



## 电力(输送)行业用钢

ELECTRIC POWER (TRANSPORT) INDUSTRY STEEL

太钢产品分行业系列册 Products Serial Catalogs Of Tisco For Different Industries

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太原钢铁 ( 集团 ) 有限公司  
Taiyuan Iron & Steel (Group) Co., Ltd.

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## 太钢简介

### BRIEF ON TISCO

太钢是全球最大、工艺技术装备水平最高、品种规格最全的不锈钢企业，具备年产1000万吨钢（其中300万吨不锈钢）的能力，营业收入连续六年超过1000亿元人民币。

太钢致力于不锈钢、特殊钢和高等级碳素钢的研究开发和生产加工，拥有雄厚的研发实力和可靠的质量保障能力。太钢技术中心在全国729家国家认定企业技术中心中排名第二。目前已形成了以不锈钢、冷轧硅钢、高强韧系列钢材为主的高效节能长寿型产品集群，重点产品批量进入石油、化工、造船、集装箱、铁路、桥梁、

汽车、城市轻轨、大型电站、“神舟”系列飞船等重点领域和新兴行业。铁路行业用钢、双相钢、耐热钢、车轴钢、9%Ni钢等30多个品种国内市场占有率第一。

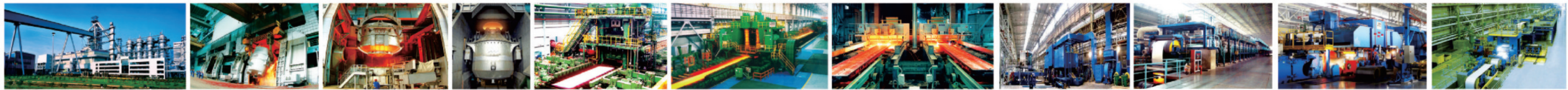
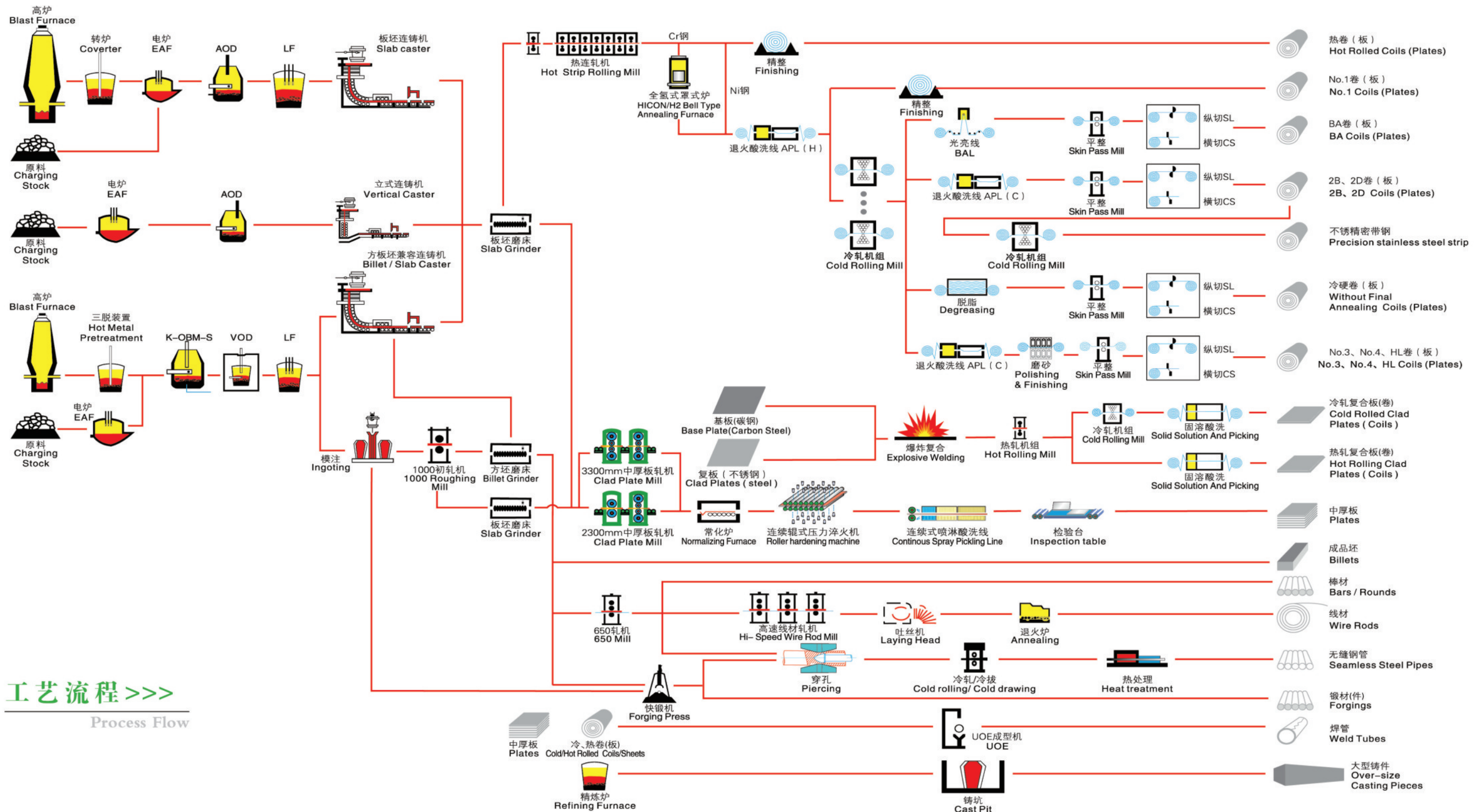
“十二五”期间，太钢将以科学发展为主题，以转型发展为主线，以科技创新为动力，以能力建设为核心，以队伍建设为保障，全面推进“三个转变”，坚持做强主业、多元发展、延伸发展、绿色发展、和谐发展，建设全球最具竞争力的不锈钢企业，到2015年，营业收入达到2000亿元以上，成为国内一流、世界著名的大型企业集团。

