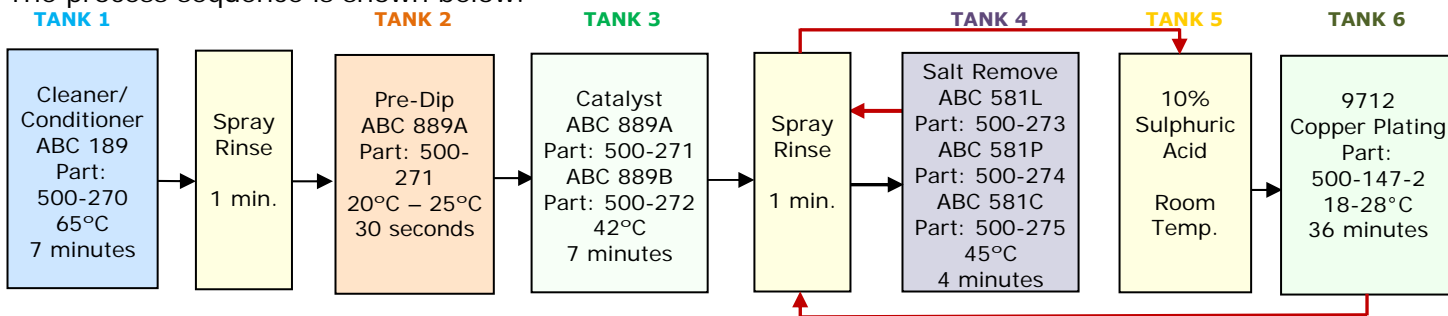


In keeping with our policy of continually improving our products, we are pleased to announce the arrival our new range of ABC Plating Chemicals.

Although they are used in a very similar manner to the old ABC chemicals, we now include one extra step which uses the spare unheated tank in the plating line.

The process sequence is shown below: -



BATH MAKE-UP INSTRUCTIONS FOR 5 LITRE BATH

1. CLEANER / CONDITIONER : ABC 189 (part: 500-270)

Add 150ml ABC189 to 4850 ml of de-ionised water to make 5 Litres

2. PREDIP : ABC 889A (part 500-271)

Use as supplied

3. CATALYST : ABC 889A (part 500-271 & ABC 889B (part 500-272)

Add half of the contents of ABC 889A to the tank, then add 250 ml of the ABC 889B and top up to 10mm from top of the tank with the rest of the ABC 889A.

4. SALT REMOVER : ABC 581L (part 500-273), ABC 581P (part 500-274) & ABC 581C (part 500-275)

Put 2 litres of de-ionised water into the tank. Add 2.15 Litres of ABC 581L followed by 500ml of ABC 581P and then 50ml of ABC 581C. Top up to working level with de-ionised water.

N.B. Always ensure that chemicals are mixed in this order.

5. 10% SULPHURIC ACID (98-99°C):

Please note this bath is optional. (see full ABC instructions –Page 16) Also we do not supply the Sulphuric Acid, but leave you to buy it locally if necessary.

6. COPPER PLATING:

Use as supplied – see pages 7 & 8 for instructions to electrolyse new solution, and page 13, for bath replenishment and replacement

BATH MAINTENANCE AND REPLENISHMENT

This is done on a m² basis of PC boards processed or using the amp hour meter with 1.25m² representing 500 amp hours as follows:

1. CLEANER / CONDITIONER

After processing 2.5m² of boards add 15 ml of ABC 189.- For best results it is recommended to make-up a fresh bath every 3 months. Operating temperature 60° - 70°C option 65°C

2. PREDIP

Top up losses due to Drag-out and evaporation with ABC889A

After processing 25m² of board – change the solution.

3. CATALYST

After processing 2.5m² boards – add 25 ml of ABC 889B. Solution should be changed after processing 60m² of boards.

