



**Ni-side**

NICKEL PLATED PROTECTION  
FOR CARBON STEEL  
HIGH-PRESSURE GAS  
CYLINDERS AND VESSELS



Houston Plating & Coatings

Your One-Stop-Shop for  
Corrosion and Wear Protection

# HP&C's new Ni-side™ polishing and plating process offers significant cost savings over cylinders made of stainless steel, aluminum, or composite materials...

## Prevents Contamination of Gases

Certain gases become contaminated and degraded when they come in contact with carbon steel. To prevent this contamination, users have resorted to using expensive stainless steel, aluminum, or composite cylinders. While a thin layer of nickel plating on the inside of a carbon steel cylinder will prevent degradation of the gases, steel cylinders have historically been extremely difficult to plate and, as a result, the quality and quantity have historically been inconsistent and limited.

To solve these plating problems, HP&C's production teams have developed Ni-side (pronounced Nside), a new, proprietary process that plates, or polishes and plates a uniform thin layer of nickel on the inside of carbon steel cylinders, thus preventing contamination. Polishing and plating cylinders, coupled with standard moisture removal processes, provides the very highest level of protection against moisture and contamination of ultra-high purity gases.

## Scalable

The inherent difficulties of plating cylinders have prevented plating companies from processing a significant number of cylinders at one time. This has constrained supply, produced unacceptable quality and turn-around times, and increased the cost. Ni-side is scalable, so a significantly increased supply of polished nickel plated carbon steel cylinders will now be available to the industrial gas industry.

With the largest capacity for nickel plating in the Southwest, HP&C can polish and plate a significant number of cylinders at a single time, which not only lowers the cost and delivery time, but also dramatically increases the supply.



Cylinders and vessels in a wide range of sizes and shapes can be nickel plated.

## Adaptable

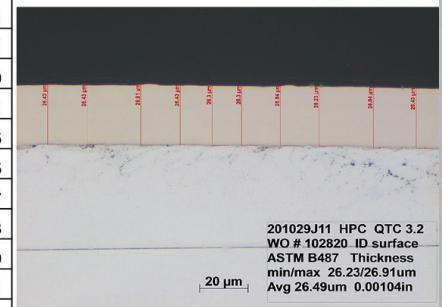
The Ni-side process is also adaptable, which means that virtually any size cylinder or storage vessel can be plated or polished and plated with the Ni-side process. End users of low pressure industrial gases that have had to resort to expensive options to prevent corrosion or to achieve FDA food grade approval can now rely on Ni-side to provide the protection needed at a much lower cost.

## Electroless Nickel Thickness Report: HP&C Specification 7.0 Rev 10

Plating Thickness (ASTM B487) note 1

Location	Microns	Inches
1	26.43	0.001041
2	26.43	0.001041
3 (Max)	26.91	0.001059
4	26.43	0.001041
5	26.30	0.001035
6	26.30	0.001035
7	26.84	0.001057
8 (Min)	26.23	0.001033
9	26.64	0.001049
10	26.43	0.001041
Standard Deviation	<b>0.230</b>	<b>0.000009</b>
<b>Mean</b>	<b>26.49</b>	<b>0.001043</b>

Photograph (500X) and Thickness (10 points)



## Meeting Increasing Demand

Five new wafer fab plants under construction in the United States will fuel further demand for high-pressure ultra-high purity gases delivered in cylinders and storage vessels. HP&C is the only company that has the processes and capacity to meet this demand. Operating at scale and delivering consistently high quality are what HP&C has done for over 30 years.

## Decades of Experience

HP&C has been an approved supplier to the world's largest oil and gas companies for many years and recognized consistently as one of the most outstanding plating companies in the United States, receiving Products Finishing magazine's "Top Shop" designation in multiple years.

HP&C's nickel-plating processes have been written into specifications by major multinational energy companies that have come to rely on the Company for quality and dependability. Lessons learned over 30 years of nickel plating will be readily transferrable to the Industrial Gas industry and enable HP&C to become a trusted member of the industry's supply chain.



The Ni-side process produces a uniform, corrosion preventing nickel plated inner surface.



Electroless Nickel • SBN-QPQ™ • Ni-side™ Cylinder Plating  
Teflon® Coating • Polyurethane • Phosphate and Oil  
Multi-Coat Epoxy System Dry Film Lubricant  
Xylan® Fluoropolymer • Molybdenum Disulfide



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