ALLOY BARS



MONEL • INCONEL • INCOLOY • HASTELLOY •

> Round Bar & Rod Flat Bar Square Bar Hexagon Bar



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Nickel Alloy Square Bar

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Mission

Vision

Values

At AEETHER, its mission is leading the evolutions of this world.

As a raw material producer, we believe that each time new materials are successfully developed, the world will undergo evolution. To date, common carbon steels and stainless steels are difficult to deal with tasks and requirements faced by many high-tech industries and in extreme production environments. With global industrial upgrading, nickel alloys are emerging to replace previous materials for enhanced efficiency and more lasting performance of completing tasks. We are professional manufacturer of nickel alloys and what we keep doing is to supply high quality nickel alloy products to the world. We have our responsibility and role to play in the popularity of the superior nickel alloys, and usher a new chapter into our world industry.

Our vision is to see the world development unconstrained by the materials.

This is an age of rapid development. As technology advances at the lightning speed, it poses increasingly high requirements on materials. While now material becomes a bottleneck on technology breakthrough, putting sand in the wheels of development, a hinderance that cannot be ignored. As raw material manufacturers, we should develop and progress on materials continuously so that we can introduce more advanced materials to the market. We firmly believe that material breakthrough will set off a chain effect on world technology.

Our value is to provide excellent products, information and service.

Product is the core of everything. We hope that all of our customers will feel at absolute ease using our products, while the product quality is the best bridge that builds our mutual trust. Hence, we've developed a very strict quality control system. Each product is subject to rounds of inspections by our professional inspectors. We believe that, only when we have 100% confidence in our products can our customers experience ease and satisfaction using them.

As nickel alloys are not as popular in applications as other steels, people's knowledge on these advanced alloys are also relatively limited. We are nickel alloy specialist; we devote ourselves to disseminating the knowledge of these materials. We will deliver new articles on nickel alloys on Media regularly. Hope with our efforts more people will know these excellent materials.

If you have any demand on nickel alloys, please feel free to send us enquiries. Our team will solve your demand with a very professional attitude. Our goal is to start every cooperation with excellent service.



As a professional manufacturer of nickel alloys in China, AEETHER CO., LIMITED provides a quite wide range of nickel alloy products to our worldwide customers. The forms of our supply come into five categories: Pipes, Fittings, Bars, Sheets and Wires. Monel, Inconel, Incoloy, Hastelloy are our four major grades. We also have other special alloys like Nimonic, Nitronic, pure-nickel and etc. to cater for your custom demands. With 30 years' accumulated experience in alloy industry, we have developed mature and diverse quality control solutions to free you from purchasing worries. At AEETHER, you buy trustworthy nickel alloys.

ABOUT US

WHY



US



Π σ 2 Ð Quality Sa

Choosing raw material is the first step to quality control. This applies to all of our products. Our nickel alloy tube billets, ingots, and coils are all subjected to strict selection before putting into production.



Huge ry Invento

We have inventory for regular conventional products to solve regular and urgent demands. This enhances our supply chain efficiency. Meanwhile, it allows us to proceed with our production as plan and ensures production process.



Complete Process

We will not skip over any production process, even if it does not affect product look. We believe this is the basic requirement on product quality. If necessary, we will keep honing our products so that they can demonstrate workmanship.





Artful Appearance

Our products boast artful appearance. This cannot be done without our nearly fastidious attitudes on raw material selection, emphasis on finish treatment and skillful adapting of our equipment's functionality by our experienced engineers.



Control Quality Strict

Our products are subjected to strict quality inspection with original mill certificates issued by our officers or third party inspection with MTC issued by independent institutes. The final result is that we will never deliver unqualified products.



Strong Packing

Even the best-built products, if without suitable packing, may encounter problems during transportation. Hence, we are attentive to packing details. Packing is our shield to product transportation safety.



OUR STORY

Metal Experience

AEETHER has its predecessor specialize in stainless steel products. At 1989, our first company Civmats was founded. Since then we have put into much efforts on stabilizing our product quality at an industrial higher level while experimenting on lowering the cost without any compromise on quality. With great efforts come our customers' recognition on our company and our products. Built on this solid base, AEETHER keeps growing strong, aiming to bring values to our customers, staffs and stockholders.

Nickel Alloy

2009 is the 20th anniversary of our foundation At this juncture, we decide to evolve from ourselves and create this new brand AEETHER. We've realized that nickel alloys will be the future of this industry. We need to embrace this ever changing market with a completely new look. Hence, we've built a professional team constituted by industrial specialists and experienced talents, studying the past, the present and the future of nickel alloys. We've also dug deep into production processes to enhance efficiency and lower the cost. In 2014, with five years' accumulation, AEETHER has become a mature nickel alloy manufacturer. As an industrial specialist, we've provided satisfactory products and services to many customers.

Going Global

Our products finally go global after serving domestic markets for around 30 years.

