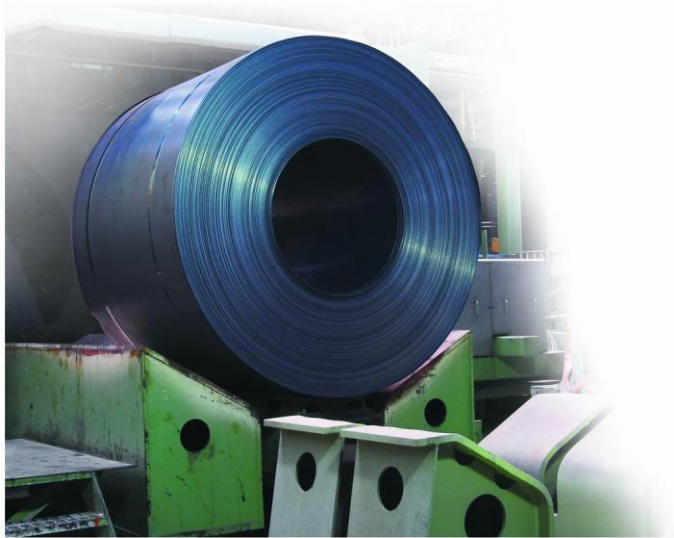


首钢迁钢热轧产品手册



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热轧产品手册

HOT ROLLED STEEL

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迁钢简介 Brief information on Qiansteel

HEBEI SHOUGANG QIAN' AN IRON & STEEL CO.,LTD



Hebei Shougang Qian' an Iron & Steel Co., Ltd.(Qiansteel) is one of Shougang Group' s wholly-funded subsidiaries, located in Qian' an city, Hebei Province. Based on the scientific development concept and environmental protection policy in China, Shougang Group decided to carried out the strategies including moving from Beijing and restructuring the iron and steel industry. Relying on mining base of Qian' an, Qiansteel integrated large-scale projects such as multi-process technology innovation, ironmaking – steelmaking – hot rolling – cold rolling, production process optimization, equipment and technology research and development and key equipment manufacturing.

Qiansteel adhere to "high level, high beginning, high standards" construction positioning, with the belief of advanced technology and equipment, and fully embodies the characteristics of "simple processes, large-scale devices, high-end products, clean environment, digital information" to achieve first-class products, first-rate technology, quality environment and best effects. To build a new demonstration factory with recycle economy, energy-efficient and environment-friendly, clean and efficient. Since 2002 12 18 after three step construction, the iron, slab, coil respective capacity is 7.80, 8.00, 7.8 million tons per year. Furthermore, the cold rolling system for cold-rolled electrical steel is building for high level product.

Qiansteel stick to "high level, high beginning, high standards" construction positioning, adhering to the construction idea of supporting mine, concise process, enlarged equipment, high product, clean environment and information digitization, aiming the construction goal of "first-class products, first-class technology, first-class environment, committed to building new generation of metallurgy type plant of the Circular economy, environmental protection and clean and effective. Since 2002 December 18, Qiansteel is registered, undergoing Three-stage engineering construction, at present already have possessed the production capacity of annual 780 million tons of iron, 800 million tons, 780 million tons cold-rolled steel plate. Promoting cold rolling engineering is expected to put into production in 2012, become products, specifications high-tech important production base of high-quality goods plant.

In plant of production practice, the Qiangang steel company relies on Advanced technology and equipment and shougang years of accumulation of management, technical advantages, realized covers 10 series and hundreds of brand plant product of success, for example pipeline steel, auto plate steel, steel, Weathering Resistance Steel, bridge steel, High-strength Steel Product, boilers pressure vessel steel etc. and widely used in "west-east gas transmission second-line" national key project and the famous enterprise of BAIC, HAIER, CIMC, XCMG. Independent innovation and integrated innovation of scientific research achievements win the national metallurgical industry, technological progress of hebei province and the Beijing municipal respectively, gain more than 40 national patents total. Meanwhile, undertake the state ministry of science and technology "11th five-year plan" to support science and technology plan "a new generation of circulating steel process technology project" many key subject research task, win outstanding achievements

According to the request of the central committee and the state council accelerate development mode change, shougang' s low carbon economy is an important way of transition developing ideas during "1025", innovation development mode, crack development problems and improve the quality of development, through adjustment of the product structure and the energy structure, production technology innovation, environmental concept change and optimization, environmental protection facilities and system construction, the improvement measures to develop circular economy and a low carbon economy, try to build a resource-conserving, environment-friendly, low carbon customer-guided enterprise, and realize the quickly and well great-leap-forward development.

