

NEF 5000

Bright-Nickel Electro-forming Process

Nickel Sulphamate based bath using special Additives

Produces deposits that are Bright, fine grained with very high tensile strength but also ductile and stress free

Bath has very high cathode efficiency and can be operated at high current densities enabling high rate of deposition

Used for Electro-forming, Electrotypes and stereotypes, Electronic components, Roller coatings, Rebuilding of worn parts, Jet Engine overhaul



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FEATURES AND BENEFITS

CONSOL NEF 5000 **BRIGHT NICKEL ELECTROFORMING PROCESS**

CONSOL NEF 5000 is a Nickel Sulphamate based bath using special Additives to produce deposits that used for specific applications where the Nickel plate needs to be a Bright, fine grained, hard and also remain ductile and stress free. The deposit has very high tensile strength. Nickel Sulphamate baths have very high cathode efficiency and can be operated at high current densities enabling high rate of deposition. Typical applications are, Electroforming, Electrotypes and stereotypes, Phonograph records, Electronic components, Roller coatings, Rebuilding of worn parts, Jet Engine overhaul.

CONSOL 24 L Nickel Sulphamate Conc. is a purified concentrated liquid, treated to remove organic and inorganic impurities. It contains no addition agents, therefore it may be used as base for a new **CONSOL NEF 5000** bath, or to replenish the nickel content of an existing bath.

Physical Properties of deposits from CONSOL NEF 5000 baths:

Tensile strength	103.000 PSI
Internal stress	500 to 8000 PSI
Hardness	170 to 300 VHN (12 to 21 Rockwell)

SOLUTION COMPOSITION, OPERATING CONDITIONS & EQUIPMENT

Nickel (as metal)	70 ~ 100 g/l (<i>Optimum:</i> 80 g/l)
CONSOL 24L Nickel Sulphamate Conc.	450 ml/l
CONSOL Nickel Chloride	15g/l
Boric Acid	30 g/l
CONSOL NEF 5002 Adt.	4 ~ 6 ml/l
CONSOL NEF 5003 Adt.	0.2 ~ 0.4 ml/l
CONSOL NP05A	1 ~ 2 ml/l
Solution Density	29° ~ 31° Bé.
Temperature	40° ~ 55° C.
PH	3.5 ~ 4.5
Current Density	2 ~ 8 A/dm ²
Voltage	2 ~ 8 Volts
Anodes	S-Nickel / Pellets in bagged Titanium baskets
Anode : Cathode Ratio	1 : 1
Filtration / Agitation	Continuous (3 ~ 4 times bath volume/hour)*
Tanks	Approved rubber lined, Polyethylene, PVC, Fiberglass
Heaters / Heat exchangers	Silica or Titanium
Filters	Approved rubber lined, Polyethylene, PVC

* Continuous filtration helps to keep the bath clean as also it provides solutions agitation helping to achieve uniform deposits.

Attention: This sheet is only meant to provide Features and Benefits of the process mentioned. For detailed Usage, Please refer the product Technical Data Sheet. For Safety, handling and Chemical information please refer the Safety Data Sheet. These can be provided through a Consolidated Metal Finishing Pvt. Ltd. representatives or requesting us for the same by email.