

ACCURLOY

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Special points of interest:

- Considering the savings in replacement costs, down-time, and maintenance, Accurloy will be your best value in alloy shafting.
- Accurloy is engineered to have the strength and toughness to meet all your shafting needs.
- There is a wide variety of applications in which Accurloy has been proven to far outlast its generic counterpart.
- Accurloy is available in a variety of diameters and lengths.

GENERAL DESCRIPTION

Accurloy is a clean, fine-grain, alloy steel produced by the electric furnace process and furnished **turned, ground and polished** for applications requiring exceptionally high tensile strength and resistance to wear, shock and fatigue. Rigid quality control assures a steel of consistently high chemical and physical properties.



THE BENEFITS OF ACCURLOY

Longer Service Life:

Engineered to develop higher strength, finer finish, cleaner chemistry and better fatigue resistance than standard grades of alloys and carbon steels such as SAE 1045, 4140, 4150, 4340, etc.

Precision Finish:

Turned, ground and polished to very close tolerances: +.000, -.001 through 1/2" diameter, +.000, -.002

through 3" diameter, +.000, -.003 through 4" diameter, +.002, -.003 over 4" diameter. Special tolerances can be provided as required.

Availability:

Baldwin International maintains one of the largest stocks of precision finished shafting in the U.S. With a full array of sizes from 1/4" dia. to 9" dia. in common 1/16" increments, as well as metric sizes, we can supply your specific shaft how you want it and when you want it.

TYPICAL ACCURLOY APPLICATIONS

Arbors
 Armature Shafts
 Axles
 Bolts
 Boring Bars
 Chain Links
 Chain Pins
 Clevises
 Conveyor Shafts
 and Rollers
 Crank Shafts and Pins
 Drag Line Parts
 Drift Pins
 Drill Shanks
 Drive Shafts

Feed Screws
 Fittings
 Gears
 Gear Shafts
 Generator Shafts
 Grinder Spindles
 Gudgeons
 High Pressure
 Valve Studs
 Highly Stressed
 Shafting
 Hoist Hooks & Pins
 Hoist Shafts
 Hubs
 Impeller Shafts
 Jack Shafts
 Journals
 Lead Screws
 Line Shafts
 Machine Tool Pinions
 Magneto Shafts
 Mandrels
 Mining Machine Parts
 Motor Shafts
 Nuts
 Pinions
 Pins
 Piston Rods
 Power Shovel Shafts

Propeller Shafts
 Push Rods
 Reamer Shafts
 Renecking Spinning
 Rollers
 Rings
 Screws
 Set Screws
 Shackles
 Skidding Tools
 Sleeves
 Sleeve Shafts
 Spindles
 Spinning Rollers
 Steam Shovel Parts
 Steering Knuckles
 Studs
 Tie Rods
 Thrust Shafts
 Tongs
 Transmission Screw
 Valve Stems
 Wearing Strips
 Worms
 Worm Gears
 Wrist Pins



Accurloy piston rods with tapered ends.

“Accurloy bars come in standard 10-12 ft and 20-24 random lengths. We will cut to size upon inquiry.”

ACCURLOY STOCKING SIZES

Diameter size in inches			
1/4	1-1/2	2-3/4	4-1/4
5/16	1-9/16	2-13/16	4-3/8
3/8	1-5/8	2-7/8	4-7/16
7/16	1-11/16	2-15/16	4-1/2
1/2	1-3/4	3	4-3/4
9/16	1-13/16	3-1/16	4-15/16
5/8	1-7/8	3-1/8	5
11/16	15/16	3-3/16	5-1/4
3/4	2	3-1/4	5-7/16
13/16	2-1/16	3-5/16	5-1/2
7/8	2-1/8	3-3/8	5-3/4
15/16	2-3/16	3-7/16	5-15/16
1	2-1/4	3-1/2	6
1-1/16	2-5/16	3-5/8	6-7/16
1-1/8	2-3/8	3-11/16	6-1/2
1-3/16	2-7/16	3-3/4	7
1-1/4	2-1/2	3-15/16	7-1/2
1-5/16	2-9/16	4	8
1-3/8	2-5/8	4-1/8	8-1/2
1-7/16	2-11/16	4-3/16	9

NOTE: MANY COMMON METRIC SIZES ALSO AVAILABLE FROM STOCK

*WE CAN FURNISH ANY SIZE BAR 1/4" DIA. THROUGH 16" DIA. PER YOUR

WHY DO ACCURLOY AND NICHROLOY LAST LONGER?