In 2016, AEETHER founded its international business department. We've built international sales and technical teams, dedicated to making our guality materials accessible to more countries at a reasonably low price.

For now, our products have been manufactured and distributed to worldwide. We've built mutual trusts with customers from Asia. Europe, America, Africa, and Oceania. We regard your repeat orders as recognition on our product. Meanwhile, we will live up to your trust and expectations, marching further to the international market. We grow with you.



SOLUTIONS -- Nickel Alloy Applications



- INCOLOY INCONEL
- HASTELLOY

Aerospace is the industry where nickel alloys are most widely used. In aerospace engines, it is not an easy task to ensure that various components can work normally at different temperatures and in different environments. Nickel alloy is currently the most suitable material with excellent corrosion resistance and excellent mechanical properties at high temperatures. AEETHER provides solid solution strengthened superalloys for engine containers and high-strength precipitation strengthened superalloys for engine blades.



INCONEL MONEL • INCOLOY HASTELLOY

Similar to aerospace applications. With the development of the automobile industry, more and more automobile production uses nickel alloys to improve the performance of automobiles. Nowadays, superalloys are widely used in auto parts such as turbochargers, exhaust valves, ignition prechamber, exhaust gas cleaner fastener, nozzles & etc. AEETHER produces highperformance nickel alloys to meet these needs.

Chemical Processing

MONEL	INCONEL		
INCOLOY	HASTELLOY		

In the chemical industry, various chemical reactions need to be carried out in containers. Of course, different chemical reactions require different temperatures. The nickel alloy can not only resist the corrosion of various chemical substances, but also have good mechanical strength at both low and high temperatures. Therefore, it is the most commonly used material in the chemical industry. AEETHER provides a variety of highperformance nickel alloys to meet the needs of our customers in the chemical industry.



Electrical Resistance

INCONEL INCOLOY

Resistance furnace is a heating furnace generate heat by pass current through the resistance wire or resistance band / strip. Among them, electric heating elements are required to have high heat resistance, high temperature strength, very low temperature coefficient of resistance and good chemical stability. Therefore, the common heating elements are nickel-chromium alloys or nickel-chromium-iron alloys (such as INCONEL and INCOLOY). AEETHER specializes in providing high-quality nickel-chromium alloy products for resistance furnace components.



INCONEL MONEL

With the development of technology, the demand for electronic components is increasing. In order to meet this demand, AEETHER can provide precision nickel alloy wires as welding wires for electronic components. For welding materials for electronic components, good brazing properties and low Curie temperature are very important indicators. Therefore, among the materials we produce, MONEL alloys 401 and 404 are perfect choices for soldering materials.



In the shipbuilding industry and other marine industries, the most important issue is how to deal with the corrosion of flowing seawater. Nickel alloy is a perfect solution, especially MONEL alloy can reduce the corrosion rate to almost negligible. At AEETHER, we provide solid solution strengthened alloy as the material for the ship's hull. At the same time, precipitation strengthened alloys are used as practical materials for fasteners in seawater.



The oil is excavated from thousands of meters deep underground, where there is abnormally high temperature and pressure. In addition, the environment in some oil fields is very harsh, which can cause severe corrosion to metals. AEETHER provides highperformance nickel alloy raw materials with excellent high-temperature corrosion resistance and high-temperature stress resistance. After being processed into casing and mandrel for drilling, it can be fully qualified for the oil exploitation environment.



- INCONEL • INCOLOY
- HASTELLOY

The principle of crude oil refining is to distill crude oil according to the different boiling points of different components in the crude oil. Different substances (such as gasoline and diesel) can be distilled at different temperatures. The distillation temperature can reach up to 800 degrees Celsius, and the composition of crude oil is very complex. Therefore, the distillation vessel must be resistant to high temperatures and resistant to various forms of corrosion. The nickel alloy materials produced by AEETHER are perfectly gualified for this job.

Pollution & Waste

INCONEL INCOLOY

HASTELLOY

The waste in the industrial production process is generally treated by incineration. The temperature during incineration is extremely high and some waste materials are extremely corrosive. The nickel alloys we manufacture have superior hightemperature corrosion resistance, and provide guaranteed solutions for waste treatment in petroleum refining, natural gas processing, pharmaceutical, medical and other industries.





Power Generation

• INCONEL INCOLOY

HASTELLOY

The power industry includes hydropower, coal power, gas power, and nuclear power. In addition to hydropower, other power generation methods require the support of high-temperature materials. Among them, nuclear power is one of the most widely used power generation methods of superalloys. In addition to the extreme high temperature inside the nuclear reactor, there is also a very harsh radiological environment. This makes nickel alloys an irreplaceable role in the composition of nuclear reactors.

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Thermal **Processing**

- INCONEL INCOLOY
- HASTELLOY

Different metal heat treatment requires different heat treatment temperature and heat treatment time. This requires that the furnace material can withstand different degrees of high temperature for a long time without high temperature creep. AEETHER provides high-performance nickel alloy products and selects alloys with the best high-temperature creep strength to match this demand. Our materials have been verified by various practices and can perfectly cope with various heat treatment methods.

