

DESCRIPTION OF MANUFACTURING FACILITIES



Zhejiang Shengda Steel Tower Co., Ltd (ZSST) was established in 1978 under the laws of the People's Republic of China with total registered capital of RMB 70 million Yuan. Its product scope

covers electric power transmission line steel tower, steel tube tower, steel pole, communication tower, substation framework and large-scale steel structure; spiral welded steel pipe, longitudinal welded steel pipe as well as hot-dip galvanization and so on.



It covers an area of 250,000 square meters including 80,000 square meters of standard workshops.

The company possesses a series of advanced production lines and equipments, including:

- (a) Thirteen(13) sets of angle steel product lines, in which:
 - 1. seven(7) sets of BL1412;
 - 2. two(2) sets of BL2532;
 - 3. four(4) sets of BL2020,
- (b) Six (6) sets of numerical steel plate product lines;
- (c) Four (4) sets of double-workbench numerical control drilling machines;
- (d) Two (2) sets of $\Phi 219$ - $\Phi 630$ and $\Phi 457$ - $\Phi 1420$ product lines for spiral welded steel pipe;

- (e) Two (2) sets of 2-PPEB1600/80-3 and 2-PPEB800/70 Electric-hydraulic servo numerical bending machine;
- (f) One (1) set of $\phi 1000 \times 12000$ numerical control plasma intersecting line cutting machine;
- (g) Two (2) sets of Y41-315 315t hydraulic machine;
- (h) Three (3) sets of DHG-CNC-A numerical control flame cutting machine;
- (i) Thirty-two (32) sets of international advanced numerical control hydraulic pressure punch and drill machines in steel structure manufacture field and so on.

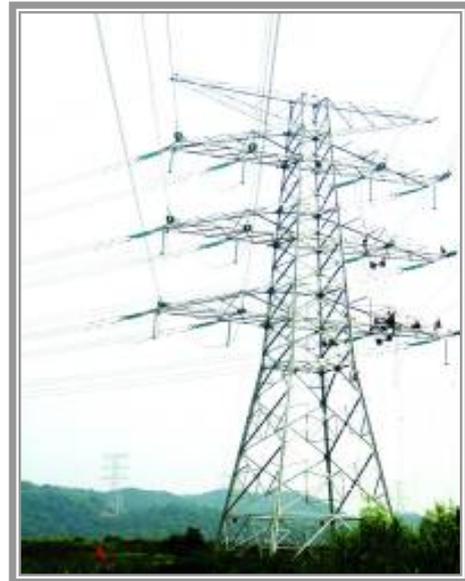
Moreover, the company has so far the largest dimension galvanization equipment in



China. Two zinc kettles' capacities are respectively $3.0\text{m} \times 4.0\text{m} \times 13.8\text{m}$ (width \times depth \times length) and $1.2\text{m} \times 1.8\text{m} \times 12\text{m}$ (width \times depth \times length). At present, the annual output of **ZSST** for steel tower is up to **150,000 tons**, for steel tube tower, steel pole, substation framework and steel structure is **30,000 tons**, for spiral welded steel pipe is **40,000 tons**, for longitudinal welded pipe is **20,000 tons** and its galvanization capacity is **150,000 tons**. These products are widely used in electric power project construction, petroleum and natural gas

transmission, municipal and architectural construction, transportation facilities and other projects.

As one of the biggest steel tower and steel structure special manufacturer in China, the company has devoted to develop both domestic and foreign markets for many years, and provided hundreds of thousands of tons good quality products for many users including those in the Southeast Asia and American. These projects include the China first 750kV Guanting- East Lanzhou transmission line, dozens of national important transmission line projects: 500kV Three Gorge-Shanghai, 500kV Fengxianchang, 500kV Guizhou-Guangdong and so on, 500kV Ningbo Tianyi substation project which is awarded China's highest construction prize—Luban prize, China national important substation project—Xianning substation project, the highest (178meters) sea-crossing steel tube tower project in Zhejiang Province—Oujiang project. The company not only achieved remarkable success in domestic market, but also undertook several overseas projects, including Cambodia Qililong transmission line, Vietnam Power Company No.2 110kV transmission Line, Burma 132kV kengtawng-Loilem Transmission Line, Philippine Globe telecom company's communication tower project, American Martin company steel structure project and so on. All these products obtained high praises from our customers.



In respect of technology, the company comprehensively adopts professional software for computerized lofting, and applies Auto CAD program for assistant lofting and drawings, which greatly increase accuracy and efficiency of lofting and efficiently guarantee high quality production as well. Through adopting semiautomatic carbon dioxide

protective welding technique, which has a much better transparency and less distortion possibility than common welding, it greatly promotes the intensity of pieces welded. By introducing German advanced hot-dip Galvanization technology and new galvanization technique, the company greatly improves uniformity and adhesion of zinc layer, and at the same time doubles the erosion-resistant ability.

"Carrying out national standard, strictly implementing quality control, providing good quality product for users" is quality policy of **ZSST**. The company obtained Certificates of ISO9001-2000 Quality Management System, ISO14001:2004



Environment system and GB/T 28001-2001 Occupational health and safety management system. The company also obtained certificate of measurement level "second grade measurement certificate" issued by Zhejiang Provincial Technology Supervision Bureau, "500kV transmission line steel tower production license" issued by China National Quality Inspection Bureau, "500kV steel tube substation framework certificate" issued by China electric power industry quality inspection center, API certificate issued by American petroleum association. Through carrying out quality management system, and regular training to the staff, the company makes its products under control all the time. At the same time, in order to provide high quality products for our users the company carries out "Zero-defect" and "lean production" management to consistently improve the staff's behaviors and consciousness.



ZSST is ideally located at Hangzhou Xiaoshan Economy & Technology Development Zone, only six (6) kilometers away from Hangzhou Xiaoshan International Airport and conveniently close and

accessible to/from Huhangyong Expressway and Hangjinqi Expressway. Convenient traffic conditions and ideal geographical location facilitate fast and efficient deliveries to home and abroad markets, which guarantees to provide high quality product and satisfying service for our users.



Automatic Production Line for Angle

Function: punching, stamping and cutting for angle.

Feature: CNC numerical automatic production



Automatic Drilling Production Line for Angle

Function: drilling, stamping and cutting for angle

Feature: CNC numerical automatic production.



Numerical Control Punching Machine

Function: Punching the connecting steel plate for steel tower and steel structure.

Feature: CAD/CAM direct changing.



**Double Workbench
Numerical Control Drill
Machine**

Function: drilling holes for
steel plate

Feature: CNC, PLC
control and CRT
displaying.



**Numerical Control Flame
Cutting Equipment**

Function: cutting steel
plate

Feature: CNC control



Plate shearing machine

Function: shearing steel
plate

Feature: shearing
capability:
16×3200/13×2500

Hot Dip Galvanization Facility



The Cover of Zinc Kettle.

The company has two galvanization production lines of annual output of 150,000 tons. One has the length of 12m, width of 1.2 m, and depth of 1.8 m. The other has the length of 13.8 m, width of 3 m, and depth of 4 m, which is one of the largest dimension galvanizing kettles in China, and it makes large and extra-large steel parts galvanization convenient.



Operation Platform

The plant is equipped with galvanized fume treating equipment, acid mist treating equipment and flux recycling equipment, which effectively eliminates the harmful factors to the environment and fully embodies the feature of environment-friendly and green galvanization.



Preparing for Galvanization



Withdrawing of Steel



Passivating

The fundamental steps in the galvanizing process:

**Degreasing → Pickling →
Fluxing → Galvanizing →
Cooling → Passivating
→ Finishing**