The Accurloy/Nichroloy product group is a derivative of the filed-proven base metals of the 41XX and the 43XX series of ultra-high strength alloys. Accurloy and Nichroloy achieve their superior toughness and fatigue resistance by utilizing the latest in *Clean Steel Production Technology*, and chemical modification. Argon stirring, vacuum degassing, inclusion shape control, bottom pouring, and extensive hot and cold reduction deliver levels of microcleanliness and grain refinement typical to ESR and VAR vacuum remelt steels.



ACCURLOY/NICHROLOY VS. COMPETITIVE GRADES OF 4140 TYPE STOCK

<i>Factors</i>	<i>4140</i>	<i>Accurloy</i>	<i>Advantages of Accurloy</i>
Usual Manufacturing Process	Open Hearth Furnace. Large heats, little uniform control	Clean Steel Technology, Small Electric Furnace heats	Greater control, less defects, cleaner steel which increases toughness, strength and service life
Tensile Strength (Heat Treated 28-32 RC, typical 1" dia.)	125,000 PSI	160,000 PSI	25% higher strength
Yield Strength (Heat Treated 28-32 RC, typical 1" dia.)	100,000 PSI	140,000 PSI	25% higher strength
Stress Relieved	Optional - must be specified	Stress relieved at mill	Minimizes bowing and walking during machining
Machine Straightened	Optional - must be specified	Machine straightened at mill	Improves machining time
Low Sulphur Vacuum Degassed	Not a commercial practice - higher sulphur is detrimental for high-strength shafts	Vacuum-degassing and inclusion shape control minimize negative effects	Builds toughness and longer life by removing impurities in the steel - less cracking
Fatigue Resistance	High stresses and low toughness causes bending, twisting and cracking	Richer chemistry and clean steel technology develops high degree of toughness	Higher endurance limit. Will minimize fatigue caused by twisting and flexing in use.
Wear Resistance	Uneven wear - susceptible to reheat and creep cracking	Cleaner steel wears more slowly	Cleaner and richer chemistry allows for increased hardness through heat-treating for greatest wear resistance
Machinability	Not consistent - hard and soft spots produce poor machining, higher tool costs	Uniform hardness, no decarburization, and stress-relieved	Clean and consistent machining - finer finish - longer tool life

“...greater control, less defects, cleaner steel, which increases toughness, strength and service life.”

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Specialty Steels for Industry

If you are looking for a specialty steel supplier that has the quality and the experience to fulfill your unique material needs, then look no further. Merging in 1986 from two of the leading alloy steel companies in the U.S., Baldwin International has become the recognized leader in finding answers for your maintenance problems. No other company can provide the unique materials, gen-



erations of experience and the on-site assistance that we provide daily to our customers.

For almost 50 years, Baldwin International has been developing unique materials that provide longer life and less down time in maintenance applications of shafting, wear liners, and steel fabrications. Unlike steel suppliers that provide a whole gamut of "generic" steels, we have "enhanced" materials, engineered for specific needs, and the wisdom to guide you in your selection.

Please check out some of our products and the related information, and contact us for any further questions that you may have. We would be happy to have one of our experienced representatives at your service.

TYPICAL MECHANICAL PROPERTIES OF ACCURLOY

High Tensile Strength: Approximately 155,000 psi at delivered hardness of Rockwell C 32. Yield strength approximately 130,000 psi. Higher tensile values can be developed by additional heat treatment.

Heat-Treated: To a hardness of Rockwell C 28-32. Additional heat treatment unnecessary for most applications.

Fatigue Resistant: High endurance limit makes Accurloy and Nichroloy the best steels for many high fatigue shaft and rod applications such as crane and armature shafts, hammer rods, etc.

Wear Resistant: Heat-treated to increase wear life over other alloy and high carbon steels.

Stress Relieved and Machine Straightened: Rolling and heat-treating stresses relieved at the mill, minimizing bowing or "walking" in machining. All bars machine straightened.

Fine Grain Structure: 95% of 8 on Shepherd fracture grain-size standards--assures the toughness and shock-resistance essential in a multi-purpose maintenance steel.

Machinability: Virtually free from hard or soft spots, pipe, seams or other flaws. Machines to