Welding
Products

MONEL	INCONEL
INCOLOY	HASTELLOY

AEETHER produces nickel alloy welding materials corresponding to nickel alloy products. Our filler metals and welding electrodes are produced in strict accordance with AWS A5.14 and AWS A5.11 standards. And according to the standard requirements, the chemical composition of the material is fine-tuned to ensure the performance of the weld. In addition, we also provide filler metals and welding electrodes of worldrenowned brands (such as Special Metals, Haynes, VDM, etc.) for you to choose from.









Nickel Alloy Round Bar & Rod

Standards

ASTM A484, ASTM A484M, ASTM A638, ASTM A638M, ASTM B160, ASTM B164, ASTM B166, ASTM B335, ASTM B408, ASTM B425, ASTM B446, ASTM B472, ASTM B473, ASTM B511, ASTM B512, ASTM B572, ASTM B573, ASTM B574, ASTM B581, ASTM B637, ASTM B649, ASTM B691, ASTM B805

Overview

As a leading nickel alloy bars & rods supplier in China, AEETHER produces and manufactures cost-effective nickel alloy round bar & rod. Nickel alloy round bar & rod is a kind of nickel alloy bar with a circular cross section. Because this product form is suitable for many applications, it is the most basic and popular product among our bar & rod products. Nickel alloy round bar & rod is manufactured by hot rolling the nickel alloy ingot, which causes it to form a black oxide scale. We will further cold-draw it to a suitable size. At this time, it will have a smooth finish. If you need us to polish or grind the nickel alloy round bar & rod, we can also meet your needs.

AEETHER supplies different nickel alloy grades: Monel(400, 401, K-500, etc), Inconel(600, 601, 625, 718, etc), Incoloy(800, 825, A-286, etc) and Hastelloy(B-2, C-22, C-276, etc). The diameter of our nickel alloy round bar & rod ranges from 4 to 300mm. Customized size is also available.

Our products have higher quality and lower price. Our sales are more professional and responsible. Please don't hesitate to contact us!

Specifications

- Outside Diameter: Φ4- Φ300mm
- Delivery State: Cold Drawn, Hot Rolled, Forged, Grinding, Centerless Grinding
- Finish: Bright, Polishing, Mirror, Hairline, Pickled, Peeled, Black
- Hot-selling Products:
- a. Nickel Alloy Black Bar
- b. Nickel Alloy Bright Bar
- c. Nickel Alloy Hot Rolled Round Bar
- d. Nickel Alloy Forged Bar

Features

Outstanding high temperature resistance and corrosion resistance, bright surface, excellent straightness.

Applications

- 1. Ore calciner
- 2. Heat treatment retort furnace, muffle furnace, fixture and basket
- 3. Chemical vapor deposition bell furnace
- 4. Vacuum furnace fixture
- 5. Ammonia oxidation furnace catalytic
- net support grid
- 6. High temperature processing equipment for molten glass
- 7. Radiant tube
- 8. Petrochemical converter

Manufacturing Process



Drawing & Formula



Formula: m = D (mm) × D (mm) × L (m) × ρ (g/cm³) × π ÷ 4000 D = Diameter, L = Length, ρ = Density, π = 3.1415926...

Tolerance

	Cold	Drawn	
		Permissible Variations f	rom Specified Size, in. (mm)
Specified Dimension	n, in. (mm)	Over	Under
Over 1/2(12.70) to 1(25.40), excl	0.002(0.05)	0.002(0.05)
1(25.40) to 3/2(38	.10), incl	0.0025(0.06)	0.0025(0.06)
3/2(38.10) to 4(10)	L.60), incl	0.003(0.08)	0.003(0.08)
	Hot	Rolled	
	Permissible Variations fro	om Specified Size, in. (mm)	Out of Bound in (mm)
	Over	Under	— Out-or-Round In. (mm)
5/16(7.94) to 7/16(11.11), incl	0.006(0.15)	0.006(0.15)	0.009(0.23)
7/16(11.11) to 5/8(15.88), incl	0.007(0.18)	0.007(0.18)	0.010(0.25)
5/8(15.88) to 7/8(22.22), incl	0.008(0.20)	0.008(0.20)	0.012(0.30)
er 7/8(22.22) to 1(25.40), incl	0.009(0.23)	0.009(0.23)	0.013(0.33)
er 1(25.40) to 9/8(28.58), incl	0.010(0.25)	0.010(0.25)	0.015(0.38)
r 9/8(28.58) to 5/4(31.75), incl	0.011(0.28)	0.011(0.28)	0.016(0.41)
5/4(31.75) to 11/8(34.92), incl	0.012(0.30)	0.012(0.30)	0.018(0.46)
11/8(34.92) to 3/2(38.10), incl	0.014(0.36)	0.014(0.36)	0.021(0.53)