As the biggest stainless steel enterprise equipped with globally biggest capacity and most up-to-date technology and equipment, TISCO has developed into an extraordinary large scale iron and steel complex, which is integrated with businesses of iron mining, iron and steel production, processing, delivery and trading. Now, TISCO's annual production capacity is 10 million tons (of which 3 million tons of stainless steel), its operating income surpasses 100 billion Yuan RMB in the past six consecutive years.

TISCO has been devoted to R & D, production and processing of stainless steel, special steel and high grade carbon steel. The company has enormous R & D force and reliable quality assurance system. Among 729 State determining enterprise technical centers, TISCO Technology Center ranks the second. Now, TISCO has formed an energy-efficient longevity products cluster mainly in stainless steel, cold rolled silicon steel, high-strength-toughness series steel, and key products have entered into key fields and new industries such as petroleum, chemical industry, shipbuilding, container, railway, bridge construction, automobile, urban light rail transit, large power stations, "Shenzhou" series airships and etc. TISCO ranks the domestic first in market shares of railway industry steel, duplex steel, heat-resistant steel, axle shaft steel, 9% Ni steel, etc.

During "the twelfth five-year" period, taking scientific development as the theme, transformation development as the main line, technological innovation as a driving force, the ability construction as the core, and team building as guarantee, TISCO will continue to promote the "three transformations", adhere to the strengthen the main business, with diverse development, extension development, green development and harmonious development, speed up the construction of the world's most competitive stainless steel enterprises. Up to 2015, with business income expecting to reach over 200 billion Yuan, build TISCO to the domestic first-class, the world famous large enterprise group.





