

V2 CONSULTING LIMITED



**Titanium and Titanium Alloy
Products Catalogue**



Contents

About us 3

Manufacturer Credential 4

Manufacturer R & D Strength 4

Process Flow Chart..... 5

Quality Control..... 6

Product Range..... 6

 Clad Materials 7

 Ingot 9

 Sheets & Plates 10

 Coils/Strips 11

 Seamless Tubes & Pipes..... 12

 Billets & Bars 13

 Rods & Wires..... 14

 Forging 15

 Discs & Rings 15

 Forged Slabs 16

Precision Casting..... 17



V2 Consulting Limited

Supplier of: **Titanium and Titanium Alloy Products**
Explosive Clad, Explosive-Rolled Clad, Rolled Clad
Plates, Sheets, Strips, Coils, Billet & Bars,
Tubes (Seamless and Welded), Discs,
Castings, Forging, Ingots, Rings, Wires

About us

We liaised with the **biggest manufacturer of Titanium and Titanium Alloy in China**, providing you with the technically and commercially competitively Titanium products.

Our manufacturer has been in the field since 1960s, and has supplied various products to companies like NIPPON STEEL, TSM, KOBELCO, BOEING, AIRBUS, SAFRAN etc.

Also the manufacturer is specialized in **Titanium and alloys Cladding** made by **Explosive Cladding or Explosive-Rolled Cladding**, have been supplied in various applications:

- Power Plant Desulphurization
- Pressure Vessels
- Power Station Auxiliary Equipment
- Chemical Industry
- Petrochemical Industry
- Coal-to-Liquid Industry
- Vacuum-Evaporation Salt Industry
- Desalination Plant, etc.

With the manufacturer capacity of **25000t** in Titanium Casting/Forging/Ingot, and **15000t** in Titanium and its alloy, we will be able to supply you with various Titanium products that can meet your procurement requirements related to your various vessel fabrications.



V2 Consulting Limited

Supplier of: **Titanium and Titanium Alloy Products**
Explosive Clad, Explosive-Rolled Clad, Rolled Clad
Plates, Sheets, Strips, Coils, Billet & Bars,
Tubes (Seamless and Welded), Discs,
Castings, Forging, Ingots, Rings, Wires

