



汽车行业用钢

STEEL FOR AUTOMOBIL INDUSTRY

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年发展，已具备1000万吨以上钢、铁、材的生产能力，其中不锈钢产能达300万吨。

太钢是中国第一炉不锈钢、第一炉硅钢、第一张硅钢片的诞生地。拥有铁矿石等钢铁冶炼原料的采掘与加工、钢铁冶炼、钢铁材料压力加工、冶金设备及备品备件制造等方面先进技术和装备，主要产品有不锈钢、冷轧硅钢片（卷）、热连轧卷板、车轴钢、合金模具钢、军工钢等。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系列飞船、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。

太钢的发展目标是，加快建设全球最具竞争力的不锈钢企业，到2010年，以不锈钢为主的品种、质量、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，建设具有国际竞争力的大企业集团。

Taiyuan Iron and Steel (Group) Co. Ltd. (TISCO) is a gigantic steel complex in China and a world leading stainless steel producer with largest capacity, full range of products and state of the art facility. With 70 years development, the capacity of pig iron, crude steel and rolled products increased over 10 million ton, including 3 million tons of stainless steel.

TISCO produced the first heat of stainless steel, first heat of silicon steel and first sheet of silicon steel. It is well equipped for mining and beneficiation (such as iron ores), ironmaking, steelmaking, rolling and manufacture of metallurgical equipment and spare parts. Main products include cold rolled stainless and silicon sheet/coil, hot rolled coil, axle steel, die steel and military steel. They are 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.

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, Our target is to create an international enterprises group of strong competitive edges out of Taigang.



◆ 汽车行业用钢概况 Brief on automobile steel

太钢一直致力于汽车用钢产品的开发，早在上个世纪70年代，太钢就建立了与一汽集团、东风公司等国内特大型汽车生产企业的业务合作关系。进入新世纪，太钢更加重视汽车行业的发展，与一汽集团、东风公司、中国重汽、北汽福田等国内汽车行业的（知名）先进企业建立了良好的战略合作关系。

在热轧产品方面，太钢目前是国内最主要的汽车用热轧钢板生产厂家，已形成大梁钢系列、车轮钢系列、轴管钢系列、桥壳钢系列等汽车用热轧钢板产品，产品规格能满足所有商用车生产厂家的使用要求。针对目前汽车行业轻量化发展趋势，太钢在国内率先开发出高强度汽车用热轧钢板产品厂家之一，该产品广泛应用于重卡大梁、半挂车大梁及自卸车货厢等领域，产品质量受到了使用厂家的一致好评。

在汽车用不锈钢方面，太钢处于国内领先地位。太钢的汽车用不锈钢主要应用于汽车排气系统、汽车燃油箱和汽车装饰等领域，使用太钢不锈钢生产的汽车排气系统和燃油箱具有耐腐蚀性好、强度高、周期使用成本低等优点，是未来中国汽车工业良好的环保材料的选择。

TISCO has devoted itself to automobile steel development. In the early of 1970's, TISCO established the business cooperation with the super-sized automobile domestic enterprises such as the First Automobile Group, Dongfeng Group. Entering the new century, TISCO pay much attention to development on the automobile industry so set up the strategic cooperation with the leading auto enterprises in China, for example, the First Automobile Group, Dongfeng Group, Sinotruk and FOTON.

With respect to the hot rolled products, TISCO is the leading company of the automobile hot-rolled plate currently, which covers the series of beam steel, wheel steel, shaft tube steel, and axle housings steel. The specification can meet all requirements for commercial vehicles. Due to the tendency of automobile light weight, TISCO developed the ultra-high strength hot-rolled plate which has been widely used to the beam of the heavy load truck and semi-trailer and the carriage of light Self-dumping truck. Product quality has been appreciated by the customers.

With respect to the stainless steel for the automobile industry, TISCO is the leading company too. The automobile steel produced by TISCO mainly use for the field of auto exhaust system, auto oil tank and decorations. The product has the advantages of corrosion resistance, high strength and low operation cost, which is the sound choice of environment material for China automobile industries in the future.

通过近几年对汽车行业不锈钢需求的了解，结合我公司先进的设备，生产出的400系不锈钢卷板以其优良的焊接性、成型性，广泛应用于汽车排气系统行业。

产品开发方面，除常用的SUH409L外，开发了性能更好的441、439M、436L、429等系列产品，广泛应用于汽车排气歧管、消音器、排气净化器外壳等部件。

Through the survey of auto stainless steel needs in recent years, 400 series coils and plate, which produced by TISCO best equipment, have been extensively used for the auto exhaust system with good weldability and formality.

With respect to product development, TISCO attach great importance to the new production research and development. In addition to normal grades such as SUH409L, 304 and 304L, our company developed 441, 439M, 436L and 429 of the 400 series in order to save nickel resources, which are widely used for the exhaust manifold, silencer and cleaner case of auto exhaust system.