## ◆ 电力行业用钢概况

太钢产品广泛用于水电，风电，核电，以及通信、照明、输电等行业，与上电、东电、哈电三大动力集团建立战略合作伙伴关系，共同开发新产品，在替代进口方面做出了重要贡献。产品已应用于三峡水电，岭澳二期、阳江等大型核电站，特高压输电线路等国家重大建设项目，产品质量及售后服务受到用户的好评。

## ◆ Brif of electric power steel industry

With the products widely used in hydroelectricity, wind-powered electricity generation, nuclear power, as well as communications, illumination, electricity transmission and other industries, Tisco has established strategic partnership with three grand Power Groups like Shanghai Power, Orient Power and Harbin Power to develop new products together which played an important role in substitution for imported products and have been used in Three Gorges Hydroelectric, Ling' ao Phase II, Ynagjiang and other large—scaled nuclear power stations as well as extreme voltage transmission line and other major state construction projects and received favorable comments due to quality and sale service.



## 研发能力 >>>

Research and Development



2011年在国家认定的729家企业技术中心中，太钢技术中心排名第2位，行业排名第一。

Tisco technology center ranks 2nd among enterprise-based 729 technology centers accredited by the state in 2011.



扫描电镜  
Scanning Electron Microscope



热模拟试验机  
Thermal Simulating Tester

国家级实验室  
National level laboratory



透射电镜  
Transmission Electron Microscope



全自动电子拉伸试验机  
Automatic electronic tensile tester

## 认证、荣誉 >>>

### Certification & Honors



- ◆《高质量不锈钢板材技术开发》获国家科技进步二等奖
- ◆《AOD炉炉龄、工艺技术开发》等三项成果获山西省科技进步一、二等奖
- ◆《太钢含氮不锈钢研制》等九项成果获冶金科学技术进步一、二、三等奖
- ◆《双相不锈钢复合板》等六种产品分别获得国家重点新产品奖、山西省优秀新产品奖
- ◆不锈钢2B板被科技部认定为国家高新技术产品
- ◆《AOD炉用氮气进行氮合金化工艺》《VOD冶炼不锈钢高碳区脱氮方法》等专利80余项
- ◆不锈钢中板通过了TUV认证，并获得了冶金实物质量金杯奖
- ◆双相不锈钢通过了中国船级社CCS认证

- ◆“Technical development of high quality stainless steel flat product” won second prize of state technical progresses.
- ◆“AOD campaign, production technology development” and other two won the first and second prizes of Shanxi technical progresses.
- ◆“Production technology and new grade development of Nitrogen-containing stainless steel by TISCO” won second prize of state technical progresses.
- ◆Duplex stainless steel clad plate and so on six products were honored as among statewide new products and Shanxi great new products, respectively.
- ◆Stainless steel 2B grade was approved by the Ministry of Science & Technology as the state hi-tech products.
- ◆More than 80 patents such as “Nitrogen alloying process by nitrogen gas in AOD” and MDenitration process in the phase of high carbon of stainless steel smelting in VOD).
- ◆Stainless steel plate passed TUV examination and was rewarded Golden Cup of physical quality of metallurgical product.
- ◆Duplex stainless steel passed CCS, China Classification Society, examination.

## 常规产品 >>>

### Certification & Honors

钢类 Grade	牌号 Brand No.	规格 Specification	标准 Standard	主要用途 Usage
锻造用初轧坯 Bloom for forging	Q345A-E	150方~550方×L	GB/T1591-2008 Q/ TB3067-2007 或双方协议 Or mutual agreement	风电法兰、通讯照明、 输电线路杆塔、铁塔用法兰 Franges used in wind-powered electricity generation, Flanges used in communication, illumination and electric transmission line pole tower and steel tower.
	Q420A-E			
	Q460C-E			
碳钢中卷板 Carbon steel medium plate	Q345A-E	卷板 Coil	GB/T1591-2008 或双方协议 Or mutual agreement	通讯照明、输电线路 杆塔、铁塔用钢管 Steel pipe used in communication, and electric transmission line pole tower and steel tower,
	Q420A-E	4~12×1000~2130×C 中板 Plate		
	Q460C-E	6~80×1600~3000×L		
	ASTM A572 Gr65	3~19×870~2130×C 中板 Plate	ASTM A572/A572M 或双方协议 Or mutual agreement	
	ASTM A572 Gr50	8~32×1600~3000×L		
ASTM A871 Gr65	3~19×870~2130×C	卷板 Coil	ASTM A871/A871M 或双方协议 Or mutual agreement	耐候钢，用途与A572 相同，后工序不用镀锌