Over 3/2(38.10) to 2(50.80), incl	1/64(0.40)	1/64(0.40)	0.023(0.58)
Over 2(50.80) to 2 1/2(63.50), incl	1/32(0.79)	0	0.023(0.58)
Over 2 1/2(63.50) to 3 1/2(88.90), incl	3/64(1.19)	0	0.035(0.89)
Over 3 1/2(88.90) to 4 1/2(114.30), incl	1/16(1.59)	0	0.046(1.17)
Over 4 1/2(114.30) to 5 1/2(139.70), incl	5/64(1.98)	0	0.058(1.47)
Over 5 1/2(139.70) to 6 1/2(165.10), incl	1/8(3.18)	0	0.070(1.78)
Over 6 1/2(165.10) to 8(203.20), incl	5/32(3.97)	0	0.085(2.18)

Delivery State

Delivery State Choice	Surface Condition
Forged / Solution & Aging Treated -	Black
	Polished
- Hot Rolled / Solution & Aging Treated -	Black
	Polished
	Bright
	Pickled
Cold Drawn / Solution & Aring Tracted	Polished
Cold Drawn / Solution & Aging Treated	Bright

Note:

1. If you require different deliver state than the above listed, kindly confirm with us.

2. In case of any enquiry or order, please kindly let us know any extra requirement not indicated here.

FAQ



Can you provide nickel alloy grinding rods?



Α

Α

Yes, we can produce nickel alloy grinding rods with precise dimensions, better roundness and straightness than that of nickel alloy polishing rods, but the processing cost is also higher.



What is your minimum order quantity?

Our minimum order quantity is 100kg. Larger quantity, lower price.

How long is your delivery time? Q

It is usually 35 days, but it is also affected by your specific requirements or order quantity.

Can you provide samples?

For small parts, we can provide free samples of regular sizes, but the shipping costs must be borne by you. For large samples, we will include it in the order amount. Please confirm with our sales department according to your specific requirements.



Can I send an engineer to China?

Of course. Welcome to our factory for on-site inspection.



A

How do you control product quality? Q

From the selection of raw materials to packaging for transportation, each production process will be tested and evaluated. Only products that have passed all tests can be delivered for export.





At AEETHER, our nickel alloy round bar & rod are packed tightly as per international standard to prevent any possible damage. By default we will use thick woven plastic bags to bundle several pieces together (always one bundle ≤1500KGs). However, for those tube pipes that are susceptible to dirt pollution, scraping, stress or manhandling damages, we suggest wooden case for protection. Please be kindly noted that wooden case can incur extra cost by its own, and at times can increase the freight, which is especially remarkable for air transportation. For enhanced user experience, we will pack as per your diverged requirements.



Sea transportation is the most popular for most orders, hence regarded as the default transportation mode. Accordingly, quotation is thus made as per FOB, CFR, CIF etc.. For urgent demand, we can also offer as per air transportation.









Standards

ASTM A484, ASTM A484M, ASTM A638, ASTM A638M, ASTM B160, ASTM B164, ASTM B166, ASTM B408, ASTM B425, ASTM B446, ASTM B472, ASTM B473, ASTM B511, ASTM B512, ASTM B649, ASTM B691, ASTM B805



Overview

As a Chinese leading nickel alloy bars & rods supplier, AEETHER produces and manufactures cost-effective nickel alloy flat bar. Nickel alloy flat bar is a nickel alloy bar with a rectangular cross-section. It has excellent corrosion resistance and high temperature resistance, and can work continuously in special environments. Depending on the size and requirements, nickel alloy flat bar can be cold drawn from nickel alloy billet or nickel alloy round bar, or it can be cut from nickel alloy plate or nickel alloy strip. In surface treatment, we can provide pickling finish, sand blasted finish and polished finish for your choice.

AEETHER supplies different nickel alloy grades: Monel(400, 401, K-500, etc), Inconel(600, 601, 625, 718, etc), Incoloy(800, 825, A-286, etc) and Hastelloy(B-2, C-22, C-276, etc). The thickness of our nickel alloy flat bar ranges from 0.5mm to 200mm. The width of our nickel alloy flat bar ranges from 1.5mm to 250mm. Customized size is also available.

Our products have higher quality and lower price. Our sales are more professional and responsible. Please don't hesitate to contact us!

Specifications

• Dimension:

Thickness: 0.5mm - 200mm Width: 1.5mm - 250mm

• Delivery State: Cold Drawn, Hot Rolled, Flat Bar Cut from Strip or Plates, Grinding, Forged, Centerless Grinding

• Finish: Pickled, Bright, Polishing, Mirror, Hairline

- Hot-selling Products:
- a. Nickel Alloy Hot Rolled Flat Bar
- b. Nickel Alloy Pickeld Flat Bar
- c. Nickel Alloy Cold Drawn Flat Bar
- d. Nickel Alloy Polished Flat Bar

Features

Outstanding high temperature resistance and corrosion resistance, bright surface, excellent straightness.

