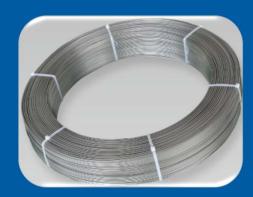


# **Corporate Presentation**

Xufeng Chen Christopher A. Dion, Eng., M.A.Sc.

**Tiangong Titanium (TGTi)** - Jiangsu Tiangong Technlogy Co., Ltd. No.9, Lin' gang Industrial Area, Xiashu Town, Jurong City, Zhenjiang, Jiangsu Province, China www.tiangongti.com







#### **Company Profile**

- TGTi or Tiangong Titanium is world-class Titanium alloy manufacturer located in Jiangsu, China.
- Can produce 10 000 tons annually and employs 600 people
- Products include bars, wire, sheets, plates and Tube
- Regularly produced alloys include Gr 1, 2, 3, 5, 12 and 23.
- TGTi is a subsidiary of Tiangong International





#### Company Profile: TG, the parent company

#### **TG: Tiangong International**

- Founded in 1981
- > 1.3 million m<sup>2</sup> of facility surface area
- > 3600 employees
- World's 2<sup>nd</sup> largest producer of Special Steel (HSS+TS)
- Product include HSS, cutting tools, tool steel, die steel, metal powder, and now titanium(TGTi)
- TG's headquarter is located in Danyang City, near Shanghai.
- Public company listed on the **Hong Kong Stock Exchange** since 2007.







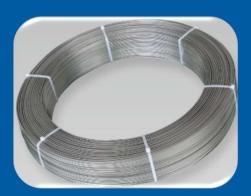
**Tiangong International** is the World's 2nd largest producer of Special Steels (HSS and TS) and employs more than 3600 people.

The company is so significant, it hosts its own conference.



#### **Products Overview**

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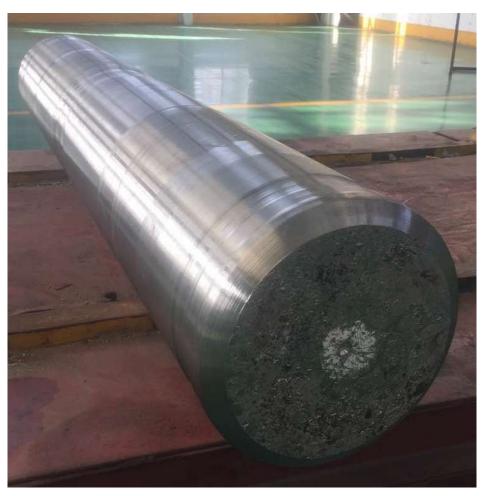


# Ingot

- We supply ingot to many wire and bar producers
- Customers include Tipro International

Description	Grade	Size(mm)	Standard
Ingot	CP Ti Grades 1, 2, 3, 4, Ti 6Al-4V(GR5), Ti-3Al-2.5V(GR9), GR23, Ti-4Al-22V(TB13)	Ф420; Ф620; Ф760; Ф860; Ф960; Ф1040	ASTM B348

VAR furnace	Quantity	Capacity /month	Size
1.5T	10sets	150T	ф360-420mm
3Т	2sets	80T	ф500-620mm
11.5T	6sets	650T	ф760-1040mm





- Designed with our customer needs in mind, our Titanium wire meets the most stringent specifications of aviation and metal additive manufacturing.
- Our customers brought to our attention that they needed a wire below 500 ppm of oxygen, that they needed long-term traceability and right to access. We have listened.
- This wire aims at Plasma Atomization powder producers that supply Aerospace original part manufacturers.

#### **Specifications:**

• Available grades: 1, 2, 3, 5, 12, 23 including Ti-6Al-4V SUPERELI (O <500 ppm)

•Diameter: 1 to 13 mm

•Coil, spool

•Flatly coiled for easy unwinding

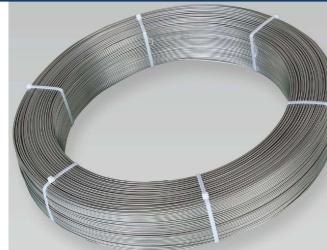
•According to: AWS A5.16, ASTM B863, ASTM F136, ASTM F67, AMS 4954, AMS 4951

•Weight:

•Coiled: 30-120 kg per coil

•Spooled: 7-11 kg per spool

• Capacity: 600 MT/year







- Designed with our customer needs in mind, our Titanium bars meets the most stringent specifications of aviation and metal additive manufacturing.
- This product of the AeroAM series specifically aims at Gas Atomization powder producers that supply the Additive Manufacturer of parts for aerospace.