## 产品介绍 >>>

### Product Introduction

#### ◆特点

初轧坯：产品成分控制窄、残余元素含量低、成分稳定，通过微合金化技术保证晶粒细小，通过对夹杂物进行改性处理控制夹杂物形状和尺寸，气体含量极低，钢质纯净，力学性能优良，组织致密，使用专用辊轧制，外形平整、尺寸精度高。

碳钢中卷板：依托先进的设备，雄厚的技术实力，能够更加精确的控制成分，降低P、S含量；优良的屈服比、伸长率、低温冲击韧性，在国内处于领先水平；超低的Si含量，保证了产品的镀锌效果，使产品外观质量明显改善；优良的焊接性能，焊缝及热影响区组织性能良好。

#### ◆Features

Bloom: Narrow controlled components, low remnants content, stable composition, crystalline refinement conformed by micro alloying technology, the shape and size of inclusion controlled by modification, extreme low of gas content, pure steel quality, excellent mechanical property, dense structure, rolled by professional

rolls, tempering profile and high dimension precision.

Carbon steel medium plate: More accurate components controlling and lower contents of P and S base on advanced devices and rich technology; excellent yield ratio, percentage elongation and low temperature impact toughness leading state level; super low Si content ensuring the galvanization effect of the product to fulfill a remarkable improvement of apparent quality; good welding property conforming welding joint and structure performance at heat affected zone.

◆用途

初轧坯：锻造钢管塔、风电发电机组用法兰、锻件

碳钢中卷板：用作电力用钢管塔主结构原料、角钢塔辅料及风力发电杆塔原料，通讯、照明用钢杆、钢塔。

◆Usage

Bloom: Used for flanges and forged pieces in forged steel pipe tower, Wind-powered electricity generation.

Carbon steel medium plate: Used as the main structural material of electrical steel pipe tower, accessory material of angle steel tower and raw material of wind energy electric generation, steel poles and steel towers in communication and illumination.

◆化学成分（%）Chemical composition

钢号	C	Si	Mn	P	S	Nb	V	Cr	Ni	Cu	N	Als
Q345B	≤0.20	≤0.50	≤1.70	≤0.035	≤0.035	≤0.07	≤0.12	≤0.30	≤0.50	≤0.30	≤0.012	-
Q420B	≤0.20	≤0.50	≤1.70	≤0.035	≤0.035	≤0.07	≤0.20	≤0.30	≤0.50	≤0.30	≤0.015	-
Q460C	≤0.20	≤0.60	≤1.80	≤0.030	≤0.030	≤0.11	≤0.20	≤0.80	≤0.50	≤0.55	≤0.015	≥0.015

