



# Electroless Nickel/ Teflon® Specifications

TWR's Electroless Nickel/Teflon® is designed by the manufacturer to provide a high quality composite coating of high phosphorus electroless nickel containing a dispersion of 15 to 20% (by volume) occluded Teflon particles. This deposit is hard, ductile and has excellent friction characteristics. The Teflon particles have a nominal diameter of 0.4 micron and are uniformly distributed throughout the nickel phosphorus matrix. Accordingly, unlike impregnated or topical coatings, as this composite coating is worn, a constant supply of new Teflon particles is exposed, maintaining a low coefficient of friction and excellent release characteristics. The Electroless Nickel/Teflon composite coating may be heat treated to either harden the electroless nickel and further improve its wear resistance, or to sinter the Teflon and produce a glazed, anti-stick surface.

## PROPERTIES

**Density** : 6.8 – 7.0 gm/cm<sup>3</sup>

**Electrical resistivity** : 130 – 200  $\mu \Omega$  cm

**Thermal conductivity** : 0.12 – 0.18 W/cm °K

**Bond strength** : 60 kpsi

**Ductility** : 0.5 – 1.0% elongation

**Thermal expansion** : 6.7  $\mu$  in/in/°F

**Hardness** : 250 – 300 HK 100

**Hardness (heat treated)** : 400 – 450 HK 100

**Coefficient of friction** : 0.1 – 0.2

**RoHS & ELV requirements for cadmium <100ppm, no mercury and lead <1000ppm are met by this coating.**

All statements, technical information and recommendations contained herein are based on information and tests we believe to be reliable. The accuracy or completeness thereof is not guaranteed. Since conditions of use are outside our control, user shall, before using, determine the suitability of the product for his intended use and user assumes all risk and liability whatsoever in connection therewith.

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