"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 +/-0.0001. 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**

**TYPICAL VALUE**

- 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 @
  - 3-hrs., 590°F
  - 15-22
  - 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
  - Carbon Steel
  - 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

**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.

04-26-05gm Uncontrolled Copy

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