Manufacturer Credential

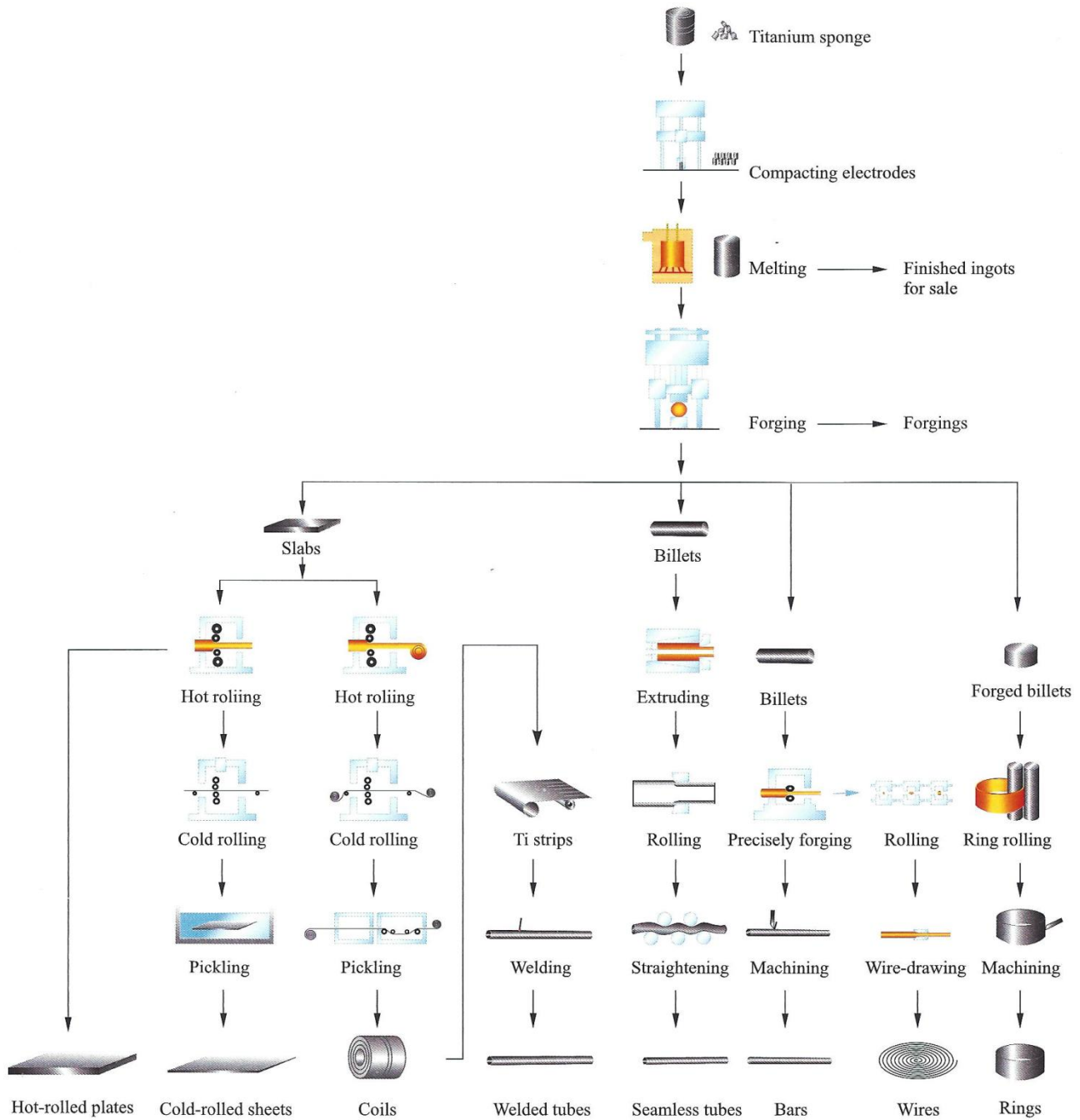
- ✓ Among the oldest companies which were engaged in researching, developing and producing cladding plates in China.
- ✓ Accredited as the professional manufacturer of **precious metal cladding plates** in China.
- ✓ High-profile manufacturer with technology of **explosive cladding, roll cladding, and explosive clad-rolling** in China.
- ✓ Capable of manufacturing **cladding plates of most specifications/configurations/sizes**.
- ✓ The largest-scale Chinese manufacturer of **titanium/steel cladding plate for chimney liners** used in power plants.
- ✓ Specialized Chinese manufacturer of **two-phase stainless steel clad plates for Vaporizing Tank** used in salt industry.
- ✓ The first Chinese manufacturer to develop **extreme large size Titanium/Stainless/Carbon Steel cladding used for Turbine Condenser**.
- ✓ Have obtained **BV Management System Certification** and **passed the production survey for exporting to Italy (France)**.
- ✓ **Certified supplier** of Dong Fang Turbine Co. Ltd for products used in nuclear power industry.
- ✓ **Certified supplier** of Morimatsu Group (China) for cladding plates.
- ✓ **Certified supplier** of BaoTi Group Equipment Design and Manufacturing Co. Ltd and Nanjing Baose Titanium Industry Co. Ltd for cladding plates used in pressure vessels.
- ✓ **Certified supplier** of China National Chemical Equipment Corporation for Chemical equipments.

Manufacturer R & D Strength

As the largest Titanium research base in China, our manufacturer has been engaged in scientific research and industrialized transformation of new materials including

- high temperature titanium alloys,
- corrosion-resistant titanium alloys,
- high-tensile structural titanium alloys,
- damage-tolerance titanium alloys,
- combustion-resistant titanium alloys,
- biomedical titanium alloys,
- marine titanium alloys,
- low-cost titanium alloys,
- cryogenic titanium alloys and many other special applications.

