

# High Performance Alloys

**HPA** ALLOYS

*New*

*"It's who we are, AND what we do."*

# Rolling Mill

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## Overview

**H**igh Performance Alloys Inc. has added rod, hex, square, flats and strip production capabilities to our facility. We can now supply, custom rolled, small to medium quantities - all with short production lead times.

HPAlloys caters to special requirements including research projects to nuclear orders, and everything in between. No job is too small.

Call our sales department for an estimate today:  
**Toll Free 877-472-5569**

This bulletin is designed to help you relate high performance availability & delivery with High Performance Alloys.

## Benefits

Rolling allows for a wide array of mechanical properties in the annealed, and cold reduced state.

Advantages include: changing customers material to a desired finished size without expensive turning or grinding of stock. We are capable of producing rod lengths over 36 feet, and also flat coils in the unannealed condition.

- HPA's rolling mill is used for quick turn around, and small quantities.
- Produce a size or form to your specifications.
- Convert stock that is not moving into a useful size.
- Improve mechanical strength properties.
- Obtain finer grain structure and controlled grain growth.
- Presents uniform properties in cold reduced rod and coil.

## Applications

HPA supplies materials to the aircraft, space, military, nuclear, electronics, marine, chemical, petro-chemical, and other high-tech industries.

There are a wide array of applications that can be summed up into one of the following categories: stronger parts, longer lasting, reduced cross sections (lighter), or material availability.

## Capabilities

Shape	Input Size	Output Size
Rod	3.5" maximum diameter, 6" minimum length.	3/16" diameter
Square	2" maximum square, 6" minimum length.	1.75" through 0.562" square
Flat	5" maximum thickness, 6" minimum length.	2.5" through 0.125" thick
Strip	0.25" thick, 10" Width maximum.	0.020" thick Re-coiling end product may be necessary
Hex	Making popular fastener sizes: 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1-1/8", 1-1/4", 1-5/16", and 1-7/16" Other sizes are pending.	
Minimum lengths can be overcome through fastening, or tacking a material to the work piece to achieve length.		

# Production Details

**Rod \* Hex \* Square  
Sheet \* Strip \* Specials**

## Hot & Cold Rolling

This United Engineering rolling mill can withstand 600 tons of force while rolling. Cold reductions as great as 70% have been performed on material 6 inches wide.

Roll Diameter: 8"  
Roll Width: 12"

Depending on the size and condition of the material, Tolerances:

Cold rolled rod - the range of +/- 0.015" to +/- 0.005"

Hot rolled rod - the range of +/- 0.030" to +/- 0.015"

Flat cold rolled (including strip) - the range of +/- 0.005" to +/- 0.001"

Flat hot rolled (including strip) - the range of +/- 0.020" to +/- 0.010"

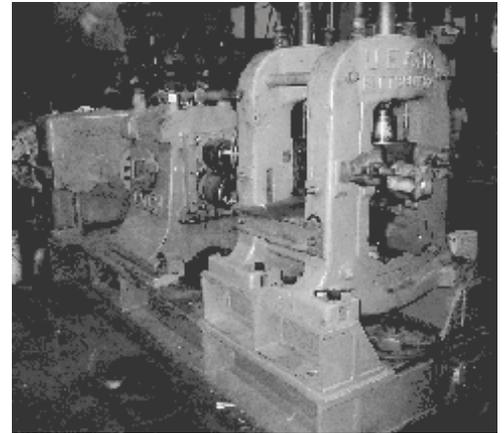
*Questions?? Call (800)HPALLOY*

## Obtainable Alloys :

- Hastelloy/Haynes alloys C-276, C-22, B-2, X, Ultimet
- Inconel alloys 718, 625, 601
- Monel alloys 400, R405, K500
- Cobalt alloys HPA 6B, HPA 6BH, L605, MP35N, Waspaloy, F-75, F-799
- Titanium and Titanium alloys
- Zirconium, Tantalum, Molybdenum
- High Performance Stainless Steels, Nitronic 50, Nitronic 60, Alloy 255
- All forgeable alloys are quoted upon request - toll processing performed as well.
- Ti grades, Cobalt based, Nickel based, and Super stainless are our specialties, any inquiries are welcome.

*Monel, Inconel, Incoloy are registered trade names of INCO  
Hastelloy, Haynes, Multimet, Ultimet are registered trade names of Haynes Intl.  
Nitronic is a registered trade name of ARMCO*

We use approved processes to work the metal. Control of the materials overall heat loss is controlled using an optical pyrometer, and coatings if necessary.



Our 12 foot furnace is capable of 2300°F, and is routinely operating between 1500 and 2250°F. This furnace has computer controlled programming capabilities for temperature control, and recording.

When hot working rods, and flats, the furnace is used to heat the metal to rolling temperature.

The gas furnace is typically operated neutral to slightly oxidizing. Temperature surveys are performed at least once per year.



1.25 Inch square bar (Above) was produced from a plasma cut rectangle and cold rolled 45%. Hardness is Rockwell C 40, and the Ultimate Tensile Strength is over 200 KSI.

### High Performance Alloys, Inc.

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Any questions or comments can also be sent via E-Mail to:  
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