

ENhanced Z11

**Lead-Free, Cadmium-Free Coating
High Phosphorus Electroless Nickel
RoHS, WEEE and ELV Compliant**

Quality Finishing and
Support Operations.
Since 1960.



Product Description

- ▶ Highly corrosion resistant electroless nickel plating employing advanced stabilizer and unique buffering technology that eliminates the need for either lead or cadmium
- ▶ High-phosphorus composition, typically 10-12% by weight, offering superior corrosion resistance and good wear resistance
- ▶ Appealing semi-bright metallic luster with consistent stainless steel-like appearance
- ▶ Ultra-smooth deposit with consistently low coefficient of friction and non-magnetic
- ▶ Can be thermally treated to increase hardness of the nickel phosphorus alloy to an equivalent hardness of 60-65 Rockwell C



RoHS and WEEE regulations prohibit lead, cadmium, mercury and hexavalent chromium from use in electrical and electronic equipment with few exceptions. Computer disk manufacturers have long relied on high phosphorus electroless nickel for its renowned lubricity and non-magnetic properties.

Summary

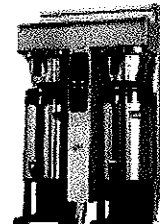
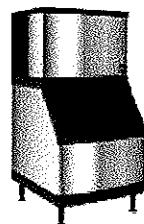
Anoplate's ENhanced Z11 offers all the advantages of high phosphorus electroless nickel to manufacturers without concern over compliance to stringent environmental regulations (e.g. RoHS, WEEE, ELV) that restrict or ban the presence of intentionally added lead or cadmium typically found in the majority of electroless nickel deposits.

With an internationally accredited ISO 14001:2004 Environmental Management System, Anoplate is committed to routinely reducing its environmental impact – Anoplate's ENhanced Z11 is the product of that commitment.

Typical Physical Properties

Composition:	Nickel:	90 - 88%
	Phosphorus:	10 - 12 %
	Cadmium:	~ 0 ppm
	Lead:	~ 0 ppm
Appearance:	Semi-bright metallic luster	
Density:	7.6 – 7.8 grams/cm ³	
Microhardness:	507 HVN ₁₀₀ As-deposited	816 HVN ₁₀₀ Heat Treated
Electrical Resistivity:	90 - 110 micro-ohm/cm	
Magnetic Properties:	Non-magnetic	
Melting Range:	880 – 980°C	
Ductility:	Passes ASTM B-489	
Wear Resistance:	18 – 24 TWI As-deposited	10 – 15 TWI Heat Treated

TWI = Taber Wear Index mg / 1000 cycles using CS-10 wheels



ELV Legislation prohibits the use of any level of lead or cadmium *intentionally added* in electroless nickel. Food service equipment manufacturers rely on cadmium and lead free high phosphorus electroless nickel in a variety of extreme corrosion and wear sensitive applications.

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