Process Flow Chart





V2 Consulting Limited

Supplier of: **Titanium and Titanium Alloy Products**
Explosive Clad, Explosive-Rolled Clad, Rolled Clad
Plates, Sheets, Strips, Coils, Billet & Bars,
Tubes (Seamless and Welded), Discs,
Castings, Forging, Ingots, Rings, Wires

Quality Control

Our manufacturer has been accredited for the following schemes:

- ISO 9001:2008 Quality Management System
- PED approval acc. to 97/23/EC
- NORSOK M650
- NADCAP Approval
- Approval issued by Boeing, Rolls-Royce, Airbus, etc. acc. to AECMA EASE requirements

Product Range

Our manufacturer is capable of producing all grades of C.P. Titanium and most of Titanium alloys in accordance with AMS, ASTM, MIL, ASME, DMS, AWS, JIS specification or equivalent as specified below:

Ti-6Al-4V
Ti-6Al-4V ELI
Ti-15V-3Cr-3Sn-3Al
Ti-10V-2Fe-3Al

Ti-5Al-2.5Sn
Ti-0.2Pd
Ti-0.3Mo-0.8Ni
Ti-3Al-8V-6Cr-4Zr-4Mo

Ti-6Al-2Sn-4Zr-2Mo
Ti-6Al-2Sn-4Zr-6Mo
Ti-6Al-7Nb
Ti-2.5U

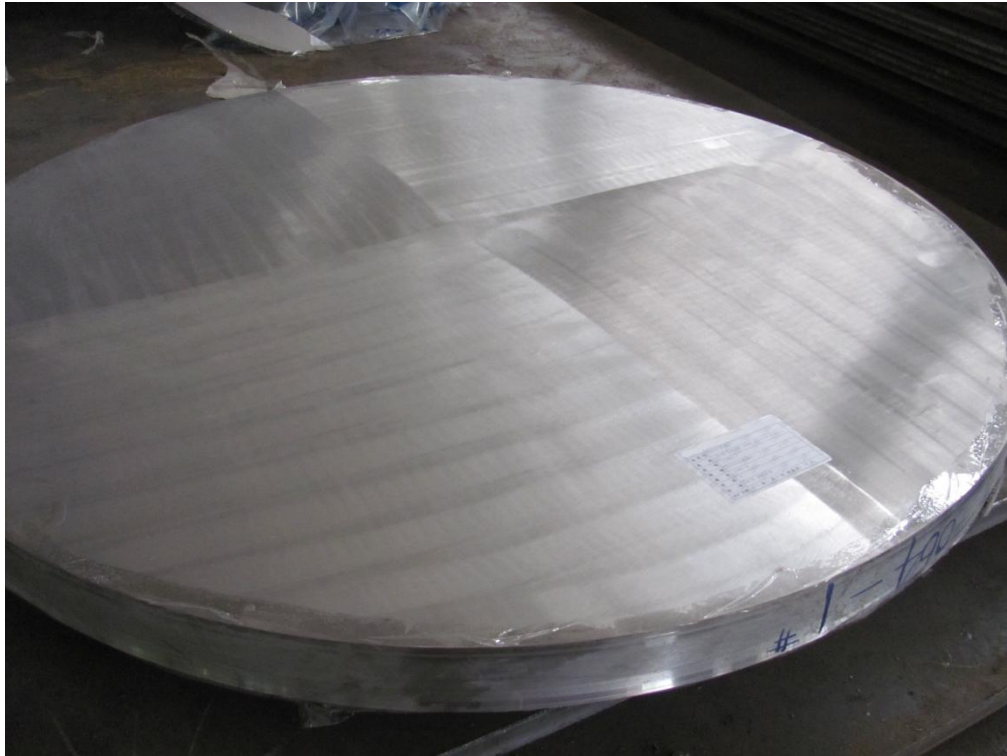
Products include:

- Cladding (Explosive, Explosive-Rolled, Rolled)
- Ingot
- Sheet & Plates
- Coils/Strips
- Seamless and Welded Tubes & Pipes
- Billet & Bars
- Rods & Wires
- Forging
- Precision castings



Clad Materials

Clad can be produced with Titanium/Titanium alloy, Stainless Steel, Copper, Nickel, Aluminium, Steel by Explosion, Explosion-Rolling, and Rolling.



