



CTECH DPX 90

High Performance Electroless Nickel Coating System

The Company

COMPONENT TECHNOLOGIES has been an applicator of engineered coatings for nearly 40 years. Through our process and developmental experience along with close engagement with universities and major suppliers, our staff has worked to develop a comprehensive family of coatings that meet the challenging demands of contemporary industries.

The Technology

Every metal has a resting electric potential and when connecting to another metal in an electrolyte, a battery forms. The galvanic series determines where a metal sits in relation to other metals. Electroless nickel is a barrier coating and acts by sealing the base layer. The majority of applications for electroless nickel is on substrates that are less noble than the deposit (Al, Fe) and as such, the substrate will act as the anode and preferentially corrode in most environments. Typically, the only way to obtain complete protection is to apply 3 mils (75 micron) or more which is not feasible from either a cost or design standpoint. **COMPONENT TECHNOLOGIES** utilizes the galvanic series to its advantage.

By understanding the specific location of a substrate in the galvanic series and then either applying a unique sequence of EN coatings or utilizing special additives that shift the coatings potential, significant improvement in corrosion protection can be realized. The table below illustrates this.

Neutral Salt Spray ASTM B117-Hours to failure			
Coating Thickness (on 1010 carbon steel)	Medium P EN	High P EN	CTECH DPX 90
6 microns (0.2 mils)	13	20	25
12 microns (0.4 mils)	30	74	90
22 microns (0.8 mils)	78	240	310
38 microns (1.4 mils)	126	1040	1250
50 microns (2.0 mils)	184	1800	2120

CTECH DPX 90 is a duplex electroless nickel system that offers the following engineering advantages:

- Meets corrosion performance of high phosphorus EN with 25% less deposit thickness
- Compressive stress, -6.9 to - 20.7 MPa (-1K to -3K psi)
- Excellent resistance to nitric acid and other corrosive media
- Meets ELV and RoHS Directive 2002/95/EC Requirements

COMPONENT TECHNOLOGIES offers fifteen (15) different engineering coating systems that include hybrid electroplated/EN systems and specialty composites. Ask your **COMPONENT TECHNOLOGIES** representative for more information.