Applications

1. Ore calciner

2. Heat treatment retort furnace, muffle furnace, fixture and basket

- 3. Chemical vapor deposition bell furnace
- 4. Vacuum furnace fixture
- 5. Ammonia oxidation furnace catalytic net support grid
- 6. High temperature processing equipment for molten glass
- 7. Radiant tube
- 8. Petrochemical converter

Manufacturing Process



Drawing & Formula



Formula: m = A (mm) × THK (mm) × L (m) × ρ (g/cm³) ÷ 1000 A = Side width, THK = Thickness, L = Length, ρ = Density

Tolerance

			Cold Drawn				
			P	ermissible Variations fro	m Specified Size, in. (mr	n)	
Spec	ified Dimension, in. (m	im)	01	ver	Under		
Over	1/2(12.70) to 1(25.40),	incl	()	0.004	(0.10)	
Over	⁻ 1(25.40) to 2(50.80), i	ncl		0		0.006(0.15)	
Over	2(50.80) to 3(76.20), i	ncl	()	0.008	(0.20)	
	Over 3(76.20)		()	0.010	(0.25)	
			Hot Rolled				
		Permissik	le Variations in Thickne	ss for Thicknesses Given	, in. (mm)		
Specified Width, in. (mm)	1/8(3.18) to 1/2(12.70), incl		Over 1/2(12.70)	Over 1/2(12.70) to 1(25.40), incl		to 2(50.80), incl	
(((((((((((((((((((((((((((((((((((((((Over	Under	Over	Under	Over	Under	
To 1(25.40), incl	0.008(0.20)	0.008(0.20)	0.010(0.25)	0.010(0.25)			
Over 1(25.40) to 2(50.80), incl	0.012(0.30)	0.012(0.30)	0.015(0.38)	0.015(0.38)	0.031(0.79)	0.031(0.79)	
Over 2(50.80) to 4(101.60), incl	0.015(0.38)	0.015(0.38)	0.020(0.51)	0.020(0.51)	0.031(0.79)	0.031(0.79)	
Over 4(101.60) to 6(152.40), incl	0.015(0.38)	0.015(0.38)	0.020(0.51)	0.020(0.51)	0.031(0.79)	0.031(0.79)	
Over 6(152.40) to 8(203.20), incl	0.016(0.41)	0.016(0.41)	0.025(0.64)	0.025(0.64)	0.031(0.79)	0.031(0.79)	
Over 8(203.20) to 10(254.00), incl	0.021(0.53)	0.021(0.53)	0.031(0.79)	0.031(0.79)	0.031(0.79)	0.031(0.79)	
	Over 2(50.80) to	o 4(101.60), incl	Over 4(101.60) to 6(152.40), incl		Over 6(152.40)	to 8(203.20), incl	
	Over	Under	Over	Under	Over	Under	
To 1(25.40), incl							
Over 1(25.40) to 2(50.80), incl							

Over 4 4(10 Over 4 6(15 Over 6 8(20 Over 8 10(25

Technical Sheet



Over 2(50.80) to 4(101.60), incl	0.062(1.57)	0.031(0.79)					
Over 4(101.60) to 6(152.40), incl	0.062(1.57)	0.031(0.79)	0.093(2.36)	0.062(1.57)			
Over 6(152.40) to 8(203.20), incl	0.062(1.57)	0.031(0.79)	0.093(2.36)	0.062(1.57)	0.125(3.18)	0.156(3.96)	
Over 8(203.20) to 10(254.00), incl	0.062(1.57)	0.031(0.79)	0.093(2.36)	0.062(1.57)	0.125(3.18)	W0.156(3.96)	
Specified Width, in. (mm)			Permissible Variations in Width, in. (mm)				
		Over Und		der			
To 1(25.40), incl		0.015(0.38)		0.015	6(0.38)		
Over 1(25.40) to 2(50.80), incl			0.031(0.79)		0.031	0.031(0.79)	
Over 2(50.80) to 4(101.60), incl		0.062(1.57)		0.031(0.79)			
Over 4(101.60) to 6(152.40), incl		0.093(2.36)		0.062(1.57)			
Over 6(152.40) to 8(203.20), incl		0.125(3.18)		0.156(3.96)			
Over 8(203.20) to 10(254.00), incl		0.156(3.96)		0.187	(4.75)		

Delivery State

Delivery State Choice	Surface Condition
List Bollod / Colution & Aging Tracted	Pickled
Hot Kolled / Solution & Aging Treated	Sand Blasted
Cold Drawn / Solution & Aging Treated	Polished
Cold Drawn / Solution & Aging Treated	Bright

Note:

1. If you require different deliver state than the above listed, kindly confirm with us.

2. In case of any enquiry or order, please kindly let us know any extra requirement not indicated here.

FAQ

Can you polish nickel alloy flat bar to hairline finish?



Q

How do you control product quality?

