Galvano Mondo
surface treatment & finishing systems

TÜV AUSTRIA HELLAS
EN ISO 9001:2000

TECHNICAL DATASHEET

Zincostar Z 2.0

Cyanide Bright Zinc Process

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Process Information

Zincostar is a liquid brightener.Zincostar Z 2.0 is producing brilliant deposits at low, medium, and high current densities for both, barrel and rack operations.Zincostar Z 2.0 has a excellent throwing and covering poweran and also plated parts can easily be chromated. Due to the variable metal and cyanide content of the solution, it may be used over a wide range of operating conditions.this product contains no aldehydes - a fact which allows to use operating temperatures higher than normal (up to 45 °C).its brilliant deposits and its economic use make it the outstanding cyanide zinc brightener system.

Equipment and Working Parameters

Agitation	cathode agitation (rack or barrel movement) recommended, no air agitation (to avoid cyanide mist and carbonate increase)
Filtration	recommended
Cathodic current density	(barrel) 0.2-2.0 A/dm2 (rack) 0.2-4.0 A/dm2
Temperature	20°C to 45°C (optimum 25°C)
Current efficiency	% 60 - % 80
Deposition rate	10-14 µm per Ah/dm^2
Tank Material	plastic or steel with plastic coating
Exhaustor	recommended to avoid worker from fumes
Anodes	pure zinc 99.99 % according to DIN 1706 or steel Anodes to control the zinc concentration.
Cooling	Recommended, necessary for lines with high load on small volumes and/or recommended to freeze out sodium carbonate
Consumption	1- 2 liter per 10.000 ah (changes by desired brightness)

Make up

	Optimum		**Range**			
$ZnO*6H_2O$	40,0	g/l	30,0	to	40,0	g/l
$NaCN*6H_2O$	90,0	g/l	75,0	to	110,0	g/l
NaOH	40,0	g/l	40,0	to	60,0	g/l
Brightener Zincostar Z 2.0	0.5-2,0	ml/l	0,5	to	3,0	ml/l
Purifier	0,1	ml/l	0,1	to	0,2	ml/l

Maintenance

Analyse zinc, sodium cyanide, sodium hydroxide and sodium carbonate regulary. Zinc is controlled by changing the anodic current density or by using steel anodes. Add sodium cyanide and sodium hydroxide according analysis. Add 0.2 l purifier Zincostar Z 2.0 per 10 kg added NaOH. Freeze out excess sodium carbonate. Adjust Zincostar Z 2.0 with the aid of Hull cell tests.

Estimated Consumption per 10 KAh:
Zincostar Z 2.0 is consumed by drag-out as well as electrochemically, by anodic oxidation and cathodic build-in .

The following values can give a range for the consumption(per 10,000 Ah):

Zincostar Z 2.0 1-3 L

Rectifier with 10-30 V and 0-3 A, cables, 250 ml Hull cell, zinc anode, steel Hull cell panels. Put the anode into the Hull cell and connect with the cable to the (+) pole of the rectifier; fill the cell with the original zinc bath up to the Hull cell‘s mark. Remove the plastic film mechanically, or remove the zinc coating of the Hull cell panel in 1:1 hydrochloric acid, rinse, electroclean the panel, rinse well and put into the cell. Move slightly to and fro in order to wet the panel properly. Then connect with the cable to the (-) pole of the rectifier. Plate for 15 min with 1 A (full voltage, current adjusted to the desired value) without agitation. Take the panel out, rinse well and brighten in a 0.5 Vol% nitric acid. If the analysis of the bath values indicated that some inorganic ingredient should be adjusted, plate a second panel with these corrections. The correct Zincostar Z 1.0 panel should be completey bright and uniform; a slight haziness in the hcd area is normal, vertical hydrogen marks (stripes) also. There should be no dullness in mcd and lcd area and the panel must be coated completely. If the organic additives have no positive effect but the panel is still dull, it might be a strong overdosage.
In this case, dilute the original electrolyte 1:1 with a fresh electrolyte prepared in the laboratory and having no additives. Plate a Hull cell panel in this 50 % electrolyte and try again if the correction was now possible.

Health and Safety

Material Safety Data Sheets are available for all GALVANO MONDO products, they are normally issued with relevant quotations and Technical Data Sheets. They explain hazards associated with the product following classification by European Statutory Requirements. Normally more than one product will be used in a process. Risk evaluation of the process is the users responsibility because the user controls men, materials, methods and machines. The user must consider all of the substances present in the solution, whether they present a risk to people and the environment, whether abatement measures are needed.