

TECHNICAL DATA SHEET

Bright Chrome Process (BC-3600)

Bright Chrome Catalyst BC-3600 is a mixed catalyst high speed bath. This process gives high rate of deposition and increase cathode efficiency 15-20% .thus reduce electric consumption up to 40% with compare to conventional chrome bath.

Salient Feature:

- Higher current efficiency.
- Better covering and throwing power.
- Not corrosive for titanium coils/ heaters.
- Easy to Operate

Bath Make Up:-

- Fill the tank with 2/3rd of warm water.(40°C)
- Add the required quantity of Chromic Acid and stir to dissolve.
- The salt must be completely dissolved.
- Add water to make up level.
- Place the anodes in the tank and dummy the bath for few hours at 40°C.
- Allow Solution to cool down at standard temperature (38°C).
- Add required quantity of Catalyst BC-3600.
- Check the sulfate ratio and adjust to the standard by barium hydroxide/Barium carbonate & chrome catalyst BC-3600.

Standard Bath Make-up Values

Descriptions	Range	Optimum
Chromic Acid	200-240 gm/l	220 gm/l
Chrome Catalyst (BC-3600)	6-10 ml/l	8 ml/l
Chrome Nomist/Anti-Fumer	1-2 ml/l	1.5 ml/l

OPERATING CONDITIONS:

Chrome Content	200-240 gm/litter	220 gm/litter
Density	20-22 °B	20 °B
Sulfate Ratio	1.0-1.5 gm/litter	1.2 gm/litter
Temperature	35-40 °C	38 °C
Cathode current density	15-25 A/dm ²	15 A/dm ²
Anode current density	10-20 A/dm ²	10 A/dm ²
Voltage	6-15	10

Anodes:-

Tin-lead alloy anodes are recommended. Round and Corrugated anodes are preferred over flat anodes. During idling period the anodes become passive and this can be cleaned mechanically or by immersing in alkaline cleaner.

Replenishment:-

The solution concentration can be controlled with the help of density measurement. Periodic analysis of the bath should be carried out to determine the chromic acid and sulfate content. Addition of commercial chromic acid can maintain the solution concentration. Chrome Catalyst needs to be added after the addition of chromic acid.

1-1.5ltr of chrome catalyst BC-3600 addition is recommended with 50 kg regular addition of chromic acid.

The sulphate content should be maintained between 1.0 – 1.5 g/liter. In case of increase in sulphate ratio a good quality Barium hydroxide is to be used to reduce the sulphate ratio. To reduce the sulphate by 1.0 g/liter 3 g/liter of Barium hydroxide is to be added.

If yellow/rainbow passive shade observed on low current area shows low sulphate ratio and low throwing power. Addition of 2-3-ml/l chrome catalyst BC-3600 will eliminate this problem.

Equipment:-

MS tanks recommended with FRP or PVC lined. Suitable exhaust system with scrubbing facilities should be provided. For heating the bath titanium or Teflon coils or heaters are recommended. Rise in temperature because of higher voltage and operational current requires proper cooling arrangements to be made.

Caution:-

Must wear PP, Rubber Gloves and Apron. While handling contact with eyes, skin and clothing should be avoided. Care should be taken to avoid breathing dust from the product or dust from the solution containing chromic acid. Protective clothing, rubber gloves and safety goggles should be provided.

In the event of eye contact wash with plenty of water. For skin contact flush skin with plenty of water for 15-20 minutes.