



Precision Coatings E-Nickel Properties

E-Nickel

Electrolytic Nickel

Auto Catalytic process that plates perfectly even. Homogeneous and amorphous. (Basically means it puts down a perfectly even plated surface.)	Does not put down a completely even surface. Imagine a person trying to cover a wall with snow balls. That's how the nickel under this process comes out of suspension and plates.
Surface bond – 50 000 psi once heat treated.	Surface Bond – 50 000 psi as plated.
Can plate uneven surfaces. Plates uniformly to all surfaces.	Cannot plate uneven surfaces. Will plate more to areas that are closer to the anode and less on parts further away from the anode. Lightning effect – will strike higher ground first. Often because of the uneven plating process, grinding to size is required.
Can plate into any recess perfectly evenly	Cannot throw into recesses (Holes, tubes, rods etc.)
Uses organic stabilizer that is environmentally friendly.	Uses cadmium which is an environmental hazard.
Shows no staining or pitting.	Shows staining and pitting
Stays a consistent color after plating.	Can change color in the field.
Plated under compression – means that the layer of nickel it lays down is consistent and flat. There are no hairline cracks and therefore, better for corrosion.	Plated under tension. Particles of nickel fall down on the part, never landing exactly and therefore allowing hairline cracks to develop during plating. Water and other corrosive elements are able to get to the substrate.
After heat treatment has the same hardness properties.	As plated, is hard but does not have good corrosive properties.
Able to plate more parts in same size bath therefore reducing the production costs.	Unable to plate the same amount of parts in the same size bath, because of the electrical current.

Note:

Together with the benefits listed above, this particular chemistry manufacturer has the following advantages to its name, which they pass onto Precision Coatings:

- Is accepted by Halliburton, and used at their Duncan Manufacturing facility.
- Has been in operation for 10 years with no problems in the field.
- Have over 40 years of experience in the plating industry. They have agreed to visit with Woodgroup to shed some light on the differences between different chemistries.
- Nickel tests pass the stringent Halliburton criteria.
- Pass 600 – 1000 hr salt spray test (corrosion)