#### **Specifications:**

Available grades: 1, 2, 3, 5, 12, 23 including Ti-6Al-4V SUPERELI (O <500 ppm)</li>

Diameter: 1 to 400 mm

According to: ASTM B348, ASTM F67 ASTM F136.

Tolerance: H7-H9

Capacity: 2 000 MT/year





#### Hot & Cold Rolled Sheets

• We offer both Hot and Cold rolled sheets

Description	Grade	Diameter(mm)	Standard
Hot Rolled Sheets	Gr1~Gr5, Gr23	(4.0~30)×1100×(500-2000)	ASTM B265 , ASTM F67, AMS4911
Cold Rolled Sheets	Gr1~Gr5, Gr23	(1.5~4)×1100×(500-2000)	ASTM B265 , ASTM F67, AMS4911







Description	Grade	Diameter(mm)	Standard
Plate	Gr1~Gr5, Gr23	(41-200)×1100	ASTM B265, ASTM F136, ASTM F67, AMS4911



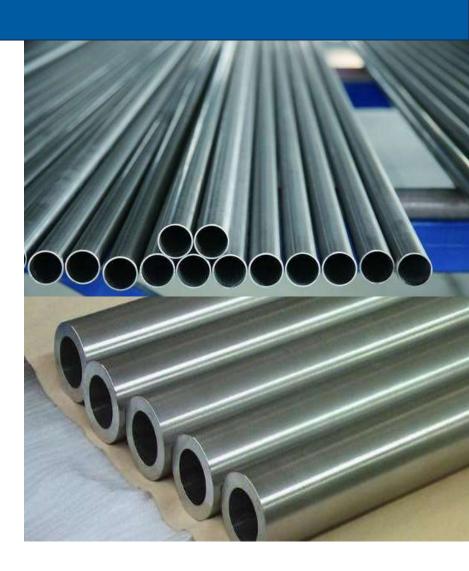


# Plates

Description	Grade	Diameter(mm)	Standard
Tube	Gr1,Gr2	0.7~12mm ТхФ15~250mm ODx L	ASTM B338, ASTM B861









# **Manufacturing Process**

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# Manufacturing Process: Sponge Mixing









## Manufacturing Process: Making Compacts







#### Manufacturing Process: Making the Electrode







## Manufacturing Process: VAR







#### Manufacturing Process: Forging



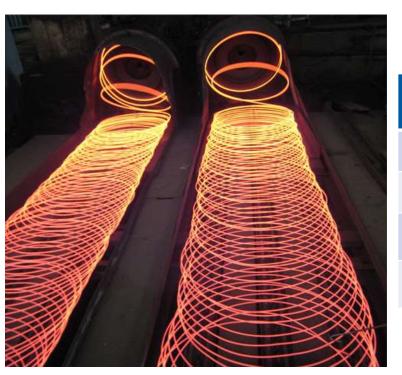


GFM 750 T Precision Forging

SMS Meer 1300 T Precision Forging



## Manufacturing Process: Rod Rolling



Model	300 Rolling	350 Rolling	400 Rolling	650 Rolling	Half Rolling	Rod/Coil Rolling Line
Quantity(set)	1	1	1	1	1	1
Round Size(mm)	20~30	30~50	50~95	95~120	-	20~55
Coil Size(mm)	-	-	-	-	6.5~20	6.5~20
Square/Flat size (mm)	8.8~25	25~40	40~75	-	-	-



## Manufacturing Process: Wire drawing







## Manufacturing Process: Wire Drawing







# Quality Control & Assurance

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#### Quality Assurance Certificates









GJB 9001C-2017

GB/T 19001-2016/ ISO9001:2015

AS9100D

AS9120B



#### Quality Control: Equipment





#### **Equipment List:**

- Tensile Testing Machine
- ZEISS2000MAT Metallographic Microscope
- ZEISS2000 Stereoscopic
- Plasma Emission Spectrometer
- ONH/C Analyzer







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