N.B. Always place a blank piece of board in the tank and start the oscillation in order to ensure solution agitation during heat up time. Operating temperature 38°C – 44°C **N.B. NEVER EXCEED 50°C**

4. SALT REMOVER

After processing 2.5m² boards add: 215 ml of ABC 581L + 50 ml of ABC 581P + 5 ml of ABC 581C

Solution should be changed after processing 100m² boards. Operating temperature 40°C–50°C optimum 45°C

N.B. In all the baths any loss of liquid due to evaporation should be topped up using de-ionised water.

Except the Catalyst Tank which should be a mix 60% ABC889A Predip (500-271)

with 40% de-ionised water

(IMPORTANT: Remember to mix predip and de-ionised water before adding to catalyst tank).

Finally, please note the Starter Kit (part 500-159-2) now contains enough chemicals to replenish 10m² of boards

Owing to product improvement, the ABC 972 Leveller and Brightener has been replaced by :-

1 litre of **ABC 6900 Brightener** (part number **500-146-2**)

The brightener can be used as an exact replacement and should be added at the rate of 30ml after every 100 amp hours. If however your boards appear dull or grainy at the edges, then add 15ml of the ABC6900 before plating the next board. However still add the 30ml when 100 amp hours is displayed.

ABC 9712 Copper Plating Tank

Replenishment Procedure.

After every 100 amp hours, add 30ml of ABC CB6900 972 Brightener (part: 500-146-2) Then reset the amp hour meter to Zero.

Copper plating bath should occasionally be emptied into its original supply container through a funnel with a coffee filter or similar placed in the funnel. If copper plating seriously deteriorates despite additions of Brightener and filtration as above, bath should be renewed or anodes may need replacing.

GENERAL FAULT FINDING COPPER PLATING

FAULTS	CAUSE	CORRECTION	ADDITION	
			MIN	MAX
Roughness	Suspended Particles	Filter and/or dummy 12"x10" panel at 1amp/dm ² for 1 hour		
Burning	Lack of Brightener	Add 6900 Brightener	15ml	35ml
	Low Temperature	Check Temperature	20°C	30°C
	Poor Agitation	Make sure oscillation is taking place		
	Poor Air Bubble pattern	Make sure you have good bubble pattern Check no pipes blocked or air pumps are faulty		
	Current too High	Check it is 3 amps / dm ²		
Dullness on all copper areas	Lack of Brightener	Add 6900 Brightener	15ml	35ml
Bright on outside edges of board. Dull in the Middle.	Too much Brightener	Plate large blank at 3 amps / dm ³ for 3 – 4 hours. Repeat if board is not bright all over		
Bright in the middle of the Board dull at edges.	Lack of Brightener High temperature	Add 6900 Brightener Check temperature – should be between 25°C – 30°C	15ml	35ml
Faults not corrected by above procedure	Organic Contamination	Change solution. Store contaminated solution in its original container and send 100mls of it back for analysis.		
Crazing Effect or Patchy Appearance	Chloride level too low	Add Conc. Hydrochloric Acid reagent grade 36% or laboratory grade Sodium Chloride	3ml 1 gram	4ml 2 grams
Current Error light on when Power supply is in Run Mode or Voltage high (clips at 3.5 volts) and set current starts to decrease	Poor contact	Check anode hooks are in proper contact by sliding anodes backwards and forwards on anode rails and remove any copper deposits around anode hooks		
	Anode Polarisation	Check anodes still have an even black oxide layer over their surface. If they no longer have black layer or are a grey to whitish colour they have become polarised. If so remove and scrub thoroughly clean with water and detergent. Rinse and put back in bags and then return to bath. Add 2 – 3 ml of Conc. HCL 36% or 1-1.15 grams Sodium Chloride. Plate large panel at 1.0 amp / dm ² for 120 minutes		
	Anodes badly worn.	Replace anodes.		

WARNING: NEVER ALLOW ANY SOLUTION TO GO BELOW 0°C

If you have any problems, please contact our Technical Services Department telephone: 01223 893900