

## WE ARE GIANT OIL TOOLS

Giant Oil Tools & Coatings is a leading supplier of conventional completion tools worldwide.

## GIANT'S PORTFOLIO

### PACKERS AND ACCESSORIES:

Tubing Anchors  
Mechanical Set  
Wireline Set  
Hydraulic Set Packers  
On-Off Tools and Expansion Joints  
Chemical Injection Mandrels



### FLOW CONTROL TOOLS:

Sliding Sleeves  
Landing Nipples  
Wireline Blanking Plugs  
and accessories

### TUBULAR PRODUCTS:

Flow Coupling  
Blast Joints  
Crossovers  
Pup joints  
Polished Bore Receptacles  
Sealbore Extensions  
Millout Extensions

### ABOUT GIANT

Giant Oil Tools & Coatings delivers high-quality downhole completion tools helping our worldwide customers to maximize the value of completions solutions. Since its inception in 2010, Giant has been rapidly growing by expanding the customer base as well as introducing new offerings to the market. Leveraging the cost-effective manufacturing and rapid engineering for the customized designs allows Giant to successfully compete globally addressing new industry challenges. Started as a small business, Giant is now proud of reaching an impressive milestone of 300,000 tools supplied to the industry. To complement the strong offering of the downhole tools, Giant also provides in-house coating service. Wide portfolio of coatings is available to protect the equipment from corrosion and erosion thus maximizing the lifespan of the tools.

### PROVIDING EXCELLENT SERVICES

Giant keeps a large inventory of standard flow control tools and completion packers in stock, enabling quick delivery anywhere in the world. Giant also prides itself on being able to manufacture and ship custom orders in 3-4 weeks.

### PRODUCTS

Giant's tools are 100% made in North America, ensuring high quality and traceability, full certification including Mill Test Reports (MTR's), Certificate of Conformance, Certificate of Origin, Function Test and Pressure Test Results are available free of charge upon request for each order and are kept on file and available on request at any time in the future.

Giant can manufacture and supply tools from premium materials: 9Cr 1Mo L-80, 13 CR, Incoloy, Inconel, K-500 Monel, 17-4 PH, and 316 SS. Premium thread connections like: Tenaris-Hydril, Vam and Hunting connections are available upon request. Special elastomers are available: AFLAS, Viton and HSN are available along with non-elastomeric seal stacks.



## WORLDWIDE SUPPLIER OF DOWNHOLE COMPLETION TOOLS

### CANADA SALES

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### SOUTH TEXAS SALES OFFICE

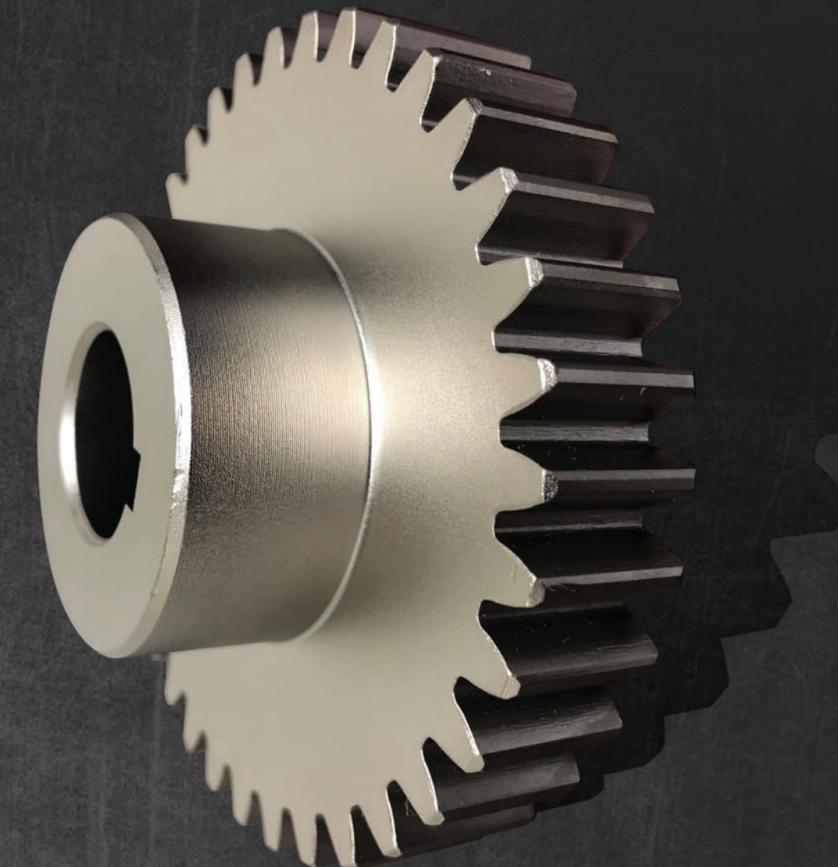
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WORLDWIDE SUPPLIER OF  
DOWNHOLE COMPLETION TOOLS