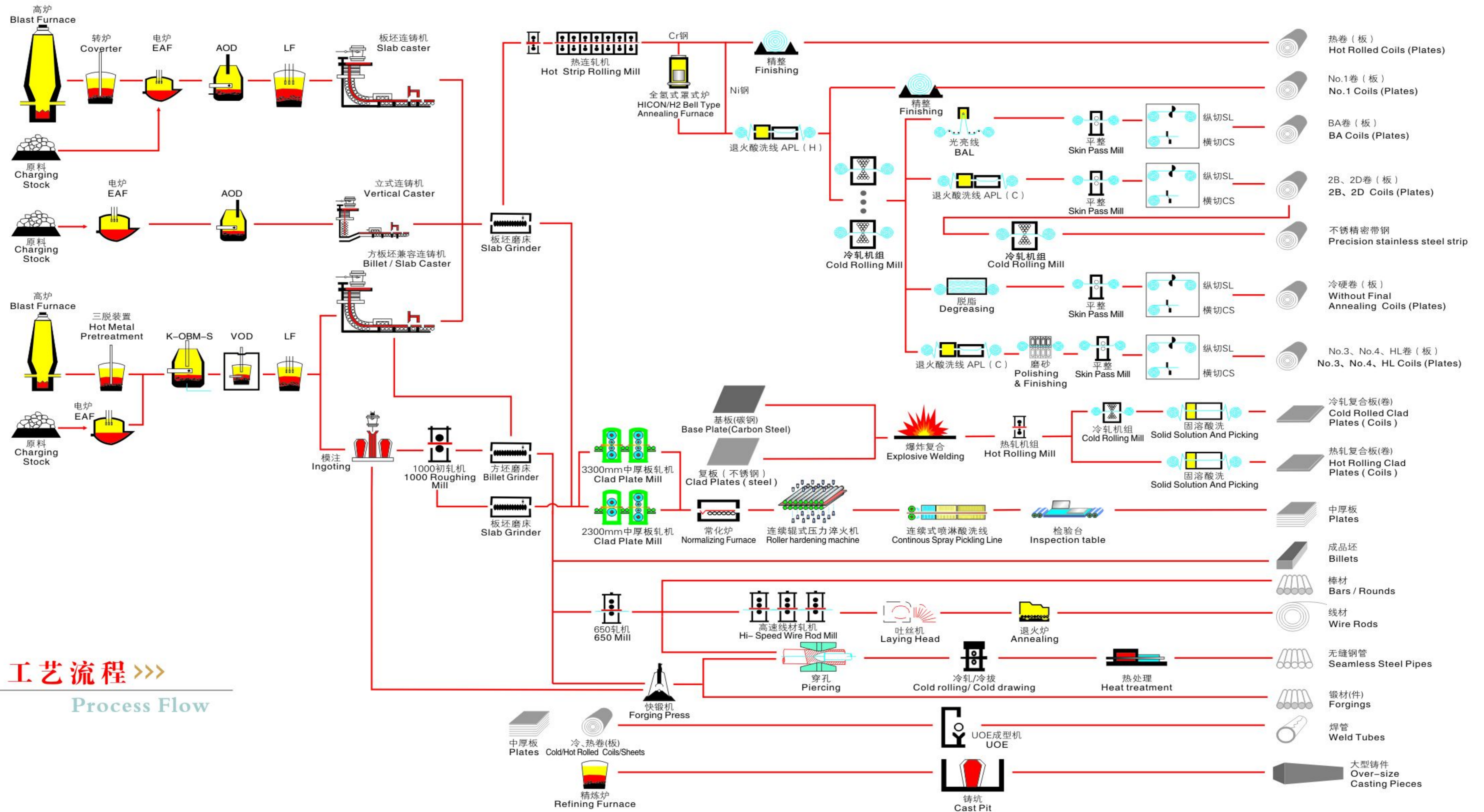
◆ 与行业客户的合作关系 Cooperative relationship with industrial customers

太钢是目前国内最主要的热轧汽车结构钢板生产厂家，产品广泛应用于一汽集团、东风公司、中国重汽、陕西重汽、北汽福田、郑州宇通、宏昌天马、中集车辆等国内主要汽车厂家，市场占有率连续多年位居国内市场前列，太钢已成为国内高强度汽车用钢的引领者、汽车行业轻量化的推动者。

目前，我公司与国内主要从事汽车排气制管和冲压件的直接用户及具有加工配送能力的经销用户建立了长期合作关系，产品主要定位汽车排气系统行业。

TISCO has been the main manufacturer of hot-rolled auto structural plate in China recently. The products widely entered many Chinese automobile manufactures, e.g. the First Automobile Group, Dongfeng Group, Sinotruk, Shaanxi Heavy Truck, FOTON, Zhenzhou Yutong, Hongchang Tianma, In-vehicle. The market share has been in front rank in China for many years. TISCO become a tidal current of high strength steel and a trigger of light automobile in China.

Nowadays, Tisco has established the long-term cooperative relationship with the end users for auto exhaust piping making and pressing processes, and the dealers with the ability of distribution. The products mainly locate to automotive exhaust system.



