Stripol EN

Stripol EN is a two-component liquid system consisting of Stripol EN and Stripol. Stripol EN and Stripol are used in conjunction with water to make the final solution which will remove electroless nickel deposits up to 5 mils thick from steel, copper and copper alloys.

The stripping of parts may be accomplished in a rack, barrel or basket operation.

Features & Benefits

No base metal attack	Parts are easily re-processed
No electrical current required	Reduced process cost
Long bath life and fast stripping rate	Improved production process
No fluorides or cyanides	Safer operation

Operating Conditions

Concentration	Stripol EN 33% by volume in water Stripol 8 oz/Gal
Temperature	175°F – 195°F, optimum 185°F
Agitation	Recommended for optimum stripping action. Do not use air agitation. Agitate work or solution.
Time	Strip time will vary with both the temperature and thickness, as well as the type of electroless nickel being stripped (high-phos or mid-phos)
Stripping rate	The strip rate varies as stated above, however, the following can generally be anticipated: 1.5 – 2.5 mL/hr @ 185°F

Solution capacity	Stripol EN has the capacity to dissolve approximately 2 – 3.5 oz of nickel metal per gallon of operating solution
Equipment	Steel or stainless-steel tank equipment with a cover of same material, steel or stainless-steel heating coils (plate-coils). Good ventilation is required. Stainless steel or steel baskets, racks or hooks are needed. Do not allow rubber or other organic materials to meet strip solution which will cause these materials to swell or decompose.

Make-up

Fill tank 1/2 full of warm water. Add full amount of the Stripol and mix. Then add full amount of Stripol EN. Stir again. Bring solution to final operating volume with water and mix thoroughly.

Process cycle for stripping nickel electroplated work

1. Strip chrome plate. This may be accomplished either by anodic electro-cleaning or by immersing the work in a 30 to 50% (vol) Hydrochloric Acid solution.
2. Cold water rinse.
3. Activate nickel electroplate by immersing the work for 1 minute in a 30% to 50% (vol) Hydrochloric Acid solution. This immersion should only be necessary if the chrome plate was stripped anodically.
4. Cold water rinse.
5. Strip electroless nickel in the Stripol EN solution.
6. Cold water rinse.
7. Re plate.

Titration Method

Equipment
5 mL Pipette
50 mL Burette
100 mL Graduated Cylinder
250 mL Beakers
Filter paper – General Purpose
Funnel
Magnetic Stirrer
Magnetic Stir Bar
pH Meter
Thermometer

Reagents
0.5 N Sulfuric Acid
pH Buffers (4, 7, 10)
Deionized water

1. Adjust volume of Stripol EN bath to the original make-up level.
2. Check the pH of the operating solution at room temperature and adjust if necessary, to 12.0 to 12.4 by adding 50% liquid Sodium Hydroxide to the tank at room temperature.

CAUTION – Do not add Sodium Hydroxide to hot operating solutions.

3. Take a 100 mL sample of the adjusted solution and filter it to remove any particulate matter.
4. Pipette 5 mL of the filtered sample into a 250 mL beaker. Add 100 mL of de-ionized water and a magnetic stir-bar to the solution.
5. Place the beaker on a magnetic stirrer at medium speed and slowly titrate the solution with 0.5 N Sulfuric Acid to a pH of 11.4. Record the number of mL used as (A).
6. Continue titrating to a pH of 4.0 and record the number of mL used as (B).

Calculation

$$Concentration = \frac{(End\ Point\ B - End\ Point\ A) \times (0.5) \times (8.85)}{5}$$

Replenishment
Restore the Stripol EN operating bath to the original make up of 33% by volume. For each 10% by volume addition of Stripol EN, add 2 oz/Gal of Stripol.

If the pH is still below 12.0 after analyzing and replenishing the Stripol EN, the pH must be adjusted within the operating range of 12.0 to 12.8 with 50% Sodium Hydroxide.

Notes

1. Do not leave copper or copper alloy parts in the Stripol EN solution longer than necessary. Prolonged immersions may cause attack on these base metals.

2. Sometimes the basis metals will tend to smut, and it is for that reason that a Hydrochloric Acid post-dip may be required.

3. Stripping tank should be covered during stripping operation and during idle periods.

Troubleshooting

Effect	Probable Cause	Corrective Action
Low stripping rate	Improper make-up	Check data sheet
	Low temperature	Increase solution temperature
	Low pH	Add sodium hydroxide to pH 12
	High metal content: solution exhausted	Discard and renew
	Chrome not stripped	Strip chrome
	Passive nickel	Activate (step 3 under typical cycle)
	Dirty or oily work	Pre-clean
	Excessive plate thickness	Check thickness
Low capacity (many of the factors causing low strip rate will also affect the capacity)	Old, overheated, decomposed	Discard and renew
	High loading factor (many small parts can quickly exhaust a low volume of stripper).	Check total plated areas

Waste Disposal

Dispose of in accordance with all federal, state and local health pollution requirements.

Caution

Solutions of Stripol EN are oxidizing and alkaline which will cause burns to skin or eyes. Avoid skin, eye and oral contact. Wear protective clothing, gloves and goggles when handling the product. Flush exposed areas immediately with clean, cold water. Contact a doctor immediately in case of injury.

Our people. Your problem solvers.

For more information on this process please call us at
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