in both rack and barrel operations, **EPI** offers you superb technical advice, outstanding laboratory service from knowledgeable technicians utilizing up-to-the minute lab facilities and fast response - all at competitive prices.

ISO 9001:2015 Certified



RESPECTED SINCE 1954
FOR QUALITY AND DEPENDABILITY
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Where Finishing Excellence Begins

Plating Processes

Room Temperature Metal Blackening & Antiquing Processes

Hot & Mid Temp Oxide Finishes Metal Cleaning & Surface Preps

Passivations, Phosphates & Rust Preventatives

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Plating Processes

E-Brite 30/30 and E-Brite Ultra Cu

Non-cyanide alkaline copper processes. Plate directly onto steel, brass, copper, zincated magnesium, electroless nickel, stainless steel, and die cast zinc in both barrel and rack lines. A separate strike bath is not required. Have outstanding throwing and coverage. The baths are easily maintained with excellent stability. Do not contain strong chelators. They plate copper out of the anodes.

E-Brite 5.0 Cu

Fifth generation of alkaline non-cyanide copper that plates without immersion copper challenges on zamac substrates in barrel and magnesium.

E-Brite 205-K

Acid copper 205-K non-dye type process with exceptionally bright and ductile deposits with low stress. Easy to buff.

E-Brite 50/50

Non-cyanide alkaline silver plating. Exhibits adhesion superior to cyanide silver. Plates directly onto brass, copper, and bronze without a separate strike. Superior color - brilliant white. Plates out of the anodes.

E-Brite 757

Bright nickel for both barrel and rack plating. Single addition maintenance brightener. Excellent chrome receptivity and ductility.

E-Brite 787

Ultra-bright, ultra-fast leveling nickel. Used when outstanding appearance with a minimum of thickness is required. Very tolerant to zinc.

E-Brite Ultra Alk

Alkaline non-cyanide zinc plating with excellent brightness and distribution. Very ductile. For rack and barrel.

E-Brite Ultra Chlor

Acid chloride zinc plating. Ammonium and non-ammonium baths. High temperature operation with high cloud point. Rack and barrel.

Cyanide copper, brass, cadmium and zinc processes are also available.

Room Temperature Antiquing / Oxidizing Processes For Brass, Copper, Pewter, Nickel and Tin

B/OX 311 & 311 GEL

Produces black to blackish-brown to brown colors on copper and brass with 1 to 3 minute immersions in safe water-based solution. Very versatile and easy to use.

B/OX 312 & 312 GEL

Produces pronounced brown to chocolate brown color on copper and brass.

B/OX 313

Blackens silver and nickel and browns copper and brass.

B/OX 315

Results similar to B/OX 311 and 312 with a very wide operating window.

B/OX 316, B/OX 316 GEL & B/OX 316A

For verdi-greens on brass and copper.

B/OX 322

Non-Selenium antiquing for brass, copper and bronze.

B/OX 324

Swab-on finish for copper and brass. Blackens engraved lettering.

B/OX 325

Blackens pewter and tin.

B/OX 327

Produces colors from brown to purple, grey to black and gun metal blue; used on copper, brass, bronze, white metal, silver, and tin/lead alloys.

Metal Cleaning Products

E-Kleen™ Formulations

Alkaline based, hot soak, spray and electrocleaners for all metals. Etching and non-etching cleaners for aluminum and zinc. Acid based cleaners for all metals. Liquid and powdered formulations are available.

E-PASSivates

Trivalent Passivation

Trouble passing salt spray? E-PASSivate will help solve your salt spray problem.

E-Chrome Ultra Blue

High Corrosion Resistant Trivalent Blue Brite Chromate that offers up to 150 hours salt spray resistance.

E-PASSivate CAD

Clear trivalent for cadmium plated surface; up to 100-150 hours salt spray.

E-PASSivate Yellow-Red

Trivalent passivation that provides beautiful hexavalent chrome yellow-like color; up to 200 hours salt spray to white corrosion per ASTM B-117.

