ORTHOBRITE AZ-526

(HIGH PERFORMANCE CHLORIDE ZINC SYSTEM)

ORTHOBRITE AZ 526 is a high performance trouble free system which operates over a wide range for both vat and barrel. The system is highly economical and versatile.

SALIENT FEATURES

Most balanced addition agents for a trouble free operation.
Operates over a wide current density range.
Operates over a wide range of bath compositions.
Bright low current density deposits.
Good acceptibility to all chromatings.
Good tolerance to over dosages and iron impurities.

OPERATING CONDITIONS

Bath composition.
ORTHOBRITE AZ-526 A : 100ml/ltr
ORTHOBRITE AZ-526 B : 225g/ltr
ORTHOBRITE AZ-526 M : 40ml/ltr
ORTHOBRITE AZ-526 R : 0.8ml/ltr to 1ml/ltr

CONSTITUENTS:

Zinc metal : 25 - 35 g/ltr
Total chloride : 100 - 130 g/ltr
Boric acid : 22 - 25 g/ltr
Anode current density : 1 - 3.0 A/dm²
Cathode current density : 0.5 - 5.0 A/dm²
Voltage : 5 - 9 (Barrel)
: 1 - 4 (Rack)
pH (Electrometric) : 4.4 - 5.0
Filtration : Continuous.
Agitation : Air or Mechanical
Anodes : Pure Zinc (99.99%)

BATH MAKE UP:

Fill the plating tank to half its volume with warm water (50 - 60°C) and add calculated quantity of ORTHOBRITE AZ-526 A and dissolve by stirring. Adjust the pH. Use hydrochloric acid to lower the pH and potassium hydroxide to raise the pH. And add required quantity of ORTHOBRITE AZ-526 M and ORTHOBRITE AZ 526 R and make up the final operating volume. The bath is now ready to use.

OPERATIONAL FEATURES:

ZINC METAL:

Zinc metal in the bath can be maintained by analysing the bath periodically. Metal content can be increased by addition of ORTHOBRITE AZ 526 A. In barrel plating a lower zinc content gives bright low current density plating and also reduces drag out losses. Where as for vat plating higher metal content is recommended so that the bath can be operated at higher current density without any burning at high c.d. areas.
TOTAL CHLORIDE:

Total chloride in the bath is maintained by periodic analysis and addition of ORTHOBRITE AZ-526 B. Low chloride content leads to dullness in low c.d. areas and burning in high c.d. Higher chloride will reduce the solubility of addition agents.

BORIC ACID:

It is used as a buffering agent to minimize pH fluctuation. Low concentration can cause burning at high c.d. area and dullness in low c.d. Higher concentration can give roughness due to insolubility and can reduce the conductivity by forming insoluble film at the anode.

OPERATING CONDITIONS:

pH:
The pH of the bath should be checked and adjusted daily at 4.8 - 5.0. Lower pH will lead to dull deposits and also more iron impurity. Higher pH causes burning.

TEMPERATURE:
The temperature range of ORTHOBRITE AZ-526 system is 20 - 45°C. A temperature higher than the range can be controlled by providing titanium cooling coils.

CURRENT DENSITY:
The current density recommended is 0.2 to 1.5 amps per dm². for barrel plating and 2.0 amps per.dm². for rack plating.

AGITATION:
For rack plating air or mechanical agitation can be provided. Cathode rod movement should be at a range of 4 to 10 feet per minute. Low pressure, clean filtered air from an air pump is recommended.

TANK:
PVC, polypropylene or polyethylene lined tanks are suitable. Rubber lined tanks are not suitable for bright chloride zinc solution.

FILTRATION:
Continuous filtration is recommended to remove iron contamination. Filter should be PVC lined. Rubber lined should not be used. Capacity of the filter should be 2 - 3 turnovers per hour.

NOTE:
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