注：可按用户要求的化学成分、组织、性能进行生产

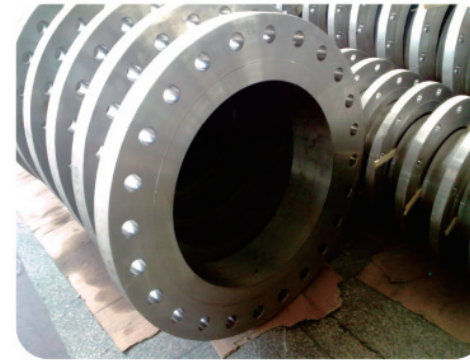
◆力学性能 Mechanical property

牌号 Brand NO.	Rel, Mpa	Rm, MPa	A, %	180° 弯曲, d=弯心 直径, a=试样厚度	纵向V型冲击 试验 (0°C) J	纵向V型冲击试 验 (-30°C) J
			Lo=50mm			
ASTM A871 Gr65	≥450	≥550	≥17	d=2a	-	≥34
ASTM A572 Gr65	≥450	≥550	≥17	d=2a	-	≥34
ASTM A572 Gr50	≥350	≥450	≥22	d=2a	-	≥34(-20°)
Q345B	≥380	≥470-630	≥22	d=2a	≥68 (单个) ≥90 (平均)	-

注：以上为碳钢卷板

产品应用 >>>

Application



法兰  
Flanges



法兰  
Flanges



钢管  
Steel tubes



风电  
Wind-powered electricity generation



通讯塔  
pole



钢管塔  
Steel pipe tower



通讯塔  
Communication pole



电力塔架  
Electric transmission tower



路灯杆  
Lampstandard



通讯塔  
Communication pole



输电杆塔  
Transmission pole



变电站构架  
Trasformer substasion structure

## 研发目标 >>>

### Research and Development Target

利用我公司强大的科研实力，开发一批具有国际水平、自主知识产权的高强钢产品，满足航空航天、石油化工及重点工程等领域的特殊用途结构材料，如高纯净、高均质超高强度钢。大力发展特高压输电塔架用钢，大幅提高材料的强度、冲击韧性以及抗腐蚀性能，实现工程用钢的轻量化、经济化，使我公司成为电力用钢的领导者，为国民经济的健康发展作出贡献。

By utilizing our strong scientific research capabilities, we've developed a set of high strength steel products with world level and self-dominated intellectual property rights to meet the special purpose structural material like high purity, high homogeneity, and extreme high strength steel in the fields of aerospace, petrochemical industry and important projects. Meanwhile, we vigorously developed steel for extreme voltage transmission tower and increased significantly the material strength, impact toughness and anti-corrosion property to achieve the lightweight and economization of the engineering steel, which made our company be the leader of steel for electric industry and made a great contribution to sound development of the national economy.

## 合作伙伴 >>>

### Cooperative Partner



国家电网公司  
STATE GRID  
CORPORATION OF CHINA



国家电网  
STATE GRID  
重庆顺泰铁塔制造有限公司  
CHONGQING SUNTOP IRON TOWER MANUFACTURING CO.,LTD



国家电网  
STATE GRID  
江苏华电铁塔制造有限公司  
JIANGSU HUADIAN STEEL TOWER MANUFACTURING CO.,LTD



青岛武晓集团股份有限公司  
QINGDAO WUXIAO [GROUP] SHARE CO.,LTD.



济南巨能铁塔制造有限公司  
JINAN EVERSHINING CNC MACHINE CO., LTD.



潍坊海莱特锥形钢管有限公司  
Weifang HighLight Tapered Steel Tube Co.,Ltd.



浙江盛达铁塔有限公司  
ZHEJIANG SHENGDA STEEL TOWER CO.,LTD.



潍坊长安铁塔股份有限公司  
WEIFANG CHANG'AN STEEL TOWER STOCK CO.,LTD.



唐山粤丰机械制造有限公司  
Tangshan Yuefeng Mechanical Manufacturing Co., Ltd.