Chromate Finishes

B.P.A. Brass Passivating Agent

A chromated finish applied cathodically over brass, copper and silver plating, to prevent tarnishing, spotting out and it doubles the service life of the part.

E-Seal

Sealers

High Performance multi-purpose sealers and sealer for post forming high corrosion resistance for zinc/chromated surfaces.

E-Seal 1000 High performance, multi-purpose sealer for zinc/chromated surfaces. Provides over 300 hours to white and 500 hours of salt spray protection to red rust when applied over zinc plated parts.

E-Seal 1002 Sealer for Post forming High Corrosion Resistance for zinc/chromated surfaces. Provides over 300 hours to white and 500 hours of salt spray protection to red rust when applied over zinc plated parts.

E-Seal 1007 High performance, multi-purpose sealer for zinc/chromated surfaces. Provides over 300 hours to white and 500 hours of salt spray protection to red rust when applied over zinc plated parts.

Rust Preventives - Corrosion Inhibitors

Water Displacing Calcium Based Formulations

E-Tec 501 Leaves a slightly oily finish. Heavy duty.

E-Tec 503 Leaves a very slightly oily finish.

E-Tec 504 Leaves a dry-to-the-touch finish.

E-Tec 505 Leaves a dry, soft, non-tacky finish.

E-Tec 505+ Heavy duty version of **E-Tec 505**. Leaves a thicker film.

Water-soluble (Emulsifiable) Formulations

E-Tec 510

Diluted to 3-5% with water, leaves a dry finish
Diluted to 10% with water, a slightly oily finish
Diluted to 20% with water, an oily finish

E-Tec 515

Heavy duty formulation with a higher degree of corrosion resistance than the **E-Tec 510**.

E-Tec 512

Formulation with emulsifiers and waxes and used full strength or diluted with up to 50% water. It provides an extremely thin, waxy, dry-to-the-touch film with superior salt spray resistance of 150 hours.

Specialty Formulations

E-Tec 520 clear acrylic lacquer, low corrosion protection

E-Tec 522 satin wax emulsion, low corrosion protection

E-LAQ 525 High corrosion resistance, clear air-dry water-based gloss lacquer.

E-Tec 527 water based formulation for temporary rust protection of steel.

E-Tec 527-B same as **E-Tec 527** but also protects brass and aluminum.

E-Tec 528 rinse aid for plating processes.

E-Tec 529 corrosion inhibitor and anti-tarnish for copper, brass and silver.

Metal Surface Preps

E-Pik™ and E-Prep®

Acid salts, deoxidizers, desmutters, etchants, and activators for steel and aluminum. Deoxidizers and brighteners for brass and copper. Etchants for aluminum and brass.

Some examples:

E-Prep 221 and E-Prep 222

Stabilized peroxide bright dip for copper and brass. Eliminates nitric acid and chromic acid dips and is environmentally friendly.

E-Prep 224

A concentrated liquid stabilizer and anti-tarnish additive for **E-Prep 221/222**. Also used with sulfuric acid and hydrogen peroxide to formulate customized bright dips for copper and brass.

E-Prep 250, 255 & 258

Surface conditioners/activators used prior to blackening steel with **Insta-Blak®**.

E-Prep 270

Stainless steel chemical dip brightening and passivation.

E-Prep 280 NCZ

A non-cyanide liquid zincate for aluminum and its alloys. Used as a surface preparation prior to non-cyanide alkaline copper plating, as well as other plating.

E-Pik 211

Removes tenacious zinc brightener films that nitric won't. Acid salt formulation used at room temperature to activate the surfaces of steel, stainless steel, zinc plate, diecast zinc, copper and copper alloys. Especially effective as an activator prior to blackening stainless steels.

E-Pik 215

General purpose activator and deoxidizer containing fluoride for use on steel, copper, brass and zinc.

E-Pik 216

For E-Brite Ultra Cu and E-Brite 5.0 Cu on zinc diecasts.

E-Pik 231

Highly alkaline liquid deruster for steel.

E-Pik 232

Aluminum etchant with controlled etching rate to produce a satin finish.

E-Kleen ADS

Descaling additive for acid used on steel and iron.