



# Zhejiang Tsingshan Steel Pipe Co., Ltd.

## Fully integrated manufacturer of high-end materials

**As a young dynamic company founded just 15 years ago, Zhejiang Tsingshan is already blazing a trail across the international stainless steel industry. With the support of its parent company Tsingshan Holding Group – the world’s largest stainless steel producer – this manufacturer of seamless and welded pipes has rapidly accumulated expertise and is now turning its focus to high-quality materials. Its bold program of expansion, with new production facilities either built or planned across the globe, will allow it to continue capturing market share in a wide range of demanding applications.**

*By Joanne McIntyre*

Founded in 2003 with a focus on the manufacture of stainless steel products, Zhejiang Tsingshan Steel Pipe Co. has rapidly expanded its product offering both in terms of form and materials.

Today in addition to seamless pipes and tubes, it also produces welded pipes and tubes, fittings, bright annealing tubes and bright bars. And while it started out producing commodity grades of stainless

such as 316 and 304, Zhejiang Tsingshan now specializes in high-quality grades such as duplexes and nickel alloys. Stainless Steel World met with Mr. Ronin Wan, General Manager, who explained

*The company continues to reinvest in its capabilities and continuously increase quality.*



that the company is now firmly focused on expanding its activities in the area of high-end products, targeting demanding industries such as oil and gas, defence, chemicals, aerospace, etc. As a fully integrated producer, Zhejiang Tsingshan has a significant competitive advantage in the international marketplace, explained Mr. Wan. "Tsingshan Holding Group owns all links of the production chain from mining, to smelting, to final production. This gives us a very good competitive edge over other Chinese manufacturers. Furthermore, a high level of investment has been maintained since our foundation and we have grown to become a truly global entity."

### Global expansion

From the outset, the company recognized that in order to fully participate in the global marketplace it would need to spread its production centres around the world. "Within the global market, there are forces which may create difficulties at various times, such as the implementation of tariffs and other trade barriers. To avoid disruptions to our clients, Zhejiang Tsingshan is spreading its production facilities around several regions. This will ensure a constant level of uninterrupted supply wherever our clients may need it." One of its first investments was to construct a fully integrated stainless steel mill on Indonesia's Sulawesi island. Following the success of that investment, this year the company has purchased a fitting mill in Malaysia to further service the Asian market. The main markets in the region are demanding industries such as oil and gas, nuclear power generation, and shipbuilding. "This year we are also investing in a mill to produce stainless seamless pipes in Asia. With the anti-dumping rules now in force in Europe, it is not possible for Chinese mills to export to that market. Our overseas mills, however, are free to export to Europe and this is particularly important given the current increase in activity in the oil and gas market." The ability to switch between production facilities in China, and overseas depending on market conditions greatly increases the company's competitiveness when compared to other Chinese producers. As labour costs rise in China the company's overseas facilities mean it will continue to produce its products at a competitive cost with no compromise on quality. The company will continue its bold expansion plans with new plants planned for the Middle East and the United States within three to five years. "This strategy allows us to bypass any tariffs and reduce risk and also to understand the local market. With local production and staff, we know what each market requires and how they do business."

### Indian joint venture

The same tactics have seen the company enter into several profitable joint ventures, including an agreement with an Indian producer to construct a USD \$2.3 billion integrated plant in Gujarat. The plant will include hot-rolling and cold-rolling lines to produce stainless steel coil as well as smelting facilities. Construction started in early 2018 and when complete it will be one of the

### American joint venture

In March 2018 Tsingshan Group and Allegheny Technologies Inc. formed a joint venture to produce 60-inch wide stainless sheet products for sale in North America. The venture offers cost competitive stainless sheet products for the North American market through the combination of Tsingshan's Indonesian mining, refining, and castings assets, together with ATI's low-cost Hot-Rolling and Processing Facility (HRPF), and the joint venture's unique Direct Roll Anneal and Pickle (DRAP) facility in Midland, PA. The quick slab-to-coil production cycle time, coupling the power of the HRPF with the DRAP finishing line was referred to as a "game-changer" for the industry.

largest stainless steel projects in India with a production capacity of 2 million tonnes per year. The products from the new mill will be marketed mostly across India as well as the rest of Asia. "India is a very large market," explains Mr. Wan, "which is expanding as the population rapidly grows. Our Indian partner Sunrise is overseeing the construction of the new plant, and the joint venture company is called Cromo Steels Private Ltd Co. There are a lot of projects emerging in India and this joint venture will put us in a strong position to win orders."

### Bright annealed tubes

This year Zhejiang Tsingshan's production capabilities have taken an exciting step up as it enters the arena of bright annealing for the first time. A new purpose-built facility has been built based on a technical cooperation enterprise between China and South Korea. Located in Zhejiang province, the 28,000m<sup>2</sup> state-of-the-art site will produce high-quality



*Zhejiang Tsingshan's new bright annealing facility in Zhejiang province will produce high-quality a diameter range of 3.18-48 mm and wall thicknesses of 0.5-4 mm.*



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“These are very high-end, high-quality products,” explains Mr. Wan, “for which the manufacturing technology, engineering expertise and R&D expertise have been imported from South Korea. Initially, we will focus on