研发能力 >>>

Research and Development

国家级实验室
National level laboratory



2007年在国家认定的438家企业技术中心中，太钢技术中心排名第4位。
Tisco technology center ranks 4th among enterprise-based 438 technology centers accredited by the state in 2007.



企业荣誉 >>>

Honors & Awards

- ◆ 《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 "Denitrification 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.



扫描电镜
Scanning Electron Microscope



热模拟试验机
Thermal Simulating Tester



透射电镜
Transition Electron Microscope



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



质量保证体系 >>>

Quality Assurance System



常规产品 >>>

Conventional Products

◆ 碳钢部分
Carbon steel

钢种 Steel grade	牌号 Grade	产品规格 (mm) Specifications	执行标准 Standard	用途 Application
汽车大梁用钢 Automotive frame steel	T420L	3.0-6.0 × 980-2000	Q/TB3805-2007	用于制造汽车纵梁、横梁、车底盘部件等。 Parts of automobile side frame, cross beam and chassis.
	T510L	3.0-8.0 × 980-2000		
	T510L	8.0-12.5 × 870-2000	Q/TB3019-2007	
	T610L	3.0-10.0 × 1000-2100	Q/TX3287-2007	
	T750L	3.0-8.0 × 1000-1800	Q/太新049-2009	
汽车大梁用钢 Automotive frame steel	QSTE340TM	3.0-10.0 × 1000-2100	Q/太新062-2009	用于制造汽车纵梁、横梁部件等。 Parts of automobile side frame, cross beam.
	QSTE380TM	3.0-10.0 × 1000-2100		
	QSTE420TM	3.0-10.0 × 1000-2100		
	QSTE460TM	3.0-10.0 × 1000-2100		
	QSTE500TM	3.0-10.0 × 1000-2100		
汽车车轮用钢 Automobile wheel steel	T330CL	2.0-10.0 × 900-2130	Q/TX3193-2006	用于滚型车轮轮辋、轮辐等部件。 Parts of felloe and spoke for the rolled wheel.
	T400CL	1.5-16.0 × 870-2130	Q/太新074-2008	
	T420CL	5.0-16.0 × 1000-2130	Q/TX3285-2007	
	T490CL	2.5-16.0 × 1000-2130	按协议	
传动轴管用钢 Drive shaft tube steel	440QZ	2.5-6.0 × 980-1800	Q/TB3803-2007	用于制造汽车传动轴管。 Drive shaft tube.
	480QZ	3.0-8.0 × 870-2000	Q/TB3020-2007	
汽车桥壳用钢 Automobile axle housings steel	TQK510	3.0-16.0 × 1000-2130	Q/太新078-2008	用于制造汽车桥壳。 Automobile axle housings.
	TQK590	10.0-16.0 × 1000-2100	Q/太新094-2009	
特高强度 汽车用钢 Ultra high strength steel	T700	6.0-16.0 × 1350-1800	Q/TX3257-2007	用轻量化自卸车货厢、半挂车大梁等。 Cartridge of light Self-dumping truck and semi-trailer beam.
	TH800	3.0-6.0 × 1350-1550		
		6.0-16.0 × 1350-1800		



常规产品 >>>

Integer Advantage

产品规格 (mm) Specifications	卷重 (t) Weight	执行标准 Standard	用途 Application
0.5~3.0×1000或1219	7-10	企标、国标 Enterprise and state standards	排气管 Exhaust pipes

◆ 轻量化特高强度汽车用钢
Lightweight ultra-high strength automobile steel

从全世界范围来看，汽车用钢的发展趋势是高强度、轻量化、经济性，采用特高强度汽车钢板，不仅可以提高汽车的安全性，同时也可以减轻汽车自重，节约能源、保护环境。据权威部门测算，车身自重减轻10%，可减少油耗6%—8%。

$$\frac{t_1}{t_2} = \sqrt{\frac{\sigma_2}{\sigma_1}}$$

按如下经验公式对应构件材料强度和壁厚的关系可以保证结构强度的稳定：

式中：t1，σ1和t2，σ2分别表示两种材料相对应的屈服强度和厚度。

The tendency of automobile steel development in the world is high strength, light weight and economy. Using the ultra-high strength automobile steel plate will not only improve the safety of automobile but also reduce the deadweight of automobile, save energy source and protect environment. Based on the authority department calculation, the deadweight of automobile can be reduced by 10% and 6% to 8% oil consumption. Will be saved.

By the following experience formula and corresponding to material strength and wall thickness, it can guarantee the stability of structure strength:

$$\frac{t_1}{t_2} = \sqrt{\frac{\sigma_2}{\sigma_1}}$$

In the formula, t1, σ1 and t2, σ2 respectively represent the yield strength and thickness of two materials.