### EXPERIENCE

Our staff has 100+ years of combined experience.



### CUSTOM ORDERS

Custom orders often ship within 3-4 weeks



### LARGE INVENTORY

With a large inventory of conventional completion tools we have what you need.



### QUOTATIONS

We are proud to offer the fastest quotations system in the business.



### LOCALLY MADE

100% Made in North America



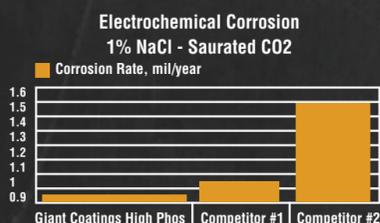
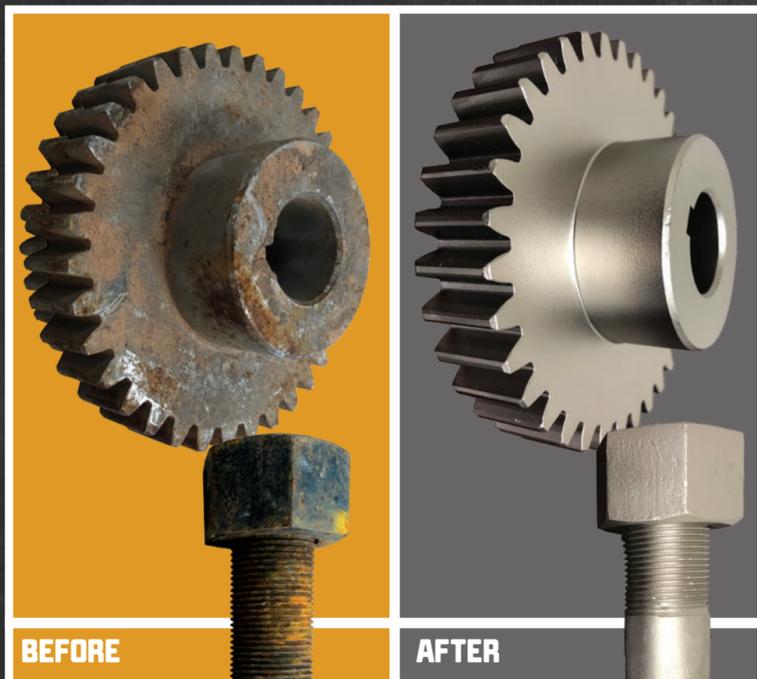
PH: 405-605-4161 OR 833-781-5157

# ELECTROLESS NICKEL PLATING

Giant offers an excellent corrosion resistant protective coating option with our High Phosphorous Electroless Nickel. High phosphorous ENC offers maximum resistance in strongly acidic corrosive environments – ENC is most commonly used to protect against CO2 gasses and CO2 Injection wells in the Oil & Gas Industry. The auto-catalytic reaction causes the nickel coating to deposit onto the substrate, creating a uniform coating throughout the entire tool. With a plated hardness of ~45 Rockwell C, along with great adhesion to the substrate, EN plating also offers good wear resistant and anti-galling properties.

