



# 不锈精密带钢

Precision Stainless Steel Strip

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

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### 企业使命

为全球消费者提供最精美的不锈钢产品

Enterprise Mission

Providing the Excellent Stainless Steel Products to Consumers

### 战略目标

建设全球最具竞争力的不锈钢企业

Strategic Target

Building TISCO into the Most Competitive Stainless Steel  
Producer in the World

### 核心价值观

以人为本 用户至上 质量兴企 全面开放 不断创新

Core Values

Relying on the People, Putting Customers' Needs First, Rejuvenating  
Enterprise through Quality, Fully Opening, Keeping Innovative

### 营销理念

为用户提供更全、更好、更快的解决方案

在长期合作中实现共赢

Management Concept

Providing Customer with Better and Faster Solution Package  
to Realize Long-Term Win-Win Cooperation

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



太原钢铁(集团)有限公司(简称太钢)是中国特大型钢铁联合企业和全球产能最大、工艺技术装备水平最高、品种规格最全的不锈钢企业。经过70年的发展,已具备1000万吨以上钢、铁、材的生产能力,其中碳钢产能达700万吨,不锈钢达300万吨。2009年生产不锈钢248万吨,产量世界第一!



太钢是中国第一炉不锈钢诞生地,产品广泛应用于石油化工、交通运输、建筑装饰、家用电器、医疗食品等行业及神舟飞船、嫦娥一号、“东风”系列火箭等高端领域,进入三峡水利、西气东输、奥运场馆等国家重点工程。

为了追求更精、更高的品质,进一步拓展不锈钢市场,延伸不锈钢产业链,为国内外市场提供高品质及高强度的不锈钢,太钢集团在山西省太原市国家级高新技术开发区内投资建设不锈钢精密带钢项目,总投资10.90亿元,占地面积65000平方米,主要为300系列、400系列不锈钢精密带钢,产品厚度规格为0.02~0.5mm,宽度为3~650mm,年生产能力2万吨(其中马氏体不锈钢年产4600吨)。产品主要应用于:航空航天、汽车零配件、电子产品、医疗器械、化工、纺织等特殊需求的行业。

太钢的发展目标是:以不锈钢为主的产品质量、规格、成本、研发、节能、环保、效率、服务等各项指标达到国际一流水平,进入世界500强,建设具有国际竞争力的大企业集团。

Taiyuan Iron and Steel (Group) Co. Ltd. (TISCO) is one of the steel giants in China and, the largest stainless producer in the world in term of capacity equipped with the most advanced facilities covering pretty wide product range. After over 70 years development TISCO has the capacity of 10 million tons of steel, which includes 3 million tons of stainless. The year of 2009 saw TISCO become No.1 stainless producer in the world with production of 2.48 million tons of stainless.