From the selection of raw materials to packaging for transportation, each production process will be tested and evaluated. Only products that have passed all tests can be delivered for export.



Α

Package



At AEETHER, our nickel alloy flat bar are packed tightly as per international standard to prevent any possible damage. By default we will use thick woven plastic bags to bundle several pieces together (always one bundle ≤1500KGs). However, for those tube pipes that are susceptible to dirt pollution, scraping, stress or man-handling damages, we suggest wooden case for protection. Please be kindly noted that wooden case can incur extra cost by its own, and at times can increase the freight, which is especially remarkable for air transportation. For enhanced user experience, we will pack as per your diverged requirements.



Sea transportation is the most popular for most orders, hence regarded as the default transportation mode. Accordingly, quotation is thus made as per FOB, CFR, CIF etc.. For urgent demand, we can also offer as per air transportation.



Q







Standards

ASTM A484, ASTM A484M, ASTM A638, ASTM A638M, ASTM B160, ASTM B164, ASTM B166, ASTM B408, ASTM B425, ASTM B446, ASTM B472, ASTM B473, ASTM B511, ASTM B512, ASTM B649, ASTM B691, ASTM B805

As a Chinese leading nickel alloy materials supplier, AEETHER produces and manufactures Cost-effective nickel alloy square bar. Nickel alloy square bar is nickel alloy bars with square section. Due to the high degree of shape adaptability, it is also one of the most common nickel alloy bars. Nickel alloy square bar has excellent corrosion resistance and high temperature resistance, and can work well in most environments. Depending on the manufacturing process and size, nickel alloy square bars can be hot-rolled from nickel alloy billet or cold-drawn from nickel allov round bar & rod. We provide nickel alloy square bars with polished, pickled and sandblasted finish for your choice.

Overview

AEETHER supplies different nickel alloy grades: Monel(400, 401, K-500, etc), Inconel(600, 601, 625, 718, etc), Incoloy(800, 825, A-286, etc) and Hastelloy(B-2, C-22, C-276, etc). The width of our nickel alloy square bar ranges from 2mm to 200mm. Customized size is also available.

Our products have higher quality and lower price. Our sales are more professional and responsible. Please don't hesitate to contact us!

Specifications

- Dimensions: 2*2mm 200*200mm
- Delivery State: Cold Drawn, Hot Rolled, Grinding, Forged, Centerless Grinding
- Finish: Pickled ,Bright, Polishing, Mirror, Hairline
- Hot-selling Products:
- a. Hot Rolled Nickel Alloy Square Bar
- b. Pickled Nickel Alloy Square Bar
- c. Cold Drawn Nickel Alloy Square Bar

Features

Outstanding high temperature resistance and corrosion resistance, bright surface, excellent straightness.

Applications

- 1. Ore calciner
- 2. Heat treatment retort furnace, muffle furnace, fixture and basket
- 3. Chemical vapor deposition bell furnace
- 4. Vacuum furnace fixture
- 5. Ammonia oxidation furnace catalytic net support grid
- 6. High temperature processing equipment for molten glass
- 7. Radiant tube
- 8. Petrochemical converter

Manufacturing Process



Drawing & Formula



Formula: m = A (mm) × A (mm) × L (m) × ρ (g/cm³) ÷ 1000 A = Side width, L = Length, ρ = Density

Size Range

	Cold I	Drawn	
		Permissible Variations from Specified Size, in. (mm)	
Specified Dimensio	n, in. (mm)	Over	Under
Over 1/2(12.70) to 1	(25.40), incl	0	0.004(0.10)
Over 1(25.40) to 2(50.80), incl	0	0.006(0.15)
Over 2(50.80) to 3(76.20), incl	0	0.008(0.20)
Over 3(76.2	20)	0	0.010(0.25)
	Hot R	Rolled	
	Permissible Variations fro	m Specified Size, in. (mm)	Out of Severe in (mm)
	Over	Under	— Out-or-square in. (mm)
Over 5/16(7.94) to 7/16(11.11), incl	0.006(0.15)	0.006(0.15)	0.009(0.23)
Over 7/16(11.11) to 5/8(15.88), incl	0.007(0.18)	0.007(0.18)	0.010(0.25)
Over 5/8(15.88) to 7/8(22.22), incl	0.008(0.20)	0.008(0.20)	0.012(0.30)
Over 7/8(22.22) to 1(25.40), incl	0.009(0.23)	0.009(0.23)	0.013(0.33)
Over 1(25.40) to 9/8(28.58), incl	0.010(0.25)	0.010(0.25)	0.015(0.38)
Over 9/8(28.58) to 5/4(31.75), incl	0.011(0.28)	0.011(0.28)	0.016(0.41)
Over 5/4(31.75) to 11/8(34.92), incl	0.012(0.30)	0.012(0.30)	0.018(0.46)



