



Industry Uses:

- Aerospace
- Aircraft
- Automotive
- Industrial
- Chemical/Petroleum
- Food/Meat Processing

Specifications:

- AMS-C-26074
- AMS-2404
- AMS-2405
- ASTM-B-733
- MIL-C-26074
- MIL-DTL-32119

User Benefits:

- Natural lubricity
- Good wear resistance
- Uniform coating thickness
- Superior corrosion resistance
- Complies with USDA Regulations
- Porous-free coating

TM 103 Electroless Nickel Coating

Electroless Nickel (EN) plating at its best. Techmetals' TM 103 offers a high-phosphorus content (9%+), which is optimal for corrosion resistance, as well as increased hardness and lubricity.

It has a uniform deposit (within +/- .0001, dependent upon thickness requirement), which actually encapsulates the part and a hardness of 47-52 Rockwell as plated. TM 103 is heat treatable up to 65-70 Rockwell. This finish is free of heavy metal contaminants – which equates to a consistent application, free of cracks and divots.

Parts receive superior corrosion resistance with TM 103, when compared to that of standard EN coating. Coatings between 1.5 and 2 mil thick, has shown no rust after 1,000 hours in a salt spray test and a coefficient of friction of 0.4 μ .

Properties	Typical Value
Phosphorous Content, wt. %	9-11.5
Melting Point (°C)	880
Melting Point (°F)	1620
Coefficient of Thermal Expansion, m/m°C	13-15
Thermal Conductivity, cal/cm/sec/°C	0.0105-0.0135
Electrical Resistivity, microhm-cm	50-100
Magnetic Properties	Non-magnetic
Knoop Hardness	
100g load, 3.0 mil deposit, steel as plated	500-580
Heat treated @ 3-hours, 590° F	800-950

Properties	Typical Value
Salt spray test* (ASTM B 117) 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' 30 sec.,	
Room temperature, 1.0 mil, steel	TM103 Meets or Exceeds
Hydrochloric Acid Test	
50% HCl, 3 min.,	
Room temp. 1.0 mil, steel	TM103 Meets or Exceeds

* **Corrosion Related Properties (test results may vary due to surface condition or part).**