

Fastener Selection Considering Finish Process

By Pat Keating

Zinc, Tin, Copper, Bright Nickel or Electroless Nickel

(Good) Carbon steel plated or unplated. Unplated is preferred because cleaning steps will strip plated fasteners.

(Bad) Aluminum fasteners will be destroyed in the plating process. Stainless steel fasteners can be plated but at a higher cost due to added prep steps to make plating stick to stainless steel.

Chromate Conversion Coating (Chemtreat)

(Good) Stainless steel or aluminum fasteners.

(Bad) Carbon steel in a part voids our ability to etch the part resulting in a less than perfect finish.

Iron Phosphate

(Good) Carbon steel or stainless steel. (Aluminum fastener is acceptable in a spraywash phosphate system only)

(Bad) Aluminum is unacceptable with emersion process because fastener is damaged in the process.

Sulfuric Anodize

(Good) Aluminum

(Bad) Both carbon steel and stainless steel fasteners along with part are damaged in this process.

Passivation

(Good) Stainless steel

(Bad) Aluminum and carbon steel are damaged in this process.

Leadloy fasteners cause problems when installed in parts that require heavy pickling before plating. Pickling is always required, heavy pickling is required if: 1. Hot rolled scale on part. 2. Rust on parts. 3. Heatscale from welding on parts.