

TECHNICAL DATA SHEET

Hard Chrome Process (HC-3700)

Hard chrome plating process HC-3700 is a high-speed bath which employs a special mixed soluble catalyst and has been developed to meet the modern hard chrome plating requirements. Its outstanding features are, high rate of deposition and hardness of the deposited chrome layer. The thickness of the chromium deposit to be applied depends on the expected requirements, especially taking into consideration wear and corrosion resistance. Improved corrosion resistance achieved by depositing chromium thicker than 30 microns having a large number of cracks.

Salient Feature:

- Higher current density range.
- Excellent covering and throwing power.
- Harder chrome deposit.
- Low Initial Make-up concentration.
- Easy to operate and maintained.

Bath Make Up:-

- Fill the tank with 2/3rd of warm water.(55°C)
- Add the required quantity of Hard Chrome Salt and stir to dissolve.
- The salt must be completely dissolved.
- Add water and level the tank till operating level.
- Place the anodes in the tank and dummy the bath for 2-3 hours at 55°C.

OPERATING CONDITIONS:

Parameters	RANGE	Optimum
Chrome Content	200-300 gm/litter	300 gm/litter
Catalyst HC-3700 A	20-30 ml/ltr	25 ml/ltr
Catalyst HC-3700 B	20-30 ml/ltr	25 ml/ltr
Density	22-24 °B	24 °B
Sulphate ratio	2-3 gm/ltr	2.5 gm/ltr
Temperature	50-55 °C	55 °C
Cathode current density	20-50 A/dm ²	35 A/dm ²
Anode current density	10-30 A/dm ²	20 A/dm ²
Voltage	6-15	10

Process Flow:-

- Polishing/ Grinding
- Soak Degreasing
- Water rinse
- Water rinse
- HCL Acid pickling 10-20%
- Water rinse
- Water rinse
- Electro cleaner
- Water rinse
- Water rinse
- Sulfuric Acid Neutralizing 10-20%
- Water rinse
- Chrome Anodic Etching 30-60 seconds (at 55°C)
- Hard Chrome plating
- Water rinse
- Water rinse
- Hot water rinse

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. Addition of commercial chromic acid can maintain the solution concentration. Chrome Catalyst need 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. To increase in 01Bume/ density add 12gm/ltr chromic acid.

Equipment's:-

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.

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 mint.



Office: - Plot No 303 Street No 1-B, Scheme 33, S.I.T.E Super Highway Karachi

Web: - www.everbritechemicals.com

Email: - info@everbritechemicals.com

Phone: -0303-2500251, 0341-2036408