河北省首钢迁安钢铁有限责任公司简称“首钢迁钢公司”，地处环渤海经济圈内的河北省迁安市，是首钢落实科学发展观，服从首都环保大局，平稳实施首钢北京地区钢铁业压产、搬迁调整规划，依托首钢迁安矿山基地，集成炼铁-炼钢-热轧-冷轧多工序工艺技术创新、生产流程优化、装备技术研发、关键设备制造的大型综合性项目。

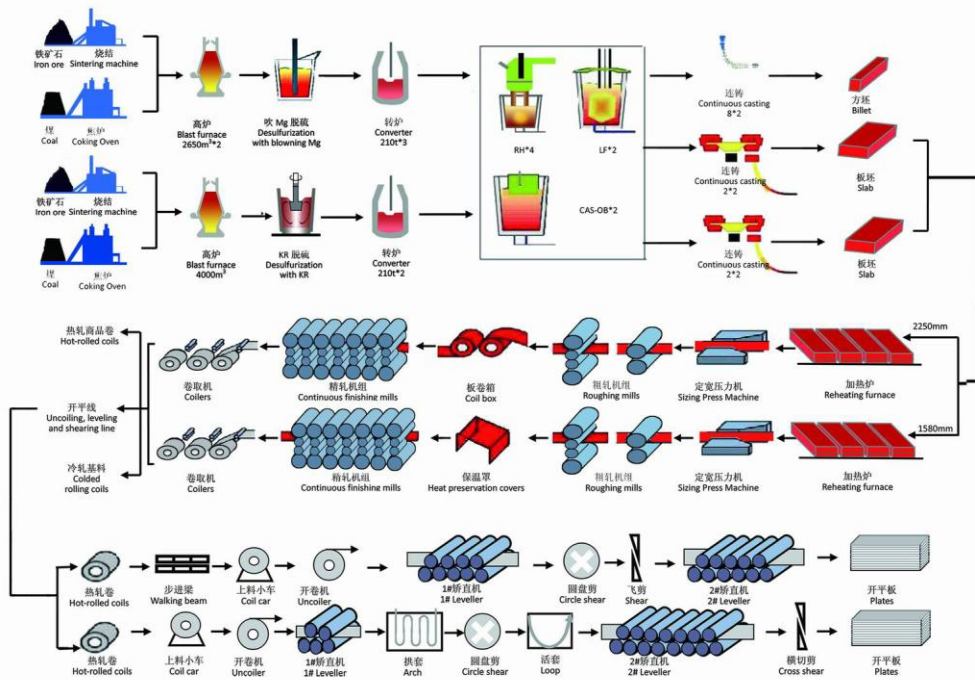
首钢迁钢公司坚持“高水平、高起点、高标准”的建设定位，秉承“依托矿山，流程简洁化、设备大型化、产品高端化、环境清洁化、信息数字化”的建设理念，瞄准“产品一流、技术一流、环境一流、效益一流”的建设目标，致力打造“循环经济型、节能环保型、清洁高效型”的新一代冶金示范工厂。自2002年12月18日注册成立以来，历经三步工程建设，目前已经具备年产780万吨铁、800万吨钢、780万吨热轧板带钢的生产能力。正在推进的冷轧工程，预计2012年全线投产，成为产品、规格配套齐全的重要精品板材生产基地。

在板材生产实践中，首钢迁钢公司凭借先进工艺技术装备和首钢多年积累的管理、技术优势，实现了涵盖管线钢、汽车板钢、船板钢、耐候钢、桥梁钢、高强工程结构钢、锅炉压力容器钢等18大系列上百种牌号板材产品的成功开发生产，并广泛应用于“西气东输二线”等国家重点工程和北汽、海尔、中集、徐工等知名企业。自主创新 and 集成创新的一批科研成果分别荣获全国冶金行业和北京市、河北省科技进步奖，累计获得40多项国家专利。同时，承担了国家科技部“十一五”科技支撑计划“新一代可循环钢铁流程工艺技术项目”许多关键课题攻关任务，取得突出成绩。

