Future Coat Technology

BRASS SALT 500

Brass salt 500 is used in bath vat and barrel and will yield a rich, golden yellow deposit. The solution can be used either warm or cold but the bath performance is better while operating under warm conditions. The brass deposit obtained is normally a rich, golden yellow colour.

Bath composition

	For warm solution
Brass salt	150 gms/ltr
Warm water to make one liter solution	

Operation conditions

	Vat	Barrel
Cathode current density	0.5-1.0 A./dm²	
Voltage	2.5-3.0 volts	5.0-10.0 volts
pH (maintain by Ammonia or 10% sodium Hydroxide solution)	9.5-10.5	9.5 - 10.5
Temperature	40-45°C	40 - 45°C

Solution preparation

Clean the plating tank and fill with clean water two/third of its working level. Add calculated quality of Bras salt and stir well till it is dissolved completely. Add water to make-up the working level. Now the bath is in working condition.

Equipment

Normally a welded steel tank is employed. A plastic or rubber lined container can also be used .The tank should be fitted with anode and cathode rods and suitable means of heating should be provided if the solution is to be used in warm conditions.

Maintenance

The solution should be analyzed weekly to determine copper and zinc content. Additions of Brass salt 500 should be made to maintain the optimum metal content within the following limit.

	For Tank	For Barrel
Copper	7.1 – 9.5 Gms/lit	10.6 – 14.2 Gms/lit
Zinc	2.6 – 4.2 Gms/lit	3.9 – 6.3 Gms/lit
Free sodium Cyanide	3.7 – 8.5 Gms/lit	5.5 – 9.7 Gms/lit

The free cyanide content of the brass solution should be analyzed regularly and additions are made so as to maintain free cyanide content to the optimum level. The metal concentration is normally maintained by anode dissolution and remains the same for fairly long periods.

The ammonia gets consumed during plating and hence on starting the bath, ammonia is replenished by adding 1.0- 3.0 gms/lit. Ammonium chloride every day. This will enable to maintain the expected brass colour.

Anodes

For decorative brass plating, anodes having a composition of 60% copper and 40% zinc are used.the anodes employed should be of high purity, especially free from lead. For obtaining richer brass colour, brass anodes having 70% copper and 30% zinc may be used.

Process sequence

1. Alkaline soak clean
   Fx 150 soak clean gms/lit temperature 80°c time 2=5 minutes
2. Cold water rinse
3. Electro clean
   E clean-980gms/lit, Temperature 70°c time 2-5 minutes, anodic current density 50-100 A/sq.ft
4. Cold water rinse
5. Acid dip
   10-15% Sulphuric acid by volume, time 30secs, Room temperature
6. Cold water rinse
7. Bright nickel plate
   Ultra bright nickel A nickel B
8. Counter flow water rinse
9. Brass plate- time to obtain minimum thickness of 0.6-1.0 microns
10. Counter flow water rinse
12. Drain
13. Air dry

CAUTION

Brass salt and brass solutions are alkaline in nature and contain cyanide.