根据以上对应关系，某厂家采用高强度板取代普通Q235钢板生产自卸车货厢，构件重量减轻的情况如下：

According to the above corresponding relationship, some company replace normal Q235 steel plate with ultra-high strength steel plate to manufacture bucket of self-dumping truck, then the reducing weight of structural components is as follows:

采用Q235 (屈服235MPa) Using Q235 steel plate (yield 235 MPa)	采用T610L (屈服550MPa) Using T610L steel plate (yield 550MPa)		采用TH800 (屈服700MPa) Using TH800 steel plate (yield 700MPa)	
板厚mm Thickness	板厚mm Thickness	减重百分数 Reducing by percentage	板厚mm Thickness	减重百分数 Reducing by percentage
12	9.6	20%	8.5	29%
8	6.4	20%	5.7	29%

采用太钢特高强度钢板生产自卸车效益情况：

The benefits on using TISCO's ultra-high strength steel plate to manufacture self-dumping truck:

重量 Weight	Q235车厢 Q235 Compartment	T610L车厢 T610L Compartment	TH800车厢 TH800 Carriage
	6.5t	5.2t	4.6t
增加货运能力 每年增加效益 Improvement of the transporting capacity Benefit increasing annually	0	45500元	66500元
燃料节省 每年增加效益 Fuel saving Benefit increasing annually	0	6435元	9405元
总效益 Total Efficiency	0	52000元	76000元

注：以上按照每年行驶150000公里，柴油价格5.5元/升测算的结果。

Note: the above result is according to 150000 kilometers running per year, and diesel oil price at CNY 5.5/ liter.

产品成分、性能 >>>

Composition and Property of Product

◆ 化学成分 (典型值)
Chemical composition (Typical value)

牌号 Grade	C	Si	Mn	P	S	Ti	Nb	V	Mo	Alt
T420L	≤0.12	≤0.50	≤1.20	≤0.030	≤0.025	—	≤0.04			—
T510L	≤0.16	≤0.50	≤1.60	≤0.030	≤0.025	—	≤0.06			—
T610L	≤0.12	≤0.50	≤1.70	≤0.030	≤0.025	≤0.22	≤0.09			≥0.015
T750L	≤0.12	≤0.60	≤2.10	≤0.025	≤0.010	—	—	—		≥0.015
QSTE340TM	≤0.12	≤0.50	≤1.30	≤0.030	≤0.025	≤0.22	≤0.09			≥0.015
QSTE380TM			≤1.40							
QSTE420TM			≤1.50							
QSTE460TM			≤1.60							
QSTE500TM			≤1.70							
T330CL	≤0.08	≤0.10	≤0.50	≤0.030	≤0.015	—	—			≥0.020
T400CL	≤0.12	≤0.25	≤1.20	≤0.030	≤0.020	—	—			≥0.020
T420CL	≤0.12	≤0.30	≤1.20	≤0.030	≤0.020	—	≤0.03			≥0.020
T490CL	≤0.16	≤0.50	≤1.70	≤0.030	≤0.025	—	≤0.06			≥0.020
440QZ	≤0.12	≤0.50	≤1.30	≤0.030	≤0.025	—	≤0.04			—
480QZ	≤0.16	≤0.20	≤1.50	≤0.020	≤0.015	—	≤0.04			—
TQK510	≤0.16	≤0.50	≤1.60	≤0.030	≤0.025	—	≤0.06			—
TQK590	≤0.12	≤0.50	≤1.70	≤0.030	≤0.025	≤0.22	≤0.09	≤0.10		≥0.015
T700	≤0.12	≤0.50	≤2.00	≤0.020	≤0.010	≤0.15	≤0.09	≤0.20	≤0.50	≥0.015
TH800	≤0.12	≤0.40	≤2.10	≤0.020	≤0.010	≤0.15	≤0.09	≤0.20	≤0.50	≥0.015

注：牌号T610L、T700、TH800、T7502和QSTE340TM-QSTE500TM除含Nb外，适当加入Ti、V、Mo等合金元素。
Note: For T610L, QSTE340TM, -QSTE500TM, except containing of Nb and Ti, V also can be added. But the amount of the three elements together can not exceed 0.22%.

