

**“OPTICAL GRADE ELECTROLESS NICKEL”**: A high Phosphorous nickel deposit specifically formulated for the demand of the Optics industry. It is primarily used for single point diamond turning applications. Uniformity & accuracy of the deposit are maintained through strict quality control techniques. Close tolerance can be maintained within +/- .0001. It covers hard-to-reach areas that are difficult or impossible to coat with other coatings, giving a uniform deposit on the most complex shapes. “Optical Grade Electroless Nickel” has a lower void volume than standard electroless nickel deposits making it much more suitable for Diamond Turning & Optics applications.

### USER BENEFITS

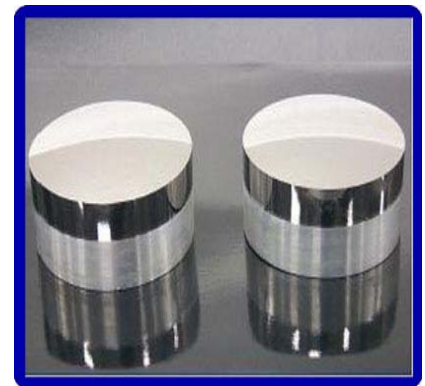
**UNIFORM DEPOSIT THICKNESS**  
**RESISTANCE**  
**LOW VOID VOLUME**  
**GREAT FOR DIAMOND TURNING**

**MOLD RELEASE GOOD WEAR & CORROSION**  
**HIGHER PHOSPHOROUS CONTENT**  
**PLATED ON FERROUS OR NON-FERROUS MATERIAL**  
**DEPOSIT IN EXCESS OF 0.015”**

### PROPERTY

Phosphorous Content, wt. %	10.5-12
Melting Point (eutectic)	1620°F
Coefficient of Thermal Expansion, u/m°C	13-15
Thermal Conductivity, cal/cm/sec/°C	0.0105-0.0135
Electrical Resistivity, microhm-cm	50-100
Magnetic Properties	Non-magnetic
Hardness	
Knoop hardness	
100g load, 3.0 mil deposit, steel	
As Plated	500-580
Wear Properties	
Taber Abraser Wear Test	
Index Value wgt. Loss mg/1000 cycles	
As Plated	
Heat Treated @	15-22
3-hrs., 590°F	4-8
Corrosion Related Properties (test results may vary do to surface condition of part)	
Salt spray test* (ASTM B117) 95°F (35°C)	
5% NaCl, 1.0 mil deposit, hours to first corrosion spot	
Aluminum	1,000+
Carbon Steel	1,000+
RCA Nitric Acid Test	
Conc. Nitric Acid 42° Be°	
30Sec., room temperature, 1.0 mil, steel	Meets or Exceeds
Hydrochloric Acid Test	
50% HCl, 3 min., room temperature	
1.0 mil, steel	Meets or Exceeds

### TYPICAL VALUE



### APPLICATIONS:

Mirrors, Optical lenses, Technical lenses for CD & DVD Players and Mobile Phones, Contact Lens & other Plastic Molds, Precision Tools, Printing Plates, Dies for Microfluidics injection molding & Hot Embossing.