按照中央、国务院加快发展方式转变的要求，首钢迁钢公司将发展低碳经济，作为“十二五”期间转变发展观念、创新发展模式、破解发展难题、提高发展质量的重要途径，通过产品结构以及能源结构的调整、生产工艺技术的创新、环境理念的变革和优化、环保设施和制度建设的完善等措施，大力发展循环经济和低碳经济，努力建设资源节约型、环境友好型、低碳导向型企业，实现又好又快跨越式发展。

工艺流程 Production Process

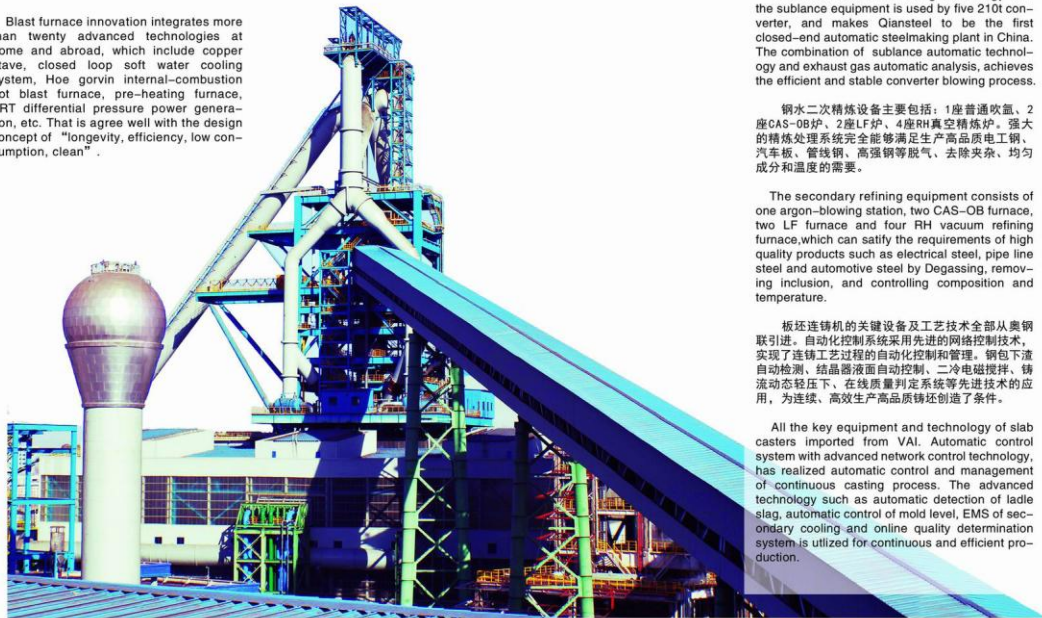
HEBEI SHOUJANG QIAN AN IRON & STEEL CO., LTD



炼铁工序/ Ironmaking Process

高炉创新集成了20余项国内外先进技术，采用铜冷却壁、软水密闭循环冷却系统、霍戈文内燃式热风炉、预热炉、紧凑型长距离自动化喷吹、TRT压差发电和全干法布袋除尘等先进技术，完全符合“长寿、高效、低耗、清洁”的设计理念。

Blast furnace innovation integrates more than twenty advanced technologies at home and abroad, which include copper stave, closed loop soft water cooling system, Hoe gorvin internal-combustion hot blast furnace, pre-heating furnace, TRT differential pressure power generation, etc. That is agree well with the design concept of "longevity, efficiency, low consumption, clean".



炼钢工序/ Steelmaking Process

5座210t转炉均采用具有完全自主知识产权的转炉副枪自动化炼钢技术，是国内第一家实现封闭式全过程自动化炼钢的企业；副枪自动化技术与烟气自动分析技术的结合应用，实现了转炉冶炼过程的高效、稳定。

The automatic steelmaking technology with the sub lance equipment is used by five 210t converter, and makes Qiansteel to be the first closed-end automatic steelmaking plant in China. The combination of sub lance automatic technology and exhaust gas automatic analysis, achieves the efficient and stable converter blowing process.