## WHY NICKEL COATING?

- Withstands over 1000hrs of salt spray exposure test with no rust (Excellent corrosion resistance).
- Uniform plating procedure, even on complex parts.
- Very low porosity in deposits provides an excellent barrier for corrosion protection.
- Recommended in highly acidic corrosive environments
- Great protection against CO2.



In a blind, third party test, Giant's High Phos ENC went up against two other competitor's High Phos ENC plated parts in a 1% NaCl – Saturated CO2 solution (VERY Corrosive). The test coupons were held in solution for the duration of 1 year...The above chart represents the measured corrosion rate, of the part's coating and material, in mils after 1 year.

# BORFUSION®

is Giant's proprietary boronizing process – during the BorFusion® process, boron molecules react with iron in the steel and create an extremely hard surface layer known as Iron Boride (Fe2B). The diffused layer of Iron Boride penetrates the metal substrate in a tooth-like fashion creating an extremely tight bond that cannot flake, spall or chip away. Approximately 80% of the hardened layer will grow into the steel, leaving a mere 20% of surface growth. Depending on the type of material subject to the BorFusion® process, the surface growth will vary – see the chart below for the approximate case layer thicknesses for various materials. Keep in mind the chart represents case thickness, not surface growth.

The BorFusion® process results in a very hard surface that will minimize wear due to abrasion, corrosion, and erosion, not to mention the hardened surface has a low coefficient of friction allowing higher flow rates in many applications.

Borfusion® Physical Properties		
Material Type	Coating Thickness (mil)	Rockwell Hardness (HRC)
Carbon Steel	0.002 to 0.006	76 to 80+
Alloy Steel	0.002 to 0.006	76 to 80+
Tool Steel	0.002 to 0.006	76 to 80+
Stainless Steel	0.0005 to 0.0015	71 to 80+
Ni-Resist	0.0005 to 0.0015	70 to 78

BorFusion® can be applied on various different metals, including:

- Carbon Steels
- Alloy Steels
- Stainless Steels
- Tool Steels
- Ni-Resist

BorFusion® is ideal on tools with minimum tolerances for surface growth which require excellent protection. As well it can be selectively applied to specific areas of tools including parts that have a complex geometry.

## Recommended Services

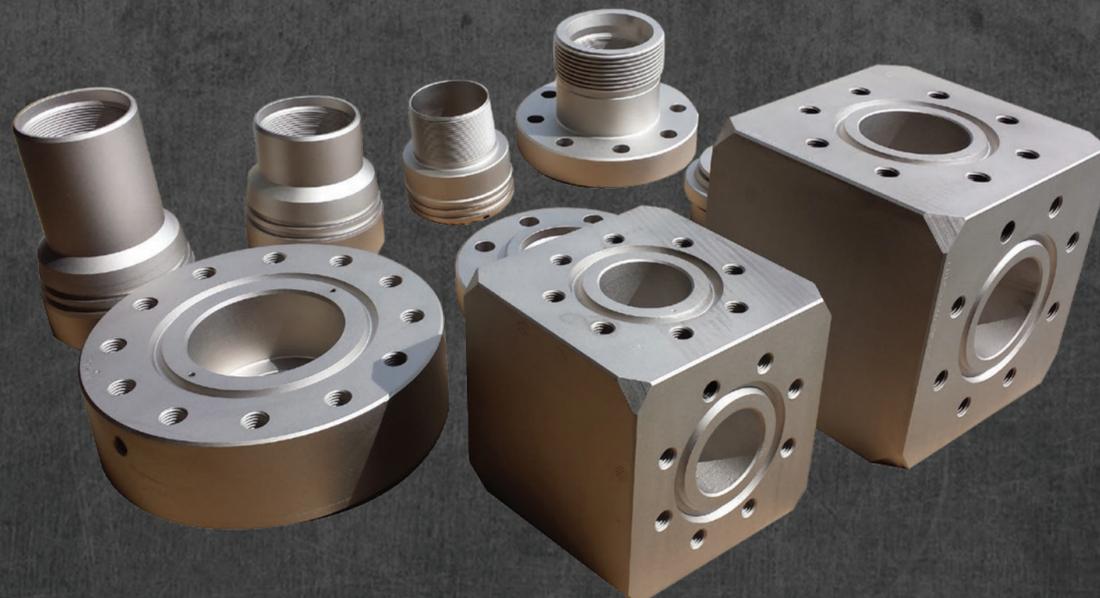
- Abrasive – Injection Services, Sandy Wells
- Corrosive – H2S, CO2, Chlorides
- Erosive – Slurry & Well Fracturing Applications