Clad Plate:

Configuration: Ti+Cu, Ti+Al, Ti+Ni, Ti+Steel, Ti+Stainless Steel

Clad method: Explosion, Rolling, Explosion+Rolling



V2 Consulting Limited

Supplier of: **Titanium and Titanium Alloy Products**
 Explosive Clad, Explosive-Rolled Clad, Rolled Clad
 Plates, Sheets, Strips, Coils, Billet & Bars,
 Tubes (Seamless and Welded), Discs,
 Castings, Forging, Ingots, Rings, Wires

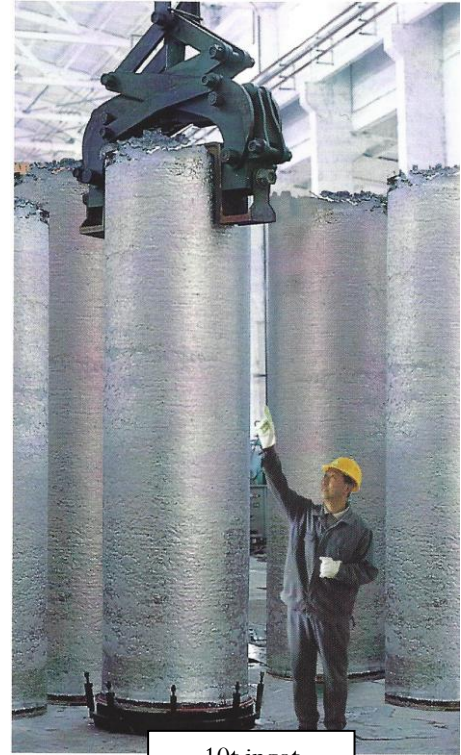
Part of Clad Products manufactured:

Products	Clad Material	Base Material	Size (mm)	Standard	Application
Ti/Carbon Steel Cladding	ASTM B265 Gr.1, Gr.2, Gr.9, Gr.12	ASTM A572-Gr.50, ASTM A516-Gr.60, Gr.65, Gr.70 ASTM A287-Gr.A, Gr.B, Gr.C, Gr.D	*B: (1~12)/(5~120)x≤4500x≤6500 **BR: (1~12)/(5~120)x≤3000x≤6500	ASTM B898	Petrochemical, Chemical, Vacuum Salt Production, Chlor-Alkali, Food Production, etc.
Ti/Stainless Steel Cladding	ASTM B265 Gr.1, Gr.2, Gr.9, Gr.12	ATSTM A240-410S	(1~6)/(5~120)x≤2000x≤8000	ASTM B898	Petrochemical, Chlor-Alkali, Aerospace, Food production, Low-temperature application, Light Industry, Medical, etc.
Ti/Aluminum Cladding	ASTM B265 Gr.1, Gr.2, Gr.9, Gr.12	ASTM B209M-1060	(1~10)/(5~50)x≤2000x≤8000	ASTM B898	Aerospace, Kitchenware, Cooking Utensil, Chemical, Industrial, Special Brazing Metal, etc.
Ti/Cu Cladding	ASTM B265 Gr.1, Gr.2, Gr.9, Gr.12	ASTMB152M -C1100P ASTMB171M -C71500	(1~10)/(5~50)x≤2000x≤8000	ASTM B898	Power sector, Electrolytic Industry, Cooking Utensil, Hydrometallurgy, etc.
Ti/Nickel Cladding	ASTM B265 Gr.1, Gr.2, Gr.9, Gr.12	ASTMB162-N02201	(1~10)/(5~50)x≤2000x≤8000	ASTM B898	Metallurgical Industry