钢水二次精炼设备主要包括：1座普通吹氩、2座CAS-OB炉、2座LF炉、4座RH真空精炼炉。强大的精炼处理系统完全能够满足生产高品质电工钢、汽车板、管线钢、高强钢等脱气、去除夹杂、均匀成分和温度的需要。

The secondary refining equipment consists of one argon-blowing station, two CAS-OB furnace, two LF furnace and four RH vacuum refining furnace, which can satisfy the requirements of high quality products such as electrical steel, pipe line steel and automotive steel by Degassing, removing inclusion, and controlling composition and temperature.

板坯连铸机的关键设备及工艺技术全部从奥钢联引进。自动化控制系统采用先进的网络技术，实现了连续工艺过程的自动化控制和管理。钢包下渣自动检测、结晶器液面自动控制、二冷电磁搅拌、铸流动态轻压下、在线质量判定系统等先进技术的应用，为连续、高效生产高品质铸坯创造了条件。

All the key equipment and technology of slab casters imported from VAI. Automatic control system with advanced network control technology, has realized automatic control and management of continuous casting process. The advanced technology such as automatic detection of ladle slag, automatic control of mold level, EMS of secondary cooling and online quality determination system is utilized for continuous and efficient production.



左图：高炉
上一：转炉
上二：LF炉
上三：连铸
上四：板坯

热轧工序 / Hot-rolling Process

热轧生产线采用蓄热式加热炉、定压压力机、高压水除鳞装置、板卷箱、电磁感应炉以及边部加热器、全液压辊缝调节系统等先进技术，满足了多品种、高质量带钢生产的要求；引进的轧机微张力控制技术、在线温度闭环自动控制系统，以及测宽仪、测厚仪、凸度仪、平直度仪等在在线监测设施，结合德国parsytec公司先进的表面质量检测系统，实现了生产过程中的实时监控，保证了产品具有较高的尺寸精度、良好的板形和表面质量。

The advanced technology of hot-rolling production line including regenerative type heating furnace, sizing press, descaling device with high pressure water, coil box, magnetic induction heating furnace and edge heater, meets production requirements of high quality strip. The introduction of online temperature closed-loop control system, and the application of monitoring facilities such as width gauge, combined with Germany Parsytec's inspection system of surface quality, achieve a real-time monitoring, and ensure the product has a high dimensional accuracy, good shape and surface quality.



平整工序 / Skin-Pass Procedure

平整分卷机组采用了工作辊正、负弯辊、窜辊、液压辊缝调节、上支撑辊平衡、延伸率测量等装置，改善了板卷的平直度和消除局部的厚度超差，从而使板卷具有良好的板形和较高的表面粗糙度；同时采用适当的压下量消除了屈服平台，改善板卷的深冲性能。

Positive and negative bending force of work roll, work roll shifting, hydraulic roll gap adjusting device, top back-up roll balance, elongation measurement, etc. used in the temper rolling mill, improve coil flatness and eliminate partial thickness deviation. As a result, the coil has a good shape and high surface roughness. At the same time, the use of appropriate amount of reduction, eliminates the yield platform and improves the deep drawing performance of coil.



开平工序 / Uncoiling, leveling and shearing procedure

开平生产线采用高刚度全液压矫直机组、高精度圆锯切、飞剪、全自动喷印冲切机等设备，主要设备和工艺技术全部从西马克引进，产品品种和规格覆盖范围广，尺寸精度远高于国标水平，板型质量优良，配合罩式炉退火线，能够极大地消除开平板的残余应力。

The cross-cut shearing line exported in Qianqiang Corporation consisted of all hydraulic Leveller, Side trimmer, Flying shear, Paint / Punch marking station, whose main equipment and technology are imported from SMS Siemag Corporation, and it can produce various steel plates with many sizes whose size precision is more nice than the country specification that cause the good plate shape. With the top hat annealing furnaces, the residual stress of uncoiled and leveled plates can