## Lab Testing

Giant conducts product tests on coupons to ensure quality and conformance is maintained. All testing performed by Giant is contracted.

## Typical Applications

- ESP & HPS Stages
- Rod Guides
- Frac Subs
- Isolation Sleeves
- Profile Nipples
- Profile Slick Joints
- Valve Components
- Centrifugal Pumps
- Much More!!!



# POLYMER COATING

- Polymer Coatings resistance to corrosion and particle build-up improves equipment performance
- Polymer Coatings are typically applied at a thickness between 0.0008” to 0.0015”
- Coated layer is entirely built up on top of the original substrate
- Polymer PTFE binder is very durable against corrosive gasses.

- Recommended in corrosive and chloride applications, water injection/producing and disposal wells.
- Non-stick properties allow for high release of asphaltenes, scale build up and protection against galling.
- Operating temperature rating of -40°F (-40°C) to +400°F (+205°C)
- Operating contact pressures up to 50,000psi

Giant offers an excellent Polymer Coating option for down hole and completion equipment exposed in harsh chemical environments.

The main advantages of our Polymer Coating is its corrosion resistance in water injection, water producing and chloride or disposal wells and for its non-stick/high release properties. The spray-on application of polymer coatings is cured into a thin rubber like material providing excellent resistance against H2S, CO2, Chlorides, and particle build-up.

## PERFORMANCE TEST CHART - POLYMER VS. VARIOUS CHEMICALS

Chemicals	Concentration %	Hours	Effect of coating function	Chemicals	Concentration %	Hours	Effect of coating function
Water				Solvents			
Deionized - Boiling	100	1000	None	Acetone	100	1500	None
Salt (Immersed)	30	4000	None	Benzene	100	1500	None
Salt (Spray)	5	1000	None	DMAC	100	1500	None
Tap - 250F	100	24	None	Ethanol	100	1500	None
at 10,000 psi				Flourocarbons (12,22,113)	100	1000	None
Acids				M.E.K.	100	120	None
Hydrochloric	36	24	None	Methanol	100	1500	None
Hydrochloric	15	150	Slight	Methylene Chloride	100	1500	None
Hydrochloric	2 pH	300	None	Perchloroethiene	100	1500	None
Hydrochloric (125 F)	2 pH	300	None	Phenol	5	120	None
Sulfuric	25	1500	None	Toluene	100	120	None
Nitric	35	24	None	Xylene	100	1500	None
Picric	Saturated	120	None	<b>Other Fluids</b>			
<b>Base</b>				Skydrol (Hydraulic Fluid)	100	1500	None
Caustic	2	24	None	JP-4 (Jet Fuel)	100	1500	None
Caustic	100	336	Slight	Break Fluid (auto)	100	1500	None
Caustic	12.5 pH	150	Slight	H2O + gas @ 250F @2,000 psi	79% CH4, 6% CO2, 15% H2S	24	None
Caustic	9.5 pH	300	None				
Caustic (125 F)	9.5 pH	300	Slight				