

PlasmaBond® is an engineered surface consisting of high purity metals – nickel, palladium, silver – that are applied to the substrate by an electrical charge in a clean vacuum which ensures superior bonding strength. The process applies a thin metallic layer without affecting the mechanical, dimensional and metallurgical properties.

PlasmaBond is superior to conventional lubricants in that it does not migrate away from the working surface of the substrate and PlasmaBond is not affected by heat, load or longevity during the interval between maintenance service periods.

What Causes Threads to Stick / Gall?

1. Friction between high spots of two surfaces during assembly and disassembly
2. Wear from multiple maintenance intervals and high loads
3. High temperatures causing conventional lubricants to lose integrity
4. Corrosion that introduces particles to form a tightly packed wedge between the threads



PlasmaBond Features and Benefits

1. REDUCES FRICTION AND WEAR THAT LEAD TO GALLING

- a. The PlasmaBond application process ensures an even, strong bond with the substrate that maintains a continuous layer between the two base materials during installation, operation and removal
- b. The PlasmaBond metallurgical properties maintain strength at operational temperatures so the surface remains intact for removal during maintenance intervals
- c. The soft metal surface is malleable and remains attached to the substrate even under high loads (during torquing or tensioning)

2. INCREASES EQUIPMENT RELIABILITY

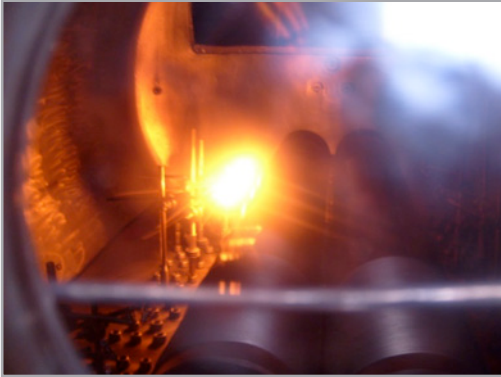
- a. The soft metal surface traps hard debris from being introduced to the threads and reduces the risk of galling damage
- b. The strong bond and continuous layer provided by PlasmaBond increases component life by reducing the risk of galling during installation and removal

3. REDUCES TIME

- a. Reducing galling leads to faster install and removal of studs, bolts, nuts, therefore reduces the technicians' time at the flange
- b. The increase in time between maintenance intervals will not affect the effectiveness of PlasmaBond

Nova PlasmaBond®

Engineered Surface



PlasmaBond is applied to the substrate by an electrical charge in a clean vacuum which ensures superior bonding strength

PlasmaBond Key Facts

1. The PlasmaBond surface consists of only high purity metals – nickel, silver, and palladium
2. PlasmaBond has been tested to 1100°F and does not breakdown
3. The structural integrity and dimensions of the substrate are not affected by PlasmaBond
4. The process for applying PlasmaBond is completed inside a clean vacuum chamber at ambient temperatures
5. PlasmaBond is less than 1 micron thick
6. PlasmaBond is not affected by stagnant time
7. Conventional lubricants are not required for use with PlasmaBond

PlasmaBond Components in Operation

Components	Units
Reactor Studs	>507
Steam Generator	>2,577
Pressurizer Studs	>76
Turbine/Generator	>12,616
Pumps & Valves	>8,175
Flange Fasteners	>5,600
Combustion Turbines	>2,100



The PlasmaBond service truck is a full service mobile unit for on-site support.

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