山西冠力法兰有限公司



山西奥源锻造有限公司  
SHANXI AOUYUAN FORGING CO., LTD.



valmont  
维蒙特工业（中国）有限公司

## 服务承诺 >>>

Service Commitments

- 为客户提供个性化成份、性能、包装、卷重、质保书的设计
- 为客户在选材和加工工艺方面提供技术支持
- 交货准确及时
- 对客户异议，在24小时内答复
- ◆ To provide consumers with the personalized designs on composition, propertiesproperty, packing, coil weight and quality certificate
- ◆ Technical support to customers in material selection fabrication
- ◆ Accurate and prompt delivery
- ◆ ResPDnse to customer's claim with in 24 hours



## 主要业务部门联系方式 >>>

Contacting Manners of the Main Business Sections

主要业务部门 Main business department	业务功能 Functions	联系电话 Telephone	E-mail
营销部 Marketing Department	合同管理、订货、异议、 投诉受理及出口贸易 Contract and order management Complaint and claim handing Exports business	0351-3018888-8193 0351-3018888-8307 400-653-1998 800-806-1998	lijh03@tisco.com.cn daiwd@tisco.com.cn tyghfwk@tisco.com.cn tghwb@tisco.com.cn
技术中心 生产技术部 Technology Center	技术咨询服 Technical consultation service	0351-3013795	mengcf@tisco.com.cn

### 国际分公司联系方式 Contacting manners of international trading Co.,Ltd.

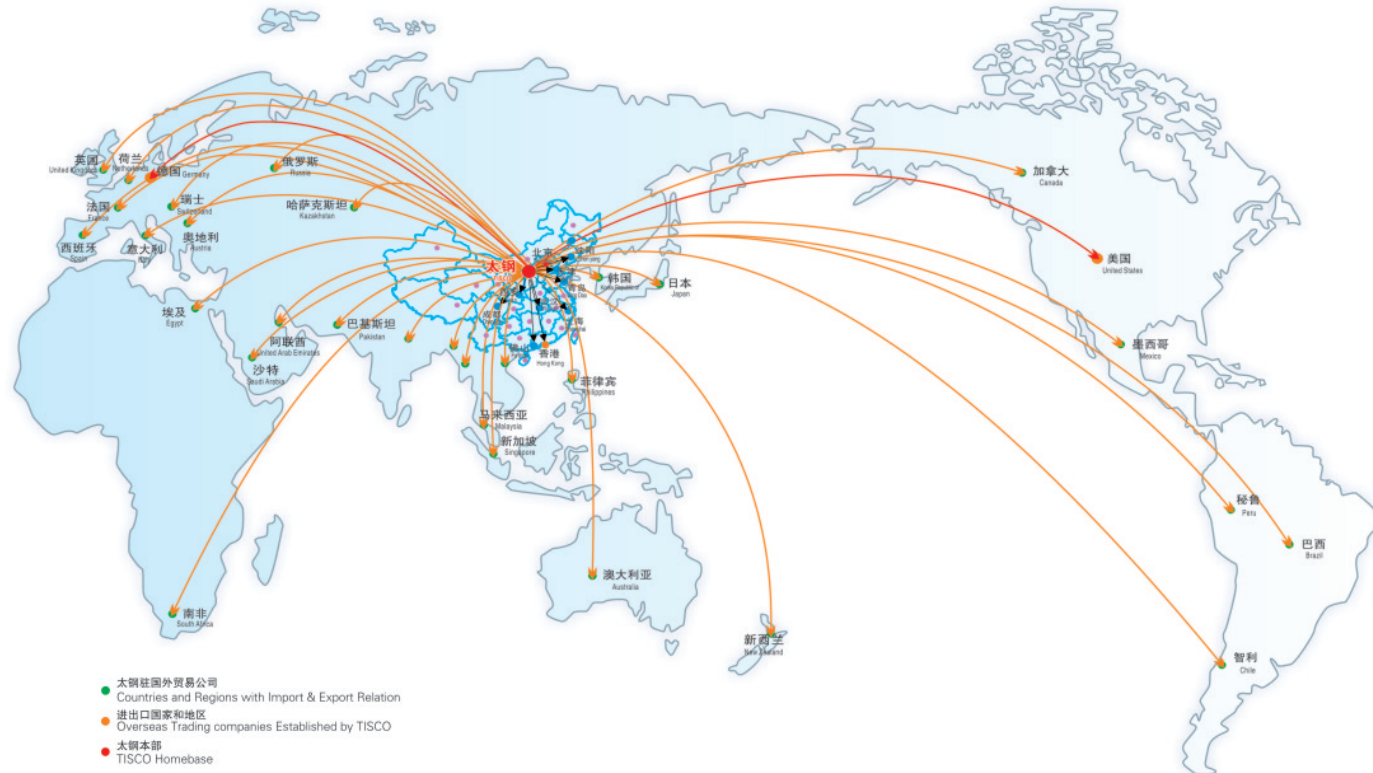
太钢国贸（美国）有限公司 Taigang International Trading (USA) Co.,Ltd.	美国 USA	电话（Tel）001-4124340607	传真（Fax）001-4124340608
太钢进出口（香港）有限公司 TISCO STAINLESS STEEL (H.K.) LTD.	香港 Hongkong	电话（Tel）+0852-28681819	传真（Fax）+0852-28271300
太钢欧洲有限公司 Taigang Europe Co.,Ltd.	德国 Germany	电话（Tel）+49(0)2154-81690	传真（Fax）+49-2154-816911

