

E-Tec™ 529

Copper, Brass and Silver Surface Conditioner

E-Tec 529 is a liquid concentrate which is diluted with water and used to produce a chemically bonded mono-molecular barrier film on copper, brass, bronze and silver surfaces. It provides temporary protection against corrosive attack by Hydrogen Sulfide, Sulfur Dioxide, Carbon Dioxide, salt solutions and moisture. It inhibits corrosive attack for weeks to months for protection of parts while in process or short term storage.

E-Tec 529 leaves a non-greasy film which is colorless and is not apparent to the touch and will not cause spotting or staining.

It causes no adverse effect on the electrical properties of the treated surfaces and improves subsequent fluxing, soldering or brazing operations.

E-Tec 529 does not wipe off and it resists the action of water and general atmospheric conditions.

It does not have to be removed before subsequent clear lacquering and it makes an ideal undercoating before lacquering and will enhance the long term corrosion resistance of the lacquer.

E-Tec 529 must be removed from surfaces to be plated. Use an **EPI** soak cleaner for removal.

APPLICATION

Concentration: 10-25% by volume
pH: 7.0 - 8.5 (Use Sodium Hydroxide to raise the pH and use Sulfuric Acid to lower pH.)
Temperature: 140°F minimum 140-180°F
Immersion Time: 30 - 60 seconds

Note: For silver plate, use at room temperature at 25% by volume

Plated surfaces must be thoroughly water rinsed prior to immersion in the **E-Tec 529** solutions.

Rinse in clean hot water to set the barrier film.

Wrought alloys and sheet stock can be mechanically cleaned and deoxidized by burnishing, belt sanding, glass bead or sand blasting. Chemical cleaning and deoxidizing can be accomplished with **EPI's E-Kleen 148-E** soak cleaner, **E-Kleen 173** electro cleaner, followed by **E-Pik 215**. A

cold water rinse is used following cleaning and deoxidizing to remove residual solutions or blasting dust.

NOTE: If a visible white residue develops on the surfaces, this indicates that the immersion time is too long or the concentration of the **E-Tec 529** solution is too high.

The strength of the **E-Tec 529** is determined with the following titration procedure:

1. Pipette a 10 ml sample of the **E-Tec 529** solution into a 250 ml beaker.
2. Add 25 ml of distilled water, 5 ml of concentrated Ammonium Hydroxide and exactly 20 ml of 0.1N Silver Nitrate solution.
3. Stir solution and allow to stand for 5 minutes to allow the precipitate to coagulate.
4. Filter solution through #40 Whatman filter paper. Wash the precipitate two or three times with 50 ml portions of distilled water.
5. Return filtrate to 250 ml beaker and slowly add 10 to 15 ml of concentrated Nitric Acid.
6. Add one (1) ml of Ferric ammonium sulfate (2%) Indicator solution and mix well.
7. Titrate solution with 0.1N Ammonium Thiocyanate to a pale orange end point.

% by volume of **E-Tec 529** = ml 0.1N Ammonium Thiocyanate x 1.212

NOTE: Please contact **EPI's** technical service laboratory for assistance in preparing the reagent and indicator solutions.

SAFE HANDLING

E-Tec 529 and its solutions are not considered hazardous but exposure may irritate skin and eyes. Do not work with the **E-Tec 529** without first reading and understanding the **MATERIAL SAFETY DATA SHEET** furnished by **EPI**.

PACKAGING

One (1), five (5) and 55 gallon non-returnable containers.

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 manufacturers 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.**

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CORRECTION CHART FOR A WORKING SOLUTION OF E-TEC 529