◆ 机械性能
Mechanical property

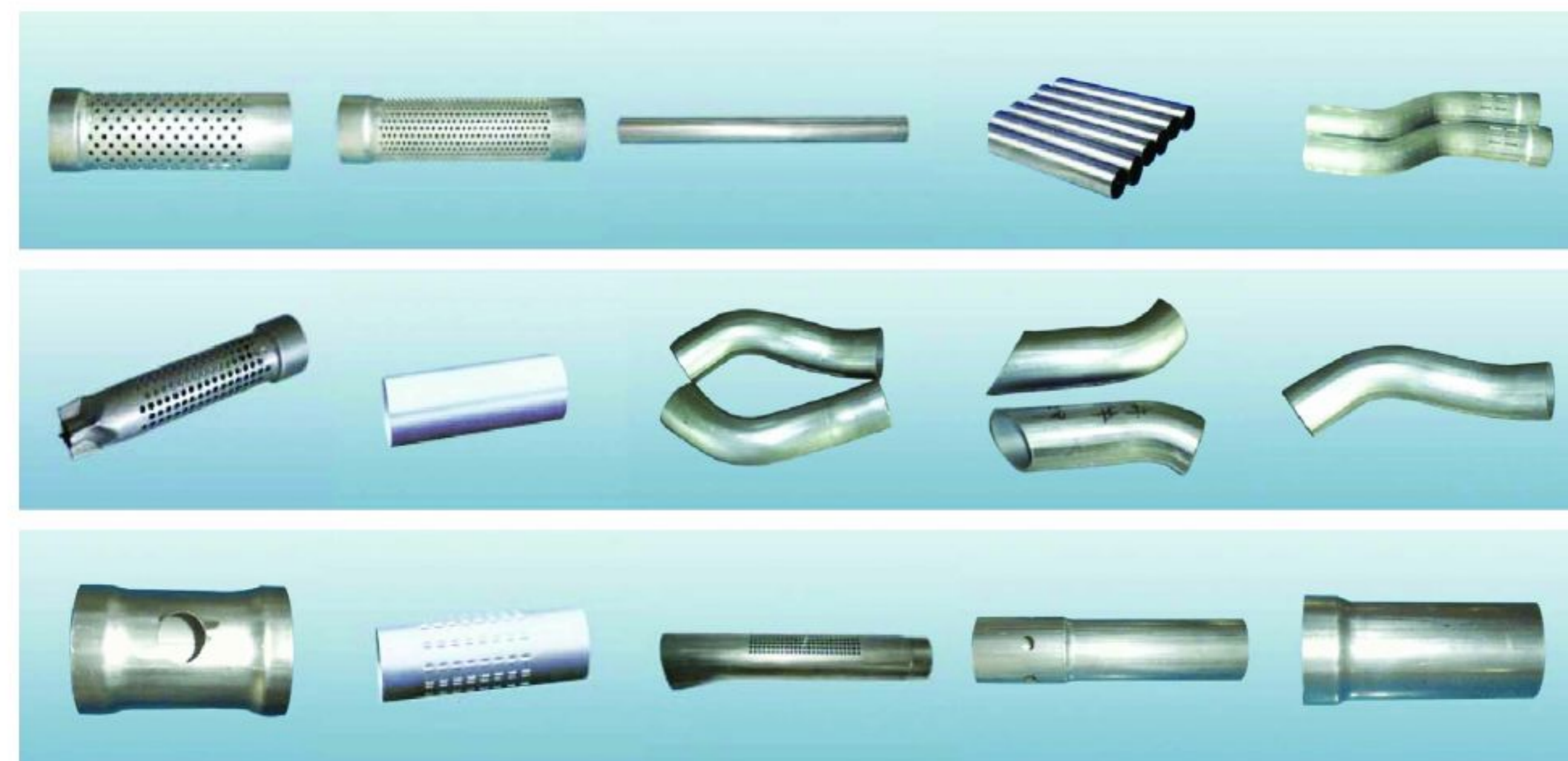
牌号 Grade	厚度规格 (mm) Thickness	Rel, MPa	Rm, MPa	A, %	180°, 冷弯 180° cold bending
T420L	3.0-6.0	≥305	420-540	≥25	d=0.5a
T510L	3.0-8.0	≥355	510-610	≥24	d=0.5a
	8.0-12.5	≥355	480-610	≥21	—
T610L	3.0-10.0	≥500	550-700	≥18	d=1a
T750L	3.0-8.0	≥700	750-950	≥15	d=1.5a
QSTE340TM	3.0-10.0	≥340	420-540	≥25	d=0.5a
QSTE380TM	3.0-10.0	≥380	450-590	≥23	
QSTE420TM	3.0-10.0	≥420	480-620	≥21	
QSTE460TM	3.0-10.0	≥460	520-670	≥19	d=1a
QSTE500TM	3.0-10.0	≥500	550-700	≥17	
T330CL	3.0-10.0	≥205	330-470	≥32	d=1a
T400CL	< 6.0	≥255	400-510	≥28	d=1a
	6.0-10.0	≥235	390-500	≥26	d=2a
	10.0-16.0	≥220	380-480	≥24	d=2a
T420CL	5.0-10.0	≥290	420-520	≥26	d=1a
	10.0-16.0		410-520	≥24	d=1.5a
T490CL	2.5-5.0	≥380	510-660	≥24	d=2a
	5.0-10.0		490-650	≥23	d=2a
	10.0-16.0		470-630	≥22	d=2a
440QZ	2.5-6.0	≥320	440-570	≥15	d=1a
480QZ	3.0-8.0	≥355	480-580	≥21	d=1a
TQK510	3.0-16.0	≥355	510-610	≥24	d=0.5a
TQK590	10.0-13.0	≥470	590-715	≥18	d=a
	13.0-16.0	≥440	550-700	≥16	
T700	6.0-10.0	≥625	≥700	≥17	d=2a
	10.0-16.0	≥590	≥700	≥15	d=2a
TH800	3.0-8.0	≥700	750-950	≥12	d=2a
	8.0-16.0	≥680	750-950	≥12	d=2a

注：1、a为试样厚度，d为弯心直径，b为冷弯试样的宽度。
2、表中除T7502拉伸试验规定取纵向试样外，其余钢号所列拉伸、冷弯试验规定值均适用于横向试样。
3、440QZ、480QZ两个牌号还应保证Rel/Rm≤0.90。
Note: 1. a is specimen thickness, d is bending diameter, and b is specimen width.
2. Stipulated values for tensile and cold bend test listed in the table are suitable to transverse specimen.
3. For 440QZ and 480QZ, Rel/Rm≤0.90.