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Over 11/8(34.92) to 3/2(38.10), incl	0.014(0.36)	0.014(0.36)	0.021(0.53)
Over 3/2(38.10) to 2(50.80), incl	1/64(0.40)	1/64(0.40)	0.023(0.58)
Over 2(50.80) to 2 1/2(63.50), incl	1/32(0.79)	0	0.023(0.58)
Over 2 1/2(63.50) to 3 1/2(88.90), incl	3/64(1.19)	0	0.035(0.89)
Over 3 1/2(88.90) to 4 1/2(114.30), incl	1/16(1.59)	0	0.046(1.17)
Over 4 1/2(114.30) to 5 1/2(139.70), incl	5/64(1.98)	0	0.058(1.47)
Over 5 1/2(139.70) to 6 1/2(165.10), incl	1/8(3.18)	0	0.070(1.78)
Over 6 1/2(165.10) to 8(203.20), incl	5/32(3.97)	0	0.085(2.18)

Delivery State

Delivery State Choice	Surface Condition
Hat Balled / Solution & Aging Tracted	Pickled
Hot Rolled / Solution & Aging Treated	Sand Blasted
Cold Drawn / Colution 9, Aging Treated	Polished
Cold Drawn / Solution & Aging Treated	Bright

Note:

1. If you require different deliver state than the above listed, kindly confirm with us.

2. In case of any enquiry or order, please kindly let us know any extra requirement not indicated here.

FAQ



Do you have cold drawn nickel alloy square bars?



A

Α

Α

Yes, we produce cold drawn nickel alloy square bars with excellent finish. Although cold drawn nickel alloy square bars are more expensive than hot rolled nickel alloy square bars, it has better mechanical properties and more precise dimensions.



What is your minimum order quantity?

Our minimum order quantity is 500kg. Larger quantity, lower price.



How long is your delivery time?

It is usually 45 days, but it is also affected by your specific requirements or order quantity.



Can you provide samples?

For small parts, we can provide free samples of regular sizes, but the shipping costs must be borne by you. For large samples, we will include it in the order amount. Please confirm with our sales department according to your specific requirements.



Can I send an engineer to China?

Of course. Welcome to our factory for on-site inspection.



How do you control product quality?

From the selection of raw materials to packaging for transportation, each production process will be tested and evaluated. Only products that have passed all tests can be delivered for export.



A

Package



At AEETHER, our nickel alloy square bar are packed tightly as per international standard to prevent any possible damage. By default we will use thick woven plastic bags to bundle several pieces together (always one bundle ≤1500KGs). However, for those tube pipes that are susceptible to dirt pollution, scraping, stress or manhandling damages, we suggest wooden case for protection. Please be kindly noted that wooden case can incur extra cost by its own, and at times can increase the freight, which is especially remarkable for air transportation. For enhanced user experience, we will pack as per your diverged requirements.



Sea transportation is the most popular for most orders, hence regarded as the default transportation mode. Accordingly, quotation is thus made as per FOB, CFR, CIF etc.. For urgent demand, we can also offer as per air transportation.











Overview

As a leading nickel alloy bars supplier in China, AEETHER manufactures and produces nickel alloy hexagon bars of various sizes. Nickel alloy hexagon bar(hex bar, hexagonal bar) is a nickel alloy bar with a hexagon cross-section. It has good corrosion resistance and high temperature resistance, as well as good workability. Since it can be used as the raw material for many nickel alloy fasteners (such as nickel alloy screws, nickel alloy nuts, etc.), it is also one of our most popular nickel alloy bar products. We can provide hotrolled, cold-drawn or forged nickel alloy hexagon bars. The common finish of nickel alloy hexagon bar is polished finish. If you need nickel alloy hexagon bar with other finishes such as pickling or sandblasting, please confirm with us.

AEETHER supplies different nickel alloy grades: Monel(400, 401, K-500, etc), Inconel(600, 601, 625, 718, etc), Incoloy(800, 825, A-286, etc) and Hastelloy(B-2, C-22, C-276, etc). The diameter between two adjacent side width of our nickel alloy hexagon bar ranges from 3mm to 180mm. Customized size is also available.

Our products have higher quality and lower price. Our sales are more professional and responsible. Please don't hesitate to contact us!

Specifications

• Dimension: 3mm - 180mm

• Delivery State: Cold Drawn, Hot Rolled, Grinding, Forged, Centerless Grinding

• Finish: Polished, Bright, Hairline, Grinded, Sandblast, Pickled, Mill Finish

Standards

ASTM A484, ASTM A484M, ASTM A638, ASTM A638M, ASTM B160, ASTM B164, ASTM B166, ASTM B408, ASTM B425, ASTM B446, ASTM B472, ASTM B473, ASTM B511, ASTM B512, ASTM B649, ASTM B691, ASTM B805

Features

Outstanding high temperature resistance and corrosion resistance, bright surface, excellent straightness.

Applications

Food equipment, chemical equipment, nuclear energy industry equipment, construction engineering, equipment and parts that require good overall performance (corrosion resistance and formability).