Ingot

Ingots can be supplied as the following grades or equivalent in accordance with ASTM, AMS, DMS, JIS specification:

- C.P.Ti
- Ti-6Al-4V
- Ti-6Al-4V ELI
- Ti-6242
- Ti-5Al-2.5Sn
- Ti-3Al-2.5V
- Ti-0.2Pd
- Ti-1023
- Ti-0.3Mo-0.8Ni



10t ingot

Nominal Diameter and Weight:

Ingot

Nominal Dia (mm)	290	400	500	600	700	800	900	1000
Nominal Weight(kg)	260	1000	2000	3000	4500	6000	8000	10000

Cast Slab

260x1050x5000 mm Max.

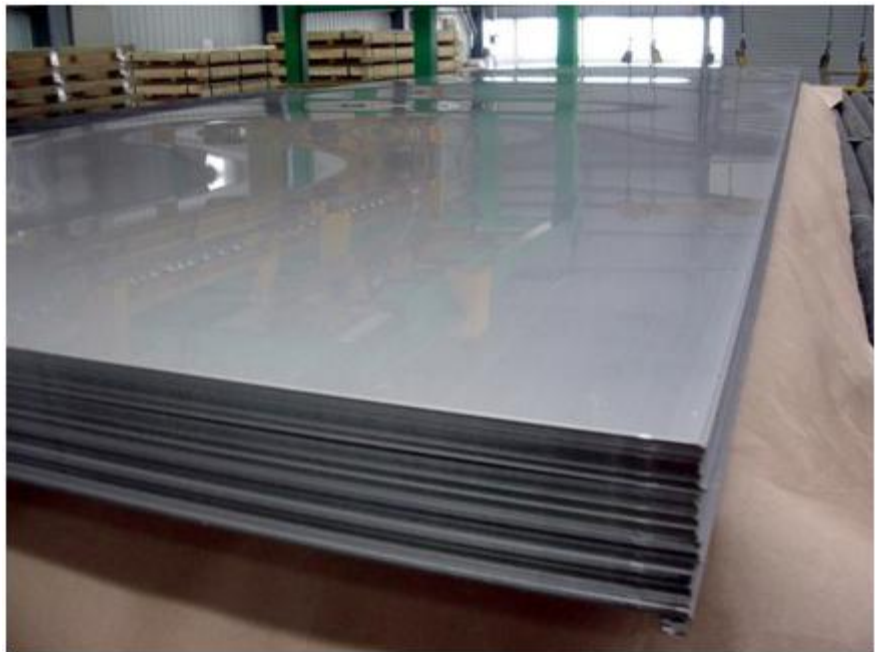
350x1300x5000 mm Max.

Sheets & Plates

Our sheets and plates have been widely used in aerospace and pressure vessel fabrication all over the world.

Sheets and plates can be supplied as the following grades or equivalent in accordance with ASTM, AMS, DMS, JIS specification:

- C.P.Ti
- Ti-6Al-4V
- Ti-6Al-4V ELI
- Ti-15333
- Ti-6242
- Ti-3Al-2.5V
- Ti-0.2Pd
- Ti-38644
- Ti-0.3Mo-0.8Ni



Thickness (mm)	Width (mm)	Length (mm)	Delivery Condition
0.6~<0.8	Max. 600, Ti-6Al-4V	Max. 2000	pickled
	Max. 800, C.P. Ti		
0.8~<5.0	Max. 1000	Max. 3048	pickled
5.0~<8.0	Max. 2000	Max. 4000	Sand-blasted
8.0~<50.0	Max. 2500	Max. 5000, Ti-6Al-4V	Sand-blasted
		Max. 7000, C.P.Ti	

Equipments for processing:

- Grinding Machine
- Water jet cutting machine
- 3.3 m four-high reversible hot rolling mill
- 1.2 m four-high reversible hot rolling mill
- 1.2 m four-cold reversible hot rolling mill
- Vacuum annealing furnaces
- Vacuum creep flattening furnaces

Coils/Strips

With the 20-high cold rolling mill, our manufacturer is capable of supplying Titanium strip/coils for PHE (Plate Frame Heat Exchanger), welded tube applications and wide range of other strip/coil applications.

