

# Oil/Gas/Chemical Manufacturing



## Problem

Stainless Steel, Nickel, High Temp Alloy = Very difficult to machine

- Very hard material.
- Tendency to work harden.
- Abrasive material.
- Cutting tool life can be drastically reduced.

## Solution

### Drilling:

**Chicago-Latrobe® Cobalt Drills**

Style: 550 & 550ASP

**Cle-Line® Hex Shank Drills**

Style: 1804

### Threading:

**Cleveland® High Performance Taps**

Style: 862 & 960SP, 893 & 890SF

### Milling:

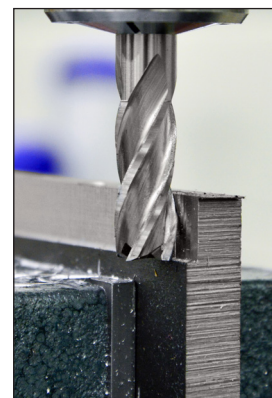
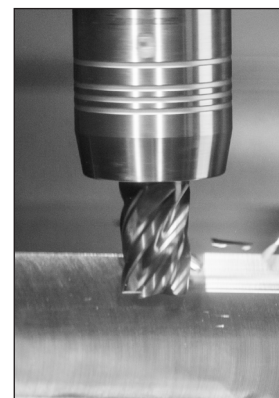
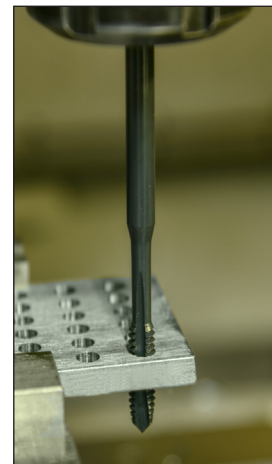
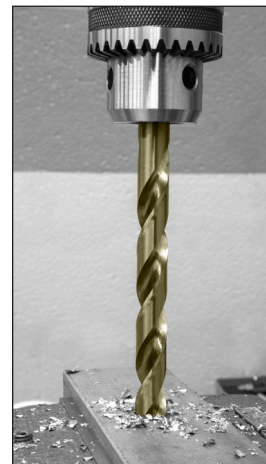
**Cleveland® Variable Index Carbide End Mills**

Style: CEM-V-4 & CEM-V2-5

**Cleveland® 4 Flute Finisher End Mills**

Style: HGC-4C

See the  
reverse side  
for specific  
product  
solutions.



Greenfield Industries  
www.gfii.com  
Seneca, SC 29678 USA  
800-348-2885 USA & Canada  
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**Greenfield Industries will help you  
save time and increase productivity  
in your toughest applications.**



Greenfield Industries manufactures cutting tools for the Oil/Gas/Chemical Industry in a large variety of sizes and styles.

## Problem

Stainless steel is commonly used in the Oil/Gas/Chemical Industry. These materials have a tendency to work harden, can be abrasive, and cause a reduction in cutting tool life.

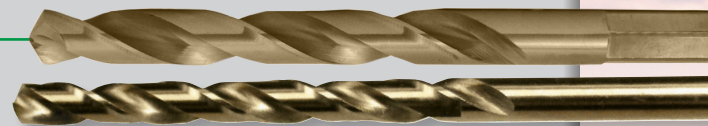
## Solution

### Drilling

#### Chicago-Latrobe® Cobalt Drills

(Style 550 - Spindle drilling & 550ASP - Hand drilling) are designed to perform in stainless steel. Cobalt drill bits **resist heat** allowing them to **stay sharper and last longer**. Increase your productivity by getting **3-4 times longer tool life** versus standard HSS drills.

**Cle-Line® Cobalt Drills** (Style 1804 - Hex Shank Cobalt Jobber Drills) are designed with a 118° split point to **improve hole geometry and drilling control**.



Style: 550 (1/4")  
P/N: 46616



Style: 550ASP (1/4")  
P/N: 47716



Style: 1804 (1/4")  
P/N: C10612



### Threading

#### Cleveland® High Performance Taps

(Style: 862 & 960SP, 893 & 890SF) are designed for tapping all your Stainless Steel applications. The unique geometry and high Vanadium substrate allows the tap to freely produce high quality threads. Available in spiral flute, spiral point, and various surface treatments. **Drive productivity by doubling tap life and doubling machine speeds**.



Spiral Point (1/4-20")  
P/N: C96014



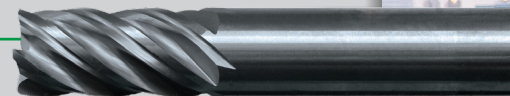
Spiral Flute (1/4-20")  
P/N: C98114



### Milling

#### Cleveland® Variable Index Carbide End Mills

(Style CEM-V-4 & CEM-V2-5) are designed for machining stainless steel. These tools have an uneven indexing in the flutes which eliminates chatter. Available with various corner radiuses and surface treatments. This results in an improved finish on the part being machined along with **extending tool life 2-3 times longer** than a conventional carbide end mill.

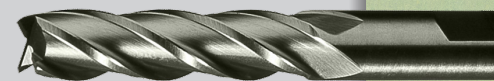


Variable Index (1/2")  
P/N: C60566



#### Cleveland® 4 Flute Finisher End Mills

(Style HGC-4C) are designed for machining Stainless Steel and High Temp Alloys when using manual milling machines.



General Purpose (1/2")  
P/N: C42698



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