部件名称 Parts name	排气歧管 Exhaust manifold	前管 Front tube	挠性管 Flexible	催化转换器 Catalyst conversion apparatus		中心管 Center tube	主消音器 Main silencer	尾管 End tube
				外壳 Case	热载体 Hot carrier			
工作温度 Working temperature (°C)	950 ~ 750	800 ~ 600		1000 ~ 1200		600 ~ 400	400 ~ 100	
性能要求 Property requirement	高温强度 热疲劳 抗氧化性 加工性 High-temperature strength, hot fatigue, oxidation resistance, deformability	高温强度 高温疲劳 抗氧化 成型性 High-temperature strength, high-temperature fatigue, Oxidation resistance, formability	高温强度 高温盐蚀 成型性 High-temperature strength, high-temperature fatigue, formability	抗氧化 抗热震动 Oxidation resistance, hot shock resistance	耐盐蚀 Salt corrosion resistance	内壁: 耐冷凝物腐蚀 外壁: 耐盐蚀 Inside wall: cold condensate resistance Outside wall: salt corrosion resistance		
选材历程 Choosing experience	铸铁→ 不锈钢 Cast iron→ stainless steel	(不锈钢) 普通→高耐蚀 (Stainless steel) common → high corrosion resistance		陶瓷→ 不锈钢 Ceramics→ stainless steel	碳钢→不锈钢 Carbon steel→stainless steel			
材料 Material	441 429	441、429; 304L	409L 436L	20Cr-5Al、 陶瓷	409L	409L 436L		

性能要求：排气系统热端零件具有良好的热疲劳、高温疲劳、抗氧化性能和良好的加工性；冷端零件，如消声器，要具有良好的抗废气冷凝液腐蚀能力和良好的加工性。

Property requirement: hot end parts for venting system should have good hot fatigue resistance, high-temperature strength, oxidation resistance and formability; on the other hand, cold parts, e.g., muffler, should have fine exhaust condensate corrosion resistance and formability.



◆ 409L化学成份 (典型值)
409L Chemical composition (Typical value)

C	Si	Mn	P	S	Cr	Ti	Ni	N
≤0.03	≤1.00	≤1.00	≤0.035	≤0.030	10.50 ~ 11.75	6 × C ~ 0.75	≤0.60	≤0.03

◆ 409L机械性能
409L Mechanical property

R _{p0.2} (MPa)	R _m (MPa)	A (%)	硬度 Hardness			冷弯d = a (180°) Cold bending
			HB	HRB	HV	
≥175	≥360	≥35	≤162	≤80	≤175	完好 Well

◆ 441化学成份 (典型值)
441 Chemical composition (Typical value)

C	Si	Mn	P	S	Cr	N	Nb	Ti
≤0.030	≤1.00	≤1.00	≤0.040	≤0.015	17.5 ~ 18.5	≤0.03	3C+0.30 ~ 1.00	0.10 ~ 0.60

◆ 441机械性能
441 Mechanical property

屈服强度 Yield strength R _{p0.2} (MPa)	抗拉强度 Tensile strength R _m (MPa)	延伸率 Elongation A (%)	硬度 Hardness		弯曲试验 Bending test
			HRB	HV	
≥250	430 ~ 630	≥18	≤96	≤230	合格 Qualified

◆ 436L化学成份 (典型值)
436L Chemical composition (Typical value)

C	Si	Mn	P	S	Cr	Mo	N	Ti、Nb
≤0.025	≤1.00	≤1.00	≤0.040	≤0.030	16.00 ~ 19.00	0.75 ~ 1.50	≤0.025	8 × (C+N) ~ 0.80