#### Overseas project references

No.	Client	EPC	Application	Project name	Project Location	Year of Supply	Steel Grade
1	Novatek/Total/PetroChina	Technip/JGC	LNG	Yamal LNG	Russia	2014-2016	TP304/304L, TP316/TP316L
2	KOC	Petrofac	Oil	Lower Fars Heavy Oil Development Program	Kuwait	2016-2017	S32760 TP316/316L
3	ADCO	AL ASAB EST.	Oil	Tie-in Works at South East	Abu Dhabi	2016	S32750 TP316/316L
4	TOTAL	Saipem	Oil and gas	Kaombo	Indonesia	2015-2016	TP316/316L
5	Sibur	Technip France	Petrochemical	ZAPSIB2-PE Plant	Russia	2016-2017	TP304/304L, TP316/316L
6	SembMarine	SembMarine	Shipbuilding	Heerema Sleipnir	Singapore	2017	TP316/316L
7	KOC	Petrofac	Oil and gas	New Gathering Centers (GC) 29	Kuwait/ Abu Dhabi	2015~2016	S32750/TP316L
8	KOC	Larsen & Toubro	Oil and gas	New Gathering Centre (GC-30)	Kuwait	2015	S32750/TP316L
9	KNPC	Fluor, Daewoo E&C, Hyundai	Refinery	CFP Producing	Kuwait	2015	304H,321H
10	Pemex Refinacion	Dragados Industrial	Refinery Application/Oil	Adecuacion De Las Plantas	Mexico	2014	TP304L
11	KBR	KBR	Refinery Application/Oil	KBR-DYNO-NOBEL-USA	USA	2013	TP304H
12	Dangote Oil Refining	EIL	Refinery	Dangote Refinery and Petrochemicals	Nigeria	2017	TP304L/304H, TP316/316L TP317L,TP321
13	Toshiba	WZS Misi Setia Sdn Bhd	Power Plant	Jimah East Power 2X1000W Coal Fired Power Plant	Malaysia	2017	TP304/304L
14	Socar Polymer	Tecnimont India	Petrochemical	PP Plant	Azerbaijan	2016	TP304/304L

the rapidly growing Chinese market. The Chinese government is strongly supporting the semiconductor industry which requires a lot of precision tubes for industries as diverse as aerospace, heat exchangers, and the chemical and automotive industries. Currently, these tubes are imported and the government is keen to encourage home-grown production as part of its localization policy. Within five years China will be producing semiconductors locally.”

#### Duplex market

As the company has developed it has successfully moved into producing duplex stainless steels which it now supplies to a large number of end users. “As the number of end users approvals Zhejiang Tsingshan has been awarded has grown, our products have gained

greater acceptance by end users. This, in turn, has allowed us to reinvest in our capabilities and to continuously increase quality. This is an ongoing process which will carry on for many years. We now have three years of experience in producing duplex pipes and tubes. One of our biggest clients for duplex pipes is Kuwait Oil Company, however, the local Chinese market is a very big market for us in addition to exports.”

#### Extensive R&D facilities

As part of the Tsingshan Group, the company has access to an extensive and highly skilled R&D department employing over 300 people. “We are recognized in the market for being the largest stainless steel producer in the world, now we want to become known for our high-value products.



*In 2018 the company purchased a fitting mill in Malaysia to further service the Asian market.*

The high level of investment in R&D reflects this and our company is spearheading innovation for the entire Group.”

### Competitive edge

In the past, the various products manufactured by Zhejiang Tsingshan were sold under various brands. Today, however, all items are sold under the same brand name and can be supplied as a complete package. Mr. Wan: “We can supply complete packages to customers wherever in the world their projects may be located; from seamless and welded pipes to fittings and instrumentation tubing. Very few companies in China can do this. Our customers know that we can provide everything they need for a project. This leads to excellent economies of scale; we can give a highly competitive and well-balanced price that is very advantageous for clients.”

An additional advantage of supplying a complete range of products is that the

company is able to offer shorter lead times and meet customers’ needs for on-time delivery.

“Our parent company has smelting and manufacturing facilities and a wide range of stock, so when we receive an order we can rapidly source raw materials such as round bars or coils and deliver these very quickly. As soon as we receive an order we can start producing. This also means that we can provide parts of an order very quickly should this be required by the customer.”

An additional advantage which being part of a large Group is that Zhejiang Tsingshan is able to develop speciality products should there be demand from the market.

“The Groups extensive R&D capabilities mean that when demand for a new material or technology is identified, there is direct communication between the laboratory and the mills. New products can be rapidly developed or adapted.”

The R&D team also allows the company to go the extra mile when offering advice to customers. “We have the knowledge and resources to provide personalized service. For example recently the largest boilermaker for power plants in China – which is also one of the biggest in the world - approached us with a request to use our facilities to carry out EPM (Electro probe microanalysis) because their laboratory does not have this capability but ours does. We were happy to help even though they had not purchased the material from us. Customers know they can rely on us to provide technical advice on which materials to use for their applications and how to solve their problems. We will find a solution.”



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### Purity of products

One of the material properties on which Zhejiang Tsingshan prides itself is the purity of its products. Mr. Wan explains: “In the past scrap stainless steel was added to the smelting process. However we have chosen to use nickel pig iron (NPI) instead which is inherently cleaner than scrap. This allows us to guarantee the exact chemical composition of our stainless steels; it is purer and of higher quality than ever.

### Environment

As a young company with relatively new facilities, Zhejiang Tsingshan has the competitive advantage of already complying with the increasingly strict environmental regulations being enforced in China. “In 2017 the Chinese government enforced strict laws for environmental protection which had a major impact on other steel producers. However, as we had already invested in cleaner technologies our production was unaffected and we did not suffer any delays.”



### Facts and Figures

<b>Founded in:</b>	2003
<b>Sales Center:</b>	Wenzhou, China
<b>Manufacturing Center:</b>	Qingtian, China
<b>Staff:</b>	720
<b>Exports:</b>	50%
<b>Turnover:</b>	USD 184 million