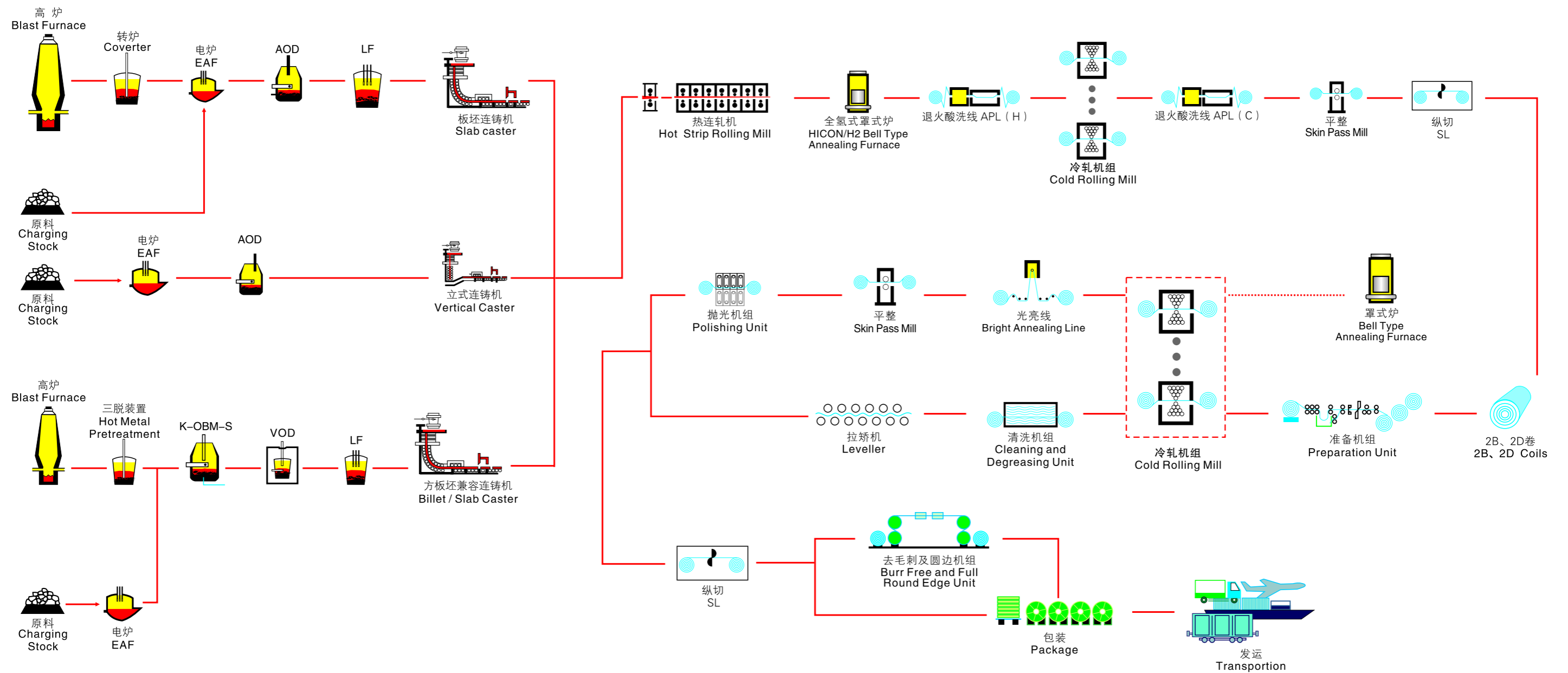
TISCO produced the first heat of stainless steel. It is widely used in petrochemical industry, transportation, construction, decoration, home appliance, medical apparatus and food industry, they are also used for high-end application and national key projects as Shenzhou spaceship, Chang'e-1 Moon Detector, Dongfeng rocket series, Three Gorges project, West-East natural gas transmission project and Olympic games facility.

For pursuing more precise and high quality, broadening our stainless steel market, prolonging industrial chain, TISCO has decided to construct the precise stainless steel plant in new and high-tech development zone in Taiyuan, Shanxi province. It total investment amounts to 1.09 billion yuan and covers an area of 65000 kilometers. Main product is 300 and 400 series stainless steel strips. Thickness range is 0.02-0.5mm, width range is 3-650mm, can produce 20 thousand tons of product one year ( Include 4600 tons of martensite steel ). The product is mainly used in Aero-space, automobile accessories, electronics, medical devices, petrochemical industry, textile industry and many special need fields.

Our goal in development is to expedite building TISCO as the most competitive stainless steel producer in the world, holding the world leading position by 2010 in terms of range, quality, cost, R&D, energy saving, environment protection, efficiency and service and entering the World 500. Our target is to create an international enterprises group of strong competitive edges out of Taigang.

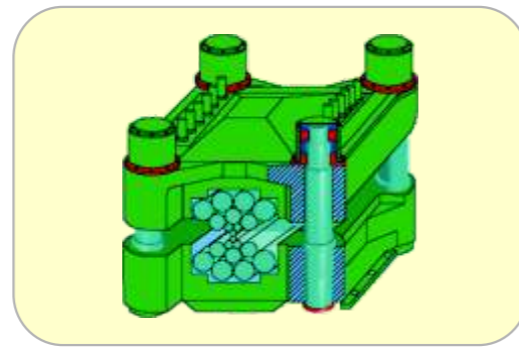
# 工艺流程 >>>

## Process Flow



## 装备优势 >>>

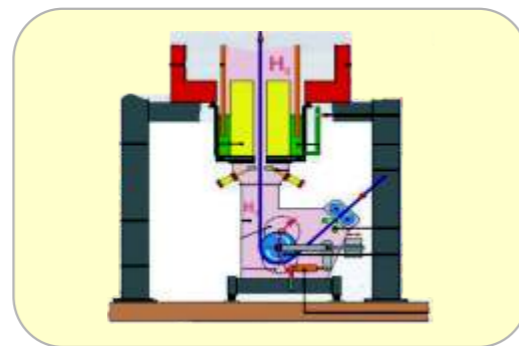
### Advanced Equipment



#### 四立柱廿辊冷轧机 4 column 20-high rolling mill

四立柱廿辊冷轧机，具备先进的AGC厚度自动控制功能和板型AFC自动控制功能。该轧机的倾斜功能更有利于板型控制，卷取机为双电机驱动，可在轧制中精确地控制张力，为轧制高强度、高精度的精密带钢提供了全方位保证，厚度控制精度可高达 $\pm 0.001\text{mm}$ ，为世界上最先进的精带轧机。

4 column 20-high rolling mill, equipped with advanced AGC thickness and AFC straightness auto control systems. Tilt function is better for straightness controlling, coiler is driven by two motors, can adjust rolling force precisely, which is stable foundation for high strength and accurate precise stainless steel strip, thickness tolerance can reach to  $\pm 0.001\text{mm}$ . This is the most advanced mill for rolling stainless steel strip in the world.



#### 全氢光亮退火线 All H<sub>2</sub> BAL

光亮退火线为国内首条全氢立式马弗退火炉。炉内露点控制在 $-55^{\circ}\text{C}$ 以下，全氢保护和精确地张力控制，保证了带钢退火后表面质量和性能达到最佳状态。

BAL is the first all H<sub>2</sub> vertical Muffle annealing furnace in china, the dew point is controlled below  $-55^{\circ}\text{C}$ . All H<sub>2</sub> protection and precise tension control, which assure the perfect surface quality and property after annealing.

## 装备优势 >>>

### Advanced Equipment



#### 全氢罩式退火炉 All H<sub>2</sub> Bell Type Annealing Furnace

全氢保护气体，精确地温度控制，有效消除轧制内应力和加工硬化，获得良好的冷加工性能，保证退火后钢卷性能的稳定性，为高碳马氏体的生产提供了有力保障。

All H<sub>2</sub> protection, precise temp control, can remove rolling inner force and fabrication hardening efficiently, get good cold processing ability, assure coil property stable after annealing, which are strong ensurance for high-carbon martensite steel manufacture.

#### 拉矫机组 Leveler unit

二十三辊拉矫机最小辊径为12mm，独有的工艺张力控制装置，有效改善精密带钢板型和机械性能，板型最高平直度可达11U。

Twenty three rollers leveler, minimum roller diameter is 12mm, unique process tension control device, which improve straightness and mechanical property efficiently. Straightness tolerance can reach to 11U.



#### 纵切分条机组 Longitudinal cutting unit

分条最小宽度为3mm，宽度精度高达 $\pm 0.015\text{mm}$ ；可对强度高达 $2100\text{ N/mm}^2$ 硬态钢卷分条，根据用户需求切分各种尺寸。

The cut strip minimum width is 3mm, the tolerance is  $\pm 0.015\text{mm}$ . The leveler can cut hardening strip whose strength reaches to  $2100\text{ N/mm}^2$ . Trimming different dimension strips according to customer's requirements.

#### 去毛刺及圆边机组 Burr free and full round edge unit

根据用户要求生产不同边部质量的带钢，可修出方边、方带圆边、圆边等不同边部质量的带钢，填补国内空白，满足不同客户需求。

Producing different edge quality strip according to customer's needs, can trim square edge, square with round edge, round edge and other edge quality strip. Filling domestic blank and satisfying personalized client's requirements.

## 研发能力 >>>

### Research and Development



## 国家级实验室 National level laboratory



在2009年国家认定的575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。  
In 2009 Tisco technology center ranks in NO.2 position among the 575 state certified enterprise technology departments, and situates the NO.1 among the steel industry.



扫描电镜  
Scanning Electron Microscope



透射电镜  
Transition Electron Microscope



热模拟试验机  
Thermal Simulating Tester



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

## 企业荣誉 >>>

### Honors & Awards



## 质量保证体系 >>> Quality Assurance System



## 整体优势 >>> Integer Advantage

### ◆ 原料优势

具备全流程先进的不锈钢生产工艺技术及装备，可为不锈钢精密带钢提供优质原料。

### ◆ 装备优势

技术装备为国际先进水平。

### ◆ 技术优势

拥有经验丰富的团队和国内最强大的不锈钢技术研发能力。

### ◆ 产品优势

生产厚度国内最薄（0.02mm）。

产品抗拉强度可达2100N/mm<sup>2</sup>。

生产宽度最窄3mm。

生产优质高碳马氏体钢，填补国内空白。

### ◆ Material Advantage

With the whole process flow of advanced stainless steel technology and equipments, it can provide superior material for precise stainless steel strip.

### ◆ Facilities Advantage

The advanced facilities in the world.

### ◆ Technology Advantage

Experienced team and strongest R&D capability in china.

### ◆ Product Advantage

The thinnest in china ( 0.02mm ) .

The highest tensile strength reaches to 2100N/mm<sup>2</sup>.

The narrowest width reaches to 3mm.

Producing good high-carbon martensite steel, which fills domestic blank.

## 产品介绍 >>>

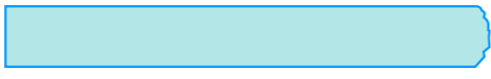


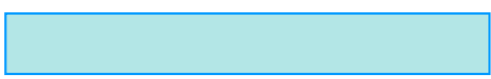
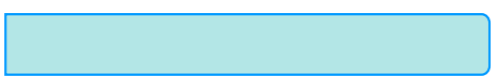
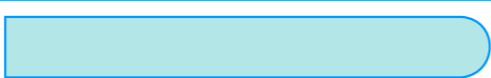
### Introducation of Product

太钢不锈钢精密带钢厂立足于高强度、高精度、薄、窄的不锈钢产品，为国内外高尖端领域提供材料。

TISCO's precise stainless steel strip plant is based on high strength, high accuracy, thinness, narrowband stainless steel products, providing good material for cutting-edge technology enterprises in the world.

牌号 Grade	产品厚度 Thickness	产品宽度 Width	备注 Notes
300、400系	0.02 ~ 0.5mm	3 ~ 610mm	可生产优质高碳马氏体不锈钢带 Can produce good high-carbon martensite stainless steel strip

#### ◆ 边部处理后效果 Result after edge treatment

边部质量 Edge quality	图式 Picture
轧制边部 Rolling edge	
剪切边部 Trimming edge	
去毛刺边部 Burr free edge	
方形边部 Square edge	
方边带圆角 Square with round edge	
圆边 Round edge	

备注：圆边宽度 ≤ 150mm、卷重 ≤ 1t  
Notes: Round edge width ≤ 150mm, coil weight ≤ 1t

## 产品特点 >>>

### Features of Product

内容 Contents	不锈钢精密带钢 Precision stainless steel strip	冷轧不锈钢带钢 Cold-rolled stainless steel strip
规格范围 Range specification	0.02 ≤ 厚度 ≤ 0.5mm	厚度 ≥ 0.3mm
厚度公差 Thickness tolerance	带厚 ≤ 0.1mm ± 2.5 μm 带厚 ≤ 0.5mm ± 5 μm	带厚 ≤ 0.6mm ± 40 μm 带厚 ≤ 1.0mm ± 50 μm
硬度均匀度 Uniformity of hardness	硬度变化在 ± 10HV	对硬度均匀度无明确要求 No requests
宽度公差 Width tolerance	带宽 ≤ 30mm ± 0.015mm 带宽 ≤ 100mm ± 0.03 mm 带宽 ≤ 250mm ± 0.05 mm 带宽 ≤ 610mm ± 0.1 mm	带宽 ≤ 1524mm + 5mm
平直度 Straightness	1-2 IU	最小3 IU
带钢毛刺高度及边部质量 The burr height and edge quality	带厚 0.02-0.1mm ≤ 6% 带厚 0.1-0.5mm ≤ 5% 有特殊要求去毛刺或圆边带钢	带厚 0.4mm 毛刺高度 0.03mm 带厚 3.0mm 毛刺高度 0.09mm 没有特殊要求去毛刺或圆边带钢

#### 表面状态：

TR——钢带冷轧后经过清洗后的表面；BA——钢带冷轧后经过光亮退火的表面

#### 卷带尺寸：

内径：300/400/508mm；外径：最大1500mm

(其他特殊要求表面协商解决)

#### Surface grade:

TR——Cleaning and Degreasing after cold rolling; BA——Bright annealing after cold rolling.

#### Coil dimension:

Inside diameter: 300/400/508mm; Outside diameter: Max 1500mm

(Other special surface request need to negotiation)

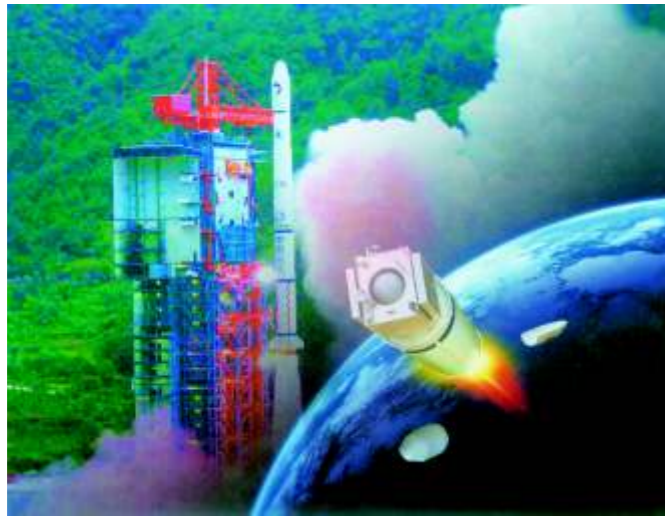


## 主要应用 >>>

### Main Applications

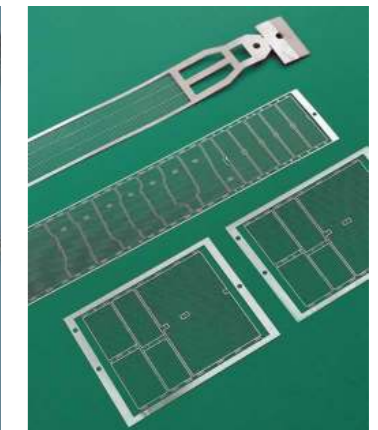
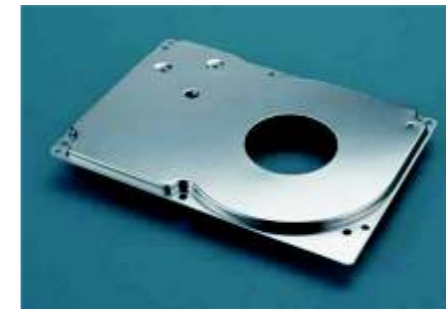
不锈钢精密带钢广泛应用于航空航天、汽车零配件、电子产品、医疗器械、IT、手机、化工、纺织、太阳能光伏电池、焊接材料等有特殊需求的行业，用于制作直升机连接轴器、汽缸垫、电子冲压件、医用针头、光刻蚀刻材料、手机外壳、纺织钢筘、金刚石刀片、光缆保护管、波纹管、弹簧及超硬材料、纽扣电池、太阳能光伏电池衬底、焊带等产品。

Precise stainless steel strip is widely used in Aero-space, automobile accessories, electronics, medical devices, IT, cellphone, chemistry, textile solar cells, welding materials and many special need fields, such as helicopter couples' connecting parts, cylinder liner, electrical punching plate, medical needle, photoetching, cellphone shell, textile hook, diamond blade, optical cable protect tube, corrugated tube, spring and ultrahard material, button cell battery solar cells substrate, flux-cored welding wires and so on.



## 主要应用 >>>

### Main Applications



## 包装 >>>

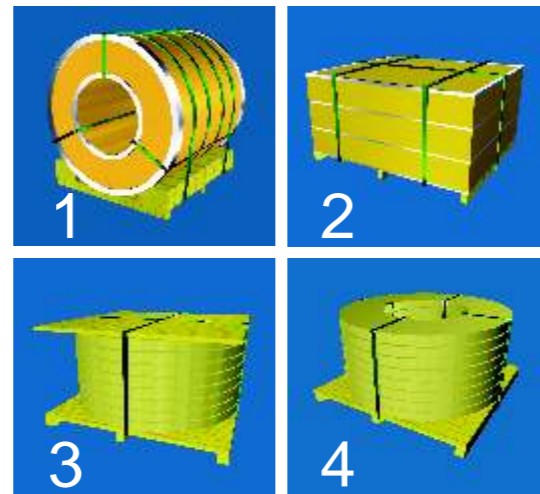
### Package

1、防潮纸缠绕+木托+打包带固定，钢卷孔向上或钢卷孔水平放置于木托上。

2、防潮纸缠绕+木托+打包带固定，钢卷孔向上或钢卷孔水平放置于木托上，外加木箱。

3、防潮纸缠绕+木托+打包带固定，钢卷孔向上放置于木托上，钢卷上方盖木架，外绕防潮PVC。

4、根据用户要求作特殊处理。



1. Damp-proof paper winding + wooden pallets supporting + Attaching straps fastening, The coil is straight up or laid down.

2. Damp-proof paper winding+ wooden pallets supporting + Attaching straps fastening, The coil is straight up or laid down, Wooden box outside.

3. Damp-proof paper winding+ wooden pallets supporting + Attaching straps fastening, The coil is straight up or laid down, Wooden stand on top, damp-proof PVC around.

4. Special treatments according to client's requirements.

## 服务承诺 >>>

### Service Promise

- 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。
- Provide for consumers with the personalized designs on composition, properties, package and the quality certificate.
- Technical support to customers in material selection and fabrication.
- Accurate and prompt delivery.
- Response to customer's claim within 24 hours.

## 主要业务部门联系方式 >>>

### Contacting Manners of the Main Business Sections

股份公司主要业务部门 Main business department of Co.,Ltd	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	电话 +86 (0)351-3011431 TEL 3017478 3017378	quzy@tisco.com.cn
精密带钢公司 Precision Stainless Steel Strip plant	用户服务 Customer Services	电话 +86 (0)351-7998113 +86 (0)351-7998039 TEL +86 (0)351-7998061	wuxb@tisco.com.cn zhangyjjz@tisco.com.cn

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

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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) +049-2154-816911

### 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
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太钢东北区销售公司 TISCO sales company in Northeast of China	辽宁太钢销售有限公司 Liaoning TISCO Sales Co. Ltd. 哈尔滨太钢销售有限公司 Haerbin TISCO Sales Co. Ltd.	沈阳 哈尔滨 电话 (Tel) 024-24232050 邮编 (Post code) 110016 传真 (Fax) 024-24231216
太钢华东区销售公司 TISCO sales company in East China	无锡太钢销售有限公司 Wuxi TISCO Sales Co. Ltd. 上海太钢销售有限公司 Shanghai TISCO Sales Co. Ltd. 杭州太钢销售有限公司 Hangzhou TISCO Sales Co. Ltd.	无锡 上海 杭州 电话 (Tel) 0510-82407713 邮编 (Post code) 214011 传真 (Fax) 0510-82441187
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