

Trivalent Chromium Black Zinc Passivator TCP-976**三价铬黑锌钝化剂（碱性镀锌钝化剂）****一、Features**

1. TCP-976 trivalent chromium black passivator contains no hexavalent chromium, silver or other harmful metals, fully complying with environmental protection regulations.
2. This product is exclusively applied to alkaline zinc plating and produces a dark, uniform black passivation film.
3. It is a two-component passivating solution. Combined with PB-952 sealant after black passivation, the salt spray resistance of the coating can be greatly enhanced. The coating can withstand more than 96 hours of salt spray test without white corrosion spots.

二. Operating Parameters

Item	Optimum Value	Operating Range
TCP-976A	Barrel plating: 120 ml/L Rack plating: 90 ml/L	80 - 150 ml/L 50 - 100 ml/L
TCP-976B	Barrel plating: 50 ml/L Rack plating: 90 ml/L	40 - 60 ml/L 60 - 120 ml/L
Temperature	30 ° C	20 - 40 ° C
pH Value	2.2	1.8 - 2.5
Processing Time	Barrel plating: 30 s ; Rack plating: 60 s	30 - 60 s
Agitation	Continuous tank circulation	—
Filtration	Recommended	—

三. Bath Make-up

1. Fill the tank with half the required volume of water.
2. Add the required amount of TCP-976A and stir thoroughly.
3. Add the required amount of TCP-976B and stir evenly.
4. Top up the solution to the standard working volume.
5. Test and adjust the pH to the recommended range using nitric acid and sodium hydroxide solution while stirring continuously. Adjust the solution temperature to the specified range.