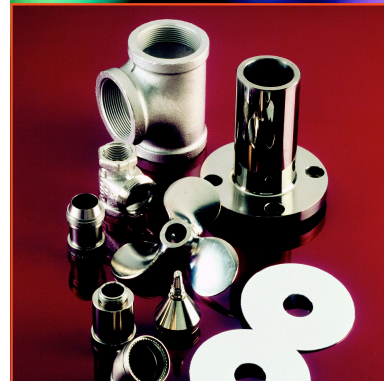


An Innovative Bright Electroless Nickel for the Next Millenium

NAEN 2001™

NAEN 2001™ is a bright Electroless Nickel - phosphorus coating for ferrous and many non-ferrous metals. This process is recognized for the following properties; mild corrosion resistance, hardness, wear resistance, ductility, and low stress. Uniform deposit allows for 100% coverage on complex shapes without build-up on edges. Deposit thickness can be controlled within +/- .0001", in order to maintain tight dimensional tolerance.

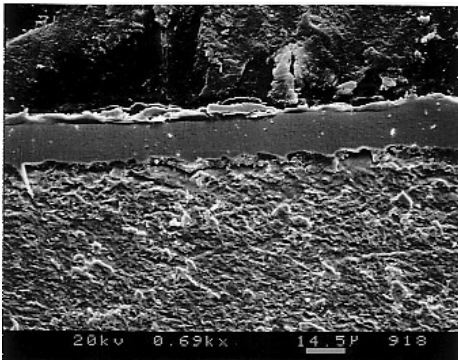


Benefits

- Uniform Porous Free Deposit
- Good Corrosion Protection
- Bright Attractive Appearance
- Complies with FDA And USDA standards

Applications

- Automotive
- Computer Components
- Appliance Components
- Medical Components
- Hydraulics Shafts / Spools
- Many More



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 Fax 847.690.0171
www.northamericanen.com

Technical Data

Phosphorus Content - 6 – 9

Hardness

| | |
|---------------------------|------------|
| Knoops Hardness | |
| 100g Load 3.0 mil Deposit | |
| As Plated..... | 450 – 550 |
| Heat Treated..... | 900 - 1000 |

Wear

| | |
|----------------------------------|---------|
| Taber Ware Test Index Value | |
| Wt. Loss mg/1000 Cycle | |
| As Plated..... | 18 - 22 |
| Heat treated 1hr 750 deg. F..... | 10 –15 |

Salt Fog

| | |
|--|-------|
| Salt Spray Test (Per ASTM B117) | |
| 95 deg F 5%, NaCl, 1 mil deposit, | |
| Hours till first Corrosion Sight Steel | 96 hr |

Melting Point

| | |
|---------|------|
| C | 880 |
| F | 1620 |

Nitric Acid Test

| | |
|--|------------------|
| Concentrated Nitric Acid 42 be' | |
| 30 sec room temp 1.0 mil deposit | Meets or Exceeds |

Electrical Resistivity - microhm-cm 0.0105

Coefficient of Thermal Expansion u/m/c.....13-15