



# PT. SINAR CEMARAMAS ABADI

- VERCOPPER (ACID / CYANIDE COPPER)
- VERNICKEL
- VERCHROME
- VERZINC ACID / CYANIDE ZINC
- CLEANER (ELEKTRO / SOAK)
- PHOSPHATING
- CHROMATING
- ELECTROLESS NICKEL

#### FOR HIGHTECT ELECTROPLATING :

- ELECTROLESS NICKEL PLATING FOR ALUMINIUM AND ZINC DIE CAST, MAGNESIUM
- GOLD PLATING
- PTFE FORELECTROLESS NICKEL
- HARDCHROM
- SAND CAST ALUMINIUM ALLOYS PLATING
- MAGOXID - COAT FOR PROTECTING MAGNESIUM SUBSTRATES

- KEPLA - COATING FOR ALUMINIUM AND TITANIUM ALLOYS

- ELECTROLESS NICKEL PLATING WITH INTEGRATED SILICON CARBIDE PARTICLES (SIC)
- GLISS - COAT  
A CLEAN SOLID FILM LUBRICATION FOR A MAINTENANCE FREE PERMANENT LUBRICATION OF ALL KIND OF FRICTION PAIRINGS
- SEPA - COAT  
(ANTI ADHESIVE COATING AND ACTIVATOR) FOR THE REMOVAL OF PART FROM MOULDS

## HR BRIGHT BRASS ELECTROPLATING BATH

### 1. GENERAL

The new HR BRASS process deposits smooth, bright coatings into steel, iron, copper and zinc. Excellent colour stability and ease of maintenance are key advantages of this new formulation.

### 2. SUPPLY AND MAKE - UP

For the make up of 100 L rack plating solution 10 – 12 kg HR BRASS chemicals are added to water. Barrel plating tanks require 15 – 20 kg HR BRASS chemicals.

Suitable steel or plastic tanks are filled to 2/3 of final volume with water. The HR BRASS chemicals are added slowly whilst stirring.

After complete salt dissolution the tank is filled with water to final working volume.

Prior to bath operation 50 ml ammonium Hydroxide per 100 L bath volume must be added

Please note that a slight turbidity is quite normal.

### 3. OPERATING CONDITIONS

	<b>Rack plating</b>	<b>Barrel plating</b>
Voltage	2 – 2.5 V	6 – 10 V
Current density	0,3 – 0,4 A/dm <sup>2</sup>	0,8 – 2,0 A/dm <sup>2</sup>
Temperature	18 – 20 °C	18 – 20 °C
pH	9,8 – 10,2	9,8 – 10,2
Time	5 – 45 Min.	10 – 45 Min.

The anode material is 70% copper and 30% zinc alloy.

For optimal working conditions it is essential to maintain an anode/cathode ratio of at least 1 : 1 but preferably 2 : 1

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## 4. BATH MAINTENANCE

To replace the decreasing free cyanide concentration 1 – 2 g/l sodium cyanide (NaCN) must be added occasionally. An indication of low cyanide concentration is a dark anode coating. Should the anodes be bright and gassing excessively the free cyanide concentration is too high.

Close temperature control is very important for uniform colour maintenance. Higher temperatures result in a more red colour, while lower temperatures produce light yellow coatings. Too low voltages can also result in a red colour tone.

For new electrolytes we recommend to condition the bath by dummy plating for several hours.

Bath replenishment is carried out by addition of HR STANDARD BRASS chemicals.

Typical indicators for replenishment are slower deposit rate and lower specific gravity (baume).

## 5. SAFETY AND STORAGE

As with all cyanide based plating processes suitable safety gear such as goggles, aprons and rubber gloves must be worn.

Storage of HR BRASS chemicals must be in dry, well-ventilated areas.

All local by-laws regarding effluent disposal must be adhered to.

Whilst every care is being taken during manufacture and handling of our chemicals HR nevertheless does not guarantee the subsequent use or final application result of its products.

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