

## Ultra-Alk Trouble Shooting

Possible cause	Correction
<b><u>Hazy or Dull deposit:</u></b>	
1. Low Brightener	Run Hull Cell test to determine proper add.
2. Low/High Carrier	Run Hull Cell test to determine proper add.
3. High temperature	Reduce temperature to below 120° F.
4. Poor cleaning	Evaluate the soak and electrocleaner.
5. Poor filtration	Use 1 to 5 micron filter.
6. Bath contaminations	Carbon treat with 1 to 2 lb activated carbon/1,000 gal. Treat bath with 1 to 2 lb Potassium Permanganate/1,000 gal.
7. High Zinc metal concentration	Maintain a zinc metal concentration at 2 oz/gal - reduce by dilution or dummy plating.
8. Poor water quality	Add 1-2 oz/gal <b>Ultra-Alk WC</b> .
<b><u>Slow plating, low efficiency:</u></b>	
1. Low temperature	Raise temperature to 85°F.
2. High NaOH concentration	Maintain total caustic concentration at 20 oz/gal.
3. Low Zinc metal concentration	Maintain Zinc metal concentration at 2 oz/gal.
4. High carbonates level	If carbonates concentration is above 10 oz/gal – freeze them out.
5. High Carrier	Run Hull Cell test (1amp-30 min panel) & measure thickness (40ASF : 4ASF = 2:1). Normal thickness is ~400 microinches at 40ASF and 200 microinches at 4ASF
6. Anodes (mild steel) coated	Remove organic film off anodes.
<b><u>HCD burning:</u></b>	
1. Anode and cathode too close	Adjust distance between anode and cathode.
2. Zinc concentration is too low	Maintain Zinc metal concentration at 2 oz/gal.
3. Excessive current	Lower the amperage in plating tank.
4. Current is too high in electrocleaner	Lower the amperage in cleaner tank.

**LCD striations:**

1. High zinc metal concentration	Maintain Zinc metal concentration at 2 oz/gal – reduce by dilution or dummy plating. Add <b>Ultra-Alk Purifier</b> .
2. Low NaOH concentration	Maintain total caustic concentration at 20 oz/gal. Add <b>Ultra-Alk Purifier</b> .
3. Zn: NaOH ratio is out of balance	Adjust ratio.

**HCD striations:**

1 .Low Carrier	Run Hull Cell test to determine proper add.
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**LCD band or dullness:**

1. High temperature	Reduce temperature to below 120° F. Add <b>Ultra-Alk Purifier</b> .
2. Low Purifier	Run Hull Cell test to determine proper add.
3. Low Brightener	Run Hull Cell test to determine proper add.
4. Metallic impurities	Zinc dust treat or Dummy plate
5. Bath contaminations	Carbon filter the solution. Treat bath with 1 to 2 lb Potassium Permanganate/1,000 gal.
6. Improper Pickling	Check time and concentration of pickle solution.
7. Poor filtration	Use 1 to 5 micron filter.
8. Minerals in solution	Add 1-2 oz/gal <b>Ultra-Alk WC</b> .

**Roughness:**

1. High NaOH concentration	Maintain total caustic concentration at 20 oz/gal.
2. High Carbonates level	If carbonates concentration is above 10 oz/gal – freeze them out.
3. Poor filtration	Use 1 to 5 micron filter.
4. High current	Lower the amperage.
5. Low anode area	Maintain anode/cathode ratio at 2:1.
6. Copper in pickle	Change Pickle solution.
7. Low Carrier concentration	Run Hull Cell test to determine proper add.
8. Polarized anodes	Low caustic concentration or high Purifier concentration – maintain total caustic at 20 oz/gal; reduce addition of Purifier and never pour it on anodes.
9. Poor quality of water	Add 1-2 oz/gal <b>Ultra-Alk WC</b>

**Flaking and Blistering:**

1. Cleaning and preparation	Evaluate the soak and electrocleaner.
2. Chromium contamination (over 10 ppm).	Treat bath with 0.25 lb Sodium bisulfite/1,000 gal.
3. Brightener overload	Dummy plate. Treat bath with 1 to 2 lb Potassium Permanganate/1,000 gal. Increase bath temperature to 110° F. Carbon treat with 1 to 2 lb activated carbon/1,000 gal. Cut the bath by 10-15%.
4. Copper in a pickle	Change Pickle solution.
5. Deposit thickness is > 1.25 mil	Check customer's thickness specs.
6. Low temperature	Raise temperature to 80 - 85° F.

7. Low NaOH concentration	Maintain total caustic concentration at 20 oz/gal.
8. Organic impurities	Treat bath with 1 to 2 lb activated carbon/1000 gal or Treat bath with 1 to 2 lb Potassium Permanganate/1,000 gal.
9. High Iron in deposit	Check concentration of alkaline predip solution.
<b><u>Excessive Brightener Use:</u></b>	
1. High temperature	Reduce temperature to 85° F.

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