◆ 436L机械性能
436L Mechanical property

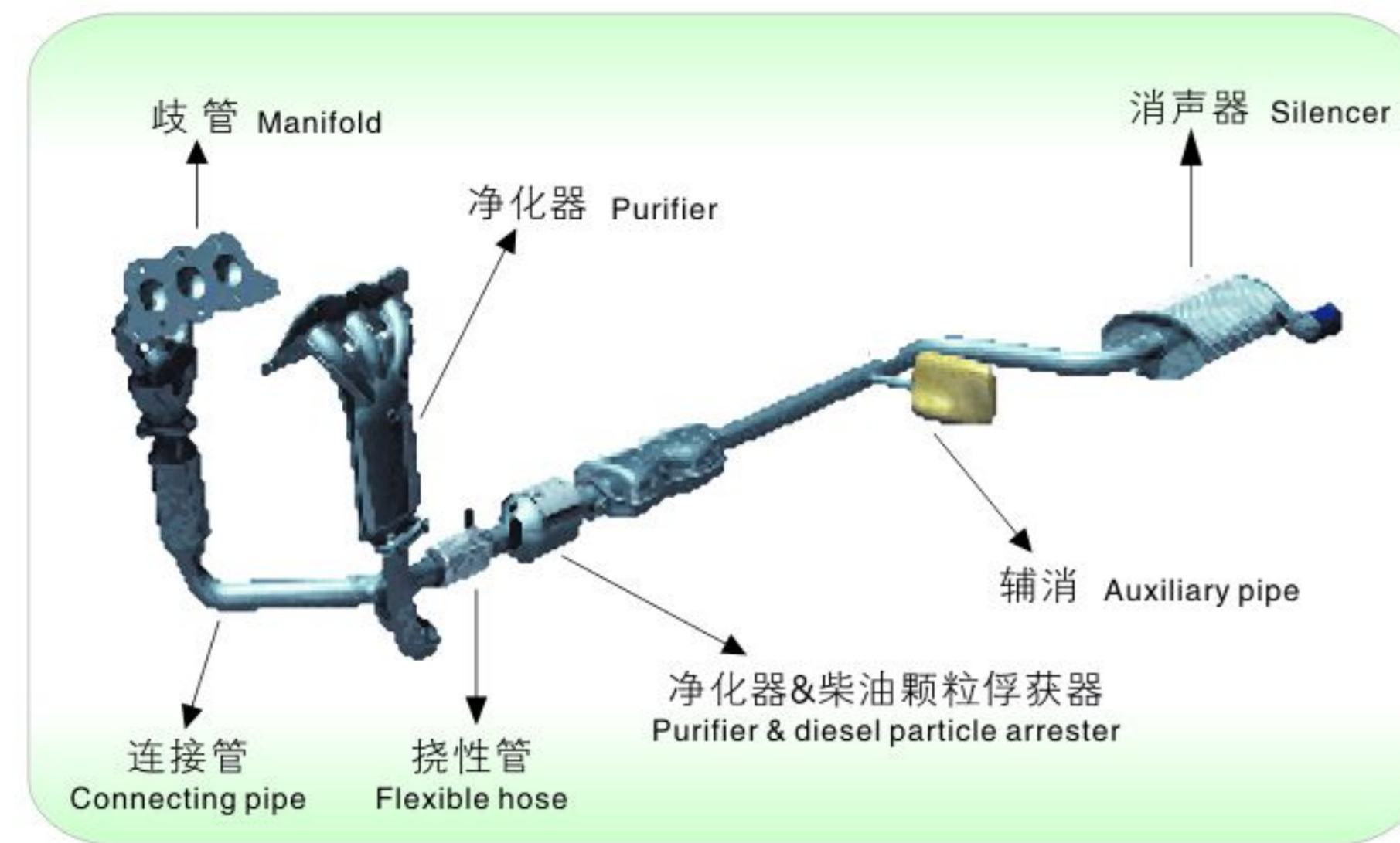
屈服强度 Yield strength R _{p0.2} (MPa)	抗拉强度 Tensile strength R _m (MPa)	延伸率 Elongation A (%)	硬度 Hardness			弯曲试验 Bending test 180° d = 2a
			HBW	HRB	HV	
≥245	≥410	≥20	≤217	≤96	≤230	合格 Qualified

◆ 429化学成份 (典型值)
429 Chemical composition (Typical value)

C	Si	Mn	P	S	Cr	N	Nb
≤0.020	0.80≤Si≤1.00	≤1.00	≤0.040	≤0.030	14.0~16.0	≤0.02	3C+0.30~1.00

◆ 429机械性能
429 Mechanical property

屈服强度 Yield strength R _{p0.2} (MPa)	抗拉强度 Tensile strength R _m (MPa)	延伸率 Elongation A (%)	硬 度 Hardness			弯曲试验 Bending test 180° d=2a
			HBW	HRB	HV	
≥205	≥450	≥22	≤183	≤88	≤200	合格 Qualified