Manufacturing Process



Drawing & Formula

Formula: m = D (mm) × D (mm) × L (m) × ρ (g/cm³) × 0.866 ÷ 1000 D = Diameter between two adjacent side width, L = Length, ρ = Density

Tolerance

Cold Drawn					
Specified Dimension, in. (mm)		Permissible Variations from Specified Size, in. (mm)			
		Over	Under		
Over 1/2(12.70) to 1(25	5.40), incl	0	0.004(0.10)		
Over 1(25.40) to 2(50.80), incl		0	0.006(0.15)		
Over 2(50.80) to 3(76.	Over 2(50.80) to 3(76.20), incl		0.008(0.20)		
Over 3(76.20)		0	0.010(0.25)		
Hot Rolled					
Specified Sizes Measured Between Permissible Variations		rom Specified Size, in. (mm)	Maximum Difference in 3 Measurements		
Opposite Sides, in. (mm)	Over	Under	for Hexagons, in. (mm)		
1/4(6.35) to 1/2(12.70), incl	0.007(0.18)	0.007(0.18)	0.011(0.28)		
Over 1/2(12.70) to 1(25.40), incl	0.010(0.25)	0.010(0.25)	0.015(0.38)		
Over 1(25.40) to 1 1/2(38.10), incl	0.021(0.53)	0.021(0.53)	0.025(0.64)		
Over 1 1/2(38.10) to 2(50.80), incl	1/32(0.79)	1/32(0.79)	1/32(0.79)		
Over 2(50.80) to 2 1/2(63.50), incl	3/64(1.19)	3/64(1.19)	3/64(1.19)		
Over 2 1/2(63.50) to 3 1/2(88.90), incl	1/16(1.59)	1/16(1.59)	1/16(1.59)		

Delivery State

Delivery State Choice	Surface Condition
Hot Pollod	Pickled
not kolled	Sand Blasted
Cold Drawn	Polished
	Bright

Note:

1. If you require different deliver state than the above listed, kindly confirm with us.

2. In case of any enquiry or order, please kindly let us know any extra requirement not indicated here.

Package



At AEETHER, our nickel alloy hexagon bar are packed tightly as per international standard to prevent any possible damage. By default we will use thick woven plastic bags to bundle several pieces together (always one bundle ≤1500KGs). However, for those tube pipes that are susceptible to dirt pollution, scraping, stress or manhandling damages, we suggest wooden case for protection. Please be kindly noted that wooden case can incur extra cost by its own, and at times can increase the freight, which is especially remarkable for air transportation. For enhanced user experience, we will pack as per your diverged requirements.

Logistics





Sea transportation is the most popular for most orders, hence regarded as the default transportation mode. Accordingly, quotation is thus made as per FOB, CFR, CIF etc.. For urgent demand, we can also offer as per air transportation.



FAQ

		GRA AVAII	ADES LABLE	
		MC	ONEL	
		S ≤ 0.024% C ≤ 0.30% Fe ≤ 2.5%	Ni ≥ 63.0%	
400	N04400 2.4360	S Si C Mn Fe Cu	Ni	
		Si ≤ 0.50% Mn ≤ 2.00% Cu: 28.0% ~ 34.0%		
401	N04401	S \leq 0.015% C \leq 0.10% F e \leq 0.75% Cu : 51.4% ~ 56.4%	Ni	
401	1004401	Si ≤ 0.25% Mn ≤ 2.25% Co ≤ 0.25%	Ni: 40.0% ~ 45.0%	
		S ≤ 0.024% C ≤ 0.15% Fe ≤ 0.50% Cu: 42.1% ~ 47.1%		
404	N04404		Ni	
		$Si \le 0.10\%$ Mn $\le 0.10\%$ Al $\le 0.05\%$	Ni: 52.0% ~ 57.0%	
		S: 0.025% ~ 0.060% C ≤ 0.30% Fe ≤ 2.5%	Ni ≥ 63.0%	
R-405	N04405	S Si C Mn Fe Cu	Ni	
		SI ≥ 0.50% IVIN ≥ 2.00% Cu: 28.0% 34.0%		
K 500	N05500	$S \le 0.010\%$ $C \le 0.18\%$ $Fe \le 2.0\%$ Ti: 0.35% ~ 0.85%	Ni ≥ 63.0%	
K-200	2.4375	Si ≤ 0.50% Mn ≤ 1.50% Al: 2.30% ~ 3.15% Cu: 27.0% ~ 33.0%	6	
		S < 0.010% C < 0.10% Eq < 2.0% Ti < 0.50%	Ni- 62 0% ~ 70 0%	
502	N05502	S Si C Mn Fe Al Ti Cu	Ni	
302		Si ≤ 0.50% Mn ≤ 1.50% Al: 2.50% ~ 3.50% Cu: 21.9% ~ 29.9%	6	

INCONEL



INCONEL



GRADES AVAILABLE



45

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INCOLOY







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HASTELLOY



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