

PHYSICAL PROPERTIES OF ELECTROLESS NICKEL

- PHYSICAL PROPERTIES MID PHOSPHOR

	Typical result
Phosphorus Content	6 to 9 wt %
Melting Point (eutectic)	880 to 960 °C
Electrical Resistivity	50 to 100 microhm-cm
Magnetic Properties	Slightly Magnetic
Vickers Hardness	
100g load, 30 µm deposit on steel as plated	630 to 670 HV ₁₀₀
Wear Properties	
Taber Abraser Wear test	
Taber Wear Index	
Wt. Loss mg/1000 cycles as plated	15 to 18
heat treated (1 hr at 400°C)	4 to 8
Corrosion Related Properties	
Salt spray test* (ASTM B117) 35 °C	
5% NaCl, 25µm deposit, hours to first corrosion spot	
2024 Aluminium	100
1010 carbon Steel	100
Nitric Acid Test	
Conc. Nitric acid 42° Be	Fail**
30 sec room temp	
25 µm steel	
Hydrochloric Acid Test	
50% HCl, 3 min, room temp	Pass**
30 µm deposit on steel	

* ASTM test performed on a flat panel. More complex or rough parts may show initial spotting in fewer hours. ASTM B117 salt spray is primarily a porosity test and only effective as a screening tool to show the difference afforded by alternative processes. It is not, however, a quantitative corrosion test,

**Fail is indicated by any significant discoloration of the deposit.