

## TECHNICAL DATA SHEET

### ALKALINE ZINC NICKEL 200

#### ALKALINE ZN NI- ELECTROLYTE FOR BARREL PLATING

ZN NI 200 is a cyanide free, alkaline electrolyte for plating of zinc – nickel alloys with a nickel content of 10 – 14 %. It is highly suited for rack and barrel both.

It produces semi bright zinc – nickel alloy deposits which can be used specifically for automobile industries.

#### MAKE UP :

	<b>RANGE</b>	<b>OPTIMUM</b>
Zn oxide	12.5 – 15 g/l	12.5 g/l
Caustic soda	100 – 130 g/l	115 g/l
Temperature	26 – 30°C	28°C
ZN NI 201(nickel solution)	15 – 20 ml	18 ml
ZN NI 202(complexing agent)	60 – 100 ml	80 ml
ZN NI 203(brightener)	1 – 2 ml	1.5 ml

1. Fill the tank with 1/3<sup>rd</sup> full with water.
2. Slowly with stirring add required amount of Zinkol ZN- NI Salt. As the reaction is highly exothermic, it is recommended that the Zinkol ZN- NI Salt added in small quantity with continuous stirring.
3. After the dissolution make up the operating level with water and allow the solution to cool at room temperature.
4. Add required amount of complexing agent ZN NI 202.
5. Add ZN NI 201(nickel solution) and ZN NI 203 (brightener)
6. Add the calculated amount of Zinkol 201, Zinkol 202 and Zinkol 203 .
7. The bath is ready for use.

#### OPERATING CONDITIONS:

	<b>RACK</b>	<b>BARREL</b>
Cathodic current density	1.0 – 3.0 A/dm <sup>2</sup>	0.5 – 1.5 A/dm <sup>2</sup>
Voltage	2 – 12 V	6 – 18 V
Agitation	-----	3 – 6 rpm
Anodic Current Density	3 – 8 A/dm <sup>2</sup>	

Filtration	Continuously at 2 – 3 bath volumes per hour Alkaline resistance filter with 10 - 20µm
Exhaust	Required
Current efficiency	40 – 70% depending on zinc content and current density

#### **EQUIPMENTS:**

Steel lined with PP, PE or PVC coating tanks can be used. Heaters / cooling coils made of stainless steel or titanium can be used. Temperature should be maintained within 30 – 35°C

#### **ANODES:**

Nickel or nickel plated stainless steel sheets can be used.

#### **MAINTENANCE:**

Analytical values of zinc, nickel and sodium hydroxide should be maintained within the below parameters.

	<b>RANGE</b>	<b>OPTIMUM</b>
Zinc	7 – 12 g/l	10 g/l
NaOH	110 – 140 g/l	120 g/l
Nickel	1.1 – 2.0 g/l	1.4 g/l

#### **Consumption for 1000 amps.:**

ZN NI 201(contains nickel)	750 – 1100ml
ZN NI 202(complexing agent)	50 – 150 ml
ZN NI 203(brightner)	50 – 200 ml

The consumption rate depends on drag out and operating conditions.

NOTE: sodium carbonate concentration should be maintained below 80 g/l as higher concentration the current efficiency drops.

#### **DISCLAIMER:**

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