### 国内分公司联系方式 Contacting manners of deomestic trading Co.,Ltd.

公司名称 Branch Name	地址 Address	通讯方式 Telephone & Fax
山西区销售公司 TISCO sales company in Shanxi	太原 Taiyuan	电话（Tel）0351-3096390 传真（Fax）0351-3090556
太钢华北区销售公司 TISCO sales company in North China	天津 Tianjin 北京 Beijing	电话（Tel）022-23408105 电话（Tel）010-64441368 传真（Fax）022-23408103 传真（Fax）010-64441369
太钢东北区销售公司 TISCO sales company in Northeast of China	沈阳 Shenyang 沈阳 Shenyang 哈尔滨 Haerbin	电话（Tel）024-24232050 电话（Tel）024-24232051 电话（Tel）0471-87905777 传真（Fax）024-24231216 传真（Fax）024-24231216 传真（Fax）0471-55185321
太钢华东区销售公司 TISCO sales company in East China	无锡 Wuxi 上海 Shanghai 杭州 Hangzhou	电话（Tel）0510-82407713 电话（Tel）021-61808397 电话（Tel）0571-85067265 传真（Fax）0510-82441187 传真（Fax）021-61808397 传真（Fax）0571-85061958
太钢山东区销售公司 TISCO sales company in Shandong	青岛 Qingdao 济南 Jinan	电话（Tel）0532-81101847 电话（Tel）0531-82638400 传真（Fax）0532-87734798 传真（Fax）0531-82638411
太钢华中区销售公司 TISCO sales company in Central China	武汉 Wuhan 长沙 Changsha	电话（Tel）027-85615300 电话（Tel）0371-85592703 传真（Fax）027-85615311 传真（Fax）0731-85598305
太钢华南区销售公司 TISCO sales company in South China	佛山 Foshan 揭阳 Jieyang	电话（Tel）0757-83315711 电话（Tel）0663-8766018 传真（Fax）0757-83315718 传真（Fax）0663-8766048
太钢西南区销售公司 TISCO sales company in Southwest of China	重庆 Chongqing 成都 Chengdu	电话（Tel）023-68154181 电话（Tel）028-8760342 传真（Fax）023-68400789 传真（Fax）028-87612940
太钢西北区销售公司 TISCO sales company in Northwest of China	西安 Xi'an 郑州 Zhengzhou	电话（Tel）029-86231507 电话（Tel）0371-60805079 传真（Fax）029-86231506 传真（Fax）0371-60805085

## 太钢产品及贸易全球分布图

TISCO products distribution(trading relations)



- 太钢驻国外贸易公司  
Countries and Regions with Import & Export Relation
- 进出口国家和地区  
Overseas Trading companies Established by TISCO
- 太钢本部  
TISCO Homebase