Coils/strips can be supplied as the following grades or equivalent in accordance with ASTM, ASME and AMS specification:

- C.P.Ti (Gr.1, Gr.2, Gr.3, Gr.4)
- Ti-0.2Pd
- Etc.

Dimension

Thk (0.3~4.7mm) x W (\leq 1350 mm)





Seamless Tubes & Pipes

Material Standard and Grades:

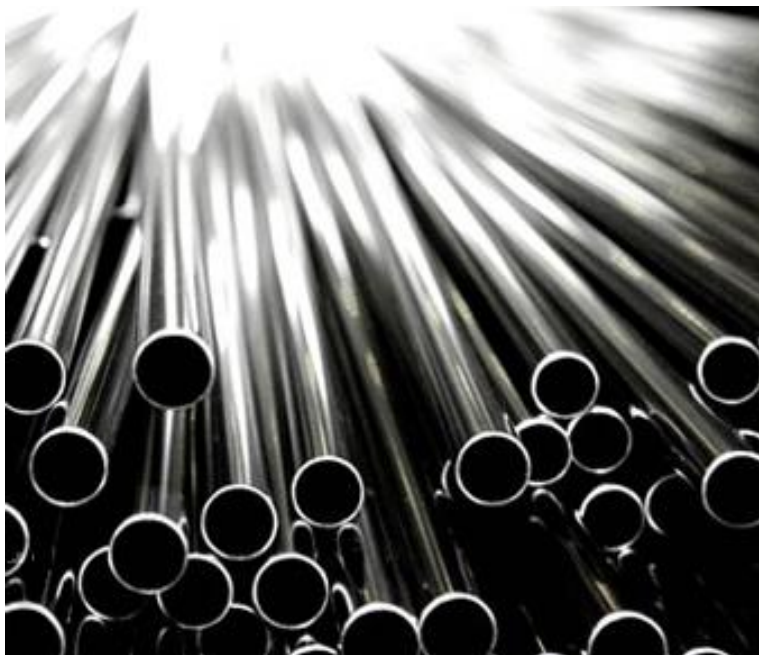
Gr.1, Gr.2, Gr.3, Gr.9, Gr.11, Gr.12, Gr.16 and Gr.17 according to ASTM B337, ASME SB337, ASME SB338, ASTM B338, ASTM B861.

Cold-Drawn Tubes and Pipes Dimension:

Outside Diameter:	10~114 mm
Wall-thickness:	0.5~5.5 mm
Length:	For O.D. 10~15 mm, Max. 4,000 mm
	For O.D. above 15 mm, Max. 12,000 mm
Delivery condition:	Cold drawn and annealed in vacuum annealing furnace

Extruded tubes and pipes Dimension:

Outside Diameter:	25~210 mm
Wall-thickness:	4~30 mm
Length:	1,000~10,000 mm



Billets & Bars

Material Standard and Designation

Billets & Bars can be supplied as the following grades or equivalent in accordance with ASTM, ASME, AMS and MIL specification:

- C.P.Ti
- Ti-6AL-4V
- Ti-6Al-4V ELI
- Ti-5Al-2.5Sn
- Ti-15333
- Ti-6242
- Ti-3Al-2.5V
- Ti-0.2Pd
- Ti-38644
- Ti-6Al-7Nb
- Ti-662
- Ti-1023
- Ti-4322



Dimensions

Diameter: 7~300 mm

Finish

- As forged
- Sand blasted
- Pickled
- Machined (Turned or center-less grinded)

Rods & Wires

Material Standard and Grades

Wires can be supplied as the following grades in accordance with AWS A5.16 specification:

- ERTi-1,
- ERTi-2,
- ERTi-3,
- ERTi-5,
- ERTi-5ELI,
- ERTi-7,
- ERTi-9,
- ERTi-9ELI,
- ERTi-11,
- ERTi-12,
- ERTi-16,
- ERTi-17,
- ERTi-23



Diameter

Diameter of wire in coil: 0.5~7.0 mm

Standard Size of Straight Rods

Diameter: 1.0~7.0 mm

Finish: Cold-drawn, un-annealed/annealed

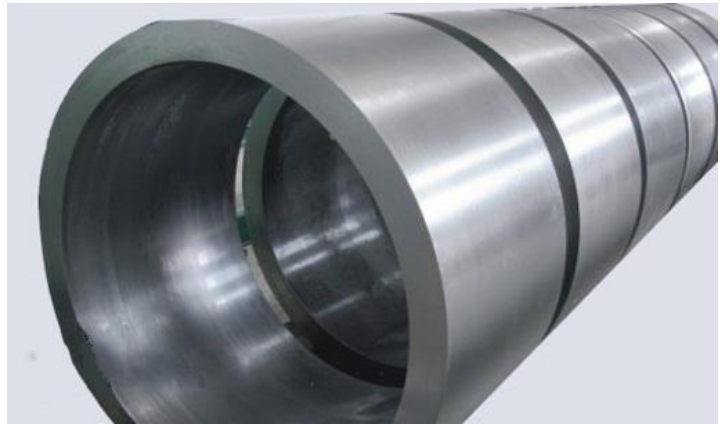
Forging

Discs & Rings

Material Standard and Grades

Discs and rings can be supplied as the following grades or equivalent in accordance with ASTM, ASME, AMS and MIL specification:

- C.P.Ti
- Ti-6AL-4V
- Ti-6Al-4V ELI
- Ti-0.3Mo-0.8Ni
- Ti-15333
- Ti-6242
- Ti-3Al-2.5V
- Ti-0.2Pd
- Ti-38644



Forged Discs & Rings Dimension

Discs	Maximum Diameter:	1400 mm
	Minimum Thickness:	40 mm
Rings	Outside Diameter:	200~1300 mm
	Inside Diameter:	60~1300 mm
	Height:	40~700 mm
Finish	As forged or machined	

Rolled Rings

Outside Diameter:	400~3000 mm
Inside Diameter:	300~2940 mm
Height:	80~600 mm

Forging

Forged Slabs

Forged slabs can be supplied as the following grades or equivalent in accordance with ASTM, ASME, AMS, DMS, JIS specification:

- C.P.Ti
- Ti-6AL-4V
- Ti-6Al-4V ELI
- Ti-0.3Mo-0.8Ni
- Ti-15333
- Ti-6242
- Ti-3Al-2.5V
- Ti-0.2Pd
- Ti-38644

Dimension (mm)

(150~300) x 1300 (Max.) x 8000 (Max.)

Finish: 2 faces and 2 ends are machined



Precision Casting

Machined Graphite Mold Casting

This method can simplify molding and effectively control metallurgical quality. Thicker and larger size castings can be made precisely by this method.

Ceramic Mold Investment Casting

The investment casting has an alpha case of 0.2 mm thickness, enabling machining work easy and economical.

1. Precise shaping, reducing machining work, thus less total manufacturing cost.
2. Ensuring dimension and location precision.
3. Logo can be cast very clearly.
4. Parts with large size, complicated shape and thin wall can be produced.

With the application of Vacuum Furnace melting, many pumps, valves, impellers, artificial joints and other shapes can be casted. Customized castings are made in accordance with drawing. X-Ray inspection will be carried out for all castings to ensure the good quality.





V2 CONSULTING LIMITED

D7, 3/F, Tak Wing Industrial Building,
No.3, Tsun Wen Road, Tuen Mun, N.T, Hong Kong
Tel.: +852 2460 6678
E-mail: info@v2cl.com
Website: www.v2cl.com