



**TM 103** is a uniform nickel phosphorous coating for corrosion resistance, hardness and lubricity. It can be plated on all ferrous metals & most non-ferrous metals. Uniformity & accuracy of the deposit of TM 103 is maintained through strict quality control techniques. With TM 103, there is no edge build-up. Close tolerances can be maintained within .0001. It covers hard-to-reach areas that are difficult or impossible to coat with electrolytic or line of sight coatings. Uniform deposits on the most complex shapes are made simple.

## USER BENEFITS

**Mold Release**  
**Good Wear Resistance**  
**Natural Lubricity**  
**Encapsulation of Part**

**Uniform Deposit Thickness**  
**Superior Corrosion Resistance**  
**Porous-Free Coating**  
**Complies with FDA & USDA Regulation**

## PROPERTIES

Phosphorous Content, wt. %	10-11.5
Melting Point (eutectic)	
°C	880
°F	1620
Coefficient of Thermal Expansion, $\mu/m^{\circ}C$	13-15
Thermal Conductivity, cal/cm/sec/ $^{\circ}C$	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
Heat Treated @	
3-hours, 590° F	800-950
Wear Properties	
Taber Abraser Wear Test	
Index Value wgt. Loss mg/1000 cycles	
As Plated	
Heat Treated @	15-22
3-hours, 590° F	4-8
Corrosion Related Properties (test results may vary due to surface condition or part).	
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	TM 103 Meets or Exceeds
Hydrochloric Acid Test	
50% HCl, 3 min., room temperature	
1.0 mil, steel	TM 103 Meets or Exceeds

## TYPICAL VALUE



36" diameter ball valves. TM 103 provides a uniform corrosion resistant coating for the petroleum industry.

## APPLICATIONS:

Automotive, Industrial, Aircraft/Aerospace, Computer, Printing, Chemical/Petroleum, Food/Meat Processing



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