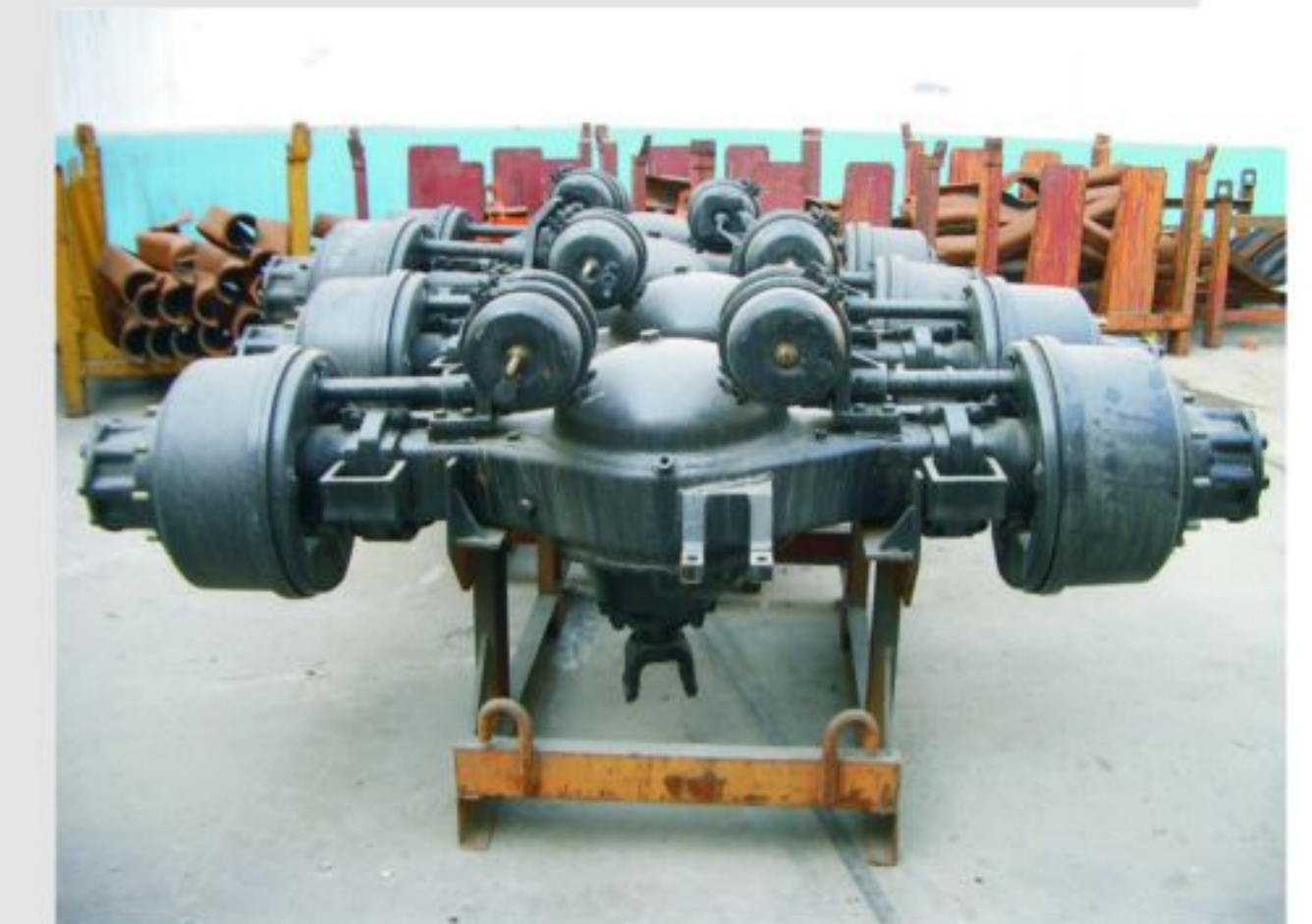
排气尾管
Exhaust pipe



三元催化器
Tri-hazard decomposer



消声器
Silencer



产品介绍 >>>

Product Introduction

厂家 Companies	C	N	S	Ti	C+N ppm
进口A Imported A	0.005	0.0060	0.001	0.20	110
进口B Imported B	0.008	0.0070	0.001	0.20	150
进口C Imported C	0.014	0.0090	0.002	0.17	230
太钢平均水平 TISCO average level	0.009	0.0085	0.002	0.20	170

(以409L为例)

从表格中的数据可以看出，太钢生产的409L在化学成分控制水平上，达到了国外同行业水平。

(Such as 409L)

Based on data listed in the table, chemical composition control of 409L produced by TISCO has catch up with the same level of the industry in the world.

厂家 Companies	氧化物评级 Oxide rating	硫化物评级 Sulfide rating	晶粒度评级 Grain size rating
进口A Imported A	0.5	0.5	7.5
进口B Imported B	0.5	0.5	7.5
进口C Imported C	0.5	0.5	7.0
太钢 TISCO	0.5	0.5	7.0~7.5

钢质纯净度与国外进口材料相当。

The purity of steel by TISCO is similar to that of imported one.

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.



太钢加工配送营销网络布局图
Marketing network of TISCO service centers



- 太钢本部加工配送中心 TISCO home-based service center
- 已建成的加工配送中心 Service center in operation
- 在建中的加工配送中心 Service center under construction
- 规划建立的加工配送中心 Service center under planning

合作伙伴 >>>

Cooperative Partner



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	0351-3014961 0351-3013905 800-806-1998 +86 (0)351-3017169 +86 (0)351-3017525	liuxq@tisco.com.cn Tgyhfwk@tisco.com.cn Tggm@tisco.com.cn
技术中心 Technology center	技术咨询服 Technical consultation service	0351-3012213	Tgjszxbxg@tisco.com.cn

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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 邮编 (Post code) 528041
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太钢西北区销售公司 TISCO sales company in Northwest of China	西安 Xi'an	电话 (Tel) 029-86231507 邮编 (Post code) 710016