



LeKem, Inc.

1863 Lammers Pike • Batesville, IN • 47006
www.lekem.com

Where Innovation and Quality Meet

LEN-400 System

Electroless Nickel

LEN-400 deposits have a nickel-phosphorous alloy that is deposited by means of an autocatalytic reduction of metal from solution without the use of electricity. LEN-400 coatings are noted for the following properties: Coating is uniform consistent speed; semi-bright Electroless nickel process with medium phosphorous. LEN-400 meets or exceeds all RoHS and ELV requirements for lead and cadmium free deposits.

Advantages

- Stable, uniform rate / 8-10 metal turnovers.
- Controlled hardness, heat treatable.
- Excellent wear resistance, freedom from porosity.
- Compressively stressed deposit.
- Natural lubricity, providing excellent release properties.
- Self-polishing effect in molding operations.
- 6-9% phosphorus as plated.
- Easily waste treatable.

Deposit Properties:

Phosphorous Content	6-9.0 wt. %
Hardness	46-48 Rc as plated 68 Rc 750° F 1 Hour
Magnetic Properties	Non-magnetic as plated (at parameters) Non-magnetic 290° C 1 hour
Internal Stress	Compressive
Ductility	Pass (ASTM B-489)
Electrical Resistivity	70-100 micro ohm-cm
Melting Point	880° C
Density	7.75 g/cc
RoHS, ELV	*Pass

*Lekem is not liable for drag in or contamination of bath once in tank.

Operating Data:



LeKem, Inc.

1863 Lammers Pike - Batesville, IN - 47006

www.lekem.com

Where Innovation and Quality Meet

LEN-400-S	Bath make-up solution
LEN-400-N	Nickel replenisher
LEN-400-DH	Hypophosphate replenisher

Operating Instructions

1. A new bath should be made with 20 parts LEN-400-S and 80 parts DI water. Tanks should be previously calibrated to assure proper concentration. Tanks may now be half filled with DI water. LEN-400 make up is added with agitation on. DI water is then added to bring the solution to the proper level.
2. pH should now be checked and adjusted to 4.6 with Aqua Ammonia if necessary. Always dilute ammonia 1:1 with DI water before adding. The same dilution applies to sulfuric acid if the pH ever needs to be brought below 5.0. The proper operating range is 4.6 to 4.8 .
3. Air must be turned on before turning on heat.
4. Filter should be turned on and remain on throughout the operation period.
5. The bath is heated to 180-190° F for normal operation. A optimum temperature of 185° F is desired. Making sure the heater thermostat is in the bath. Do not exceed 195° F.
6. Titration of bath should be used on the amount of work being processed.
7. Operation range of nickel content should be maintained between 80-90%.
8. Replenishment adds may be made during plating at a ratio of 1N:1DH. LEN-400-N is always added before LEN-400-DH. Replenishment should be made in 10% increments to eliminate possible over-concentration of the bath.

Bath pH is self-maintained by proper replenishment. If, however, the pH varies form the operation range due to excessive drag-in, it may be adjusted by following instructions in step #2. Dilution of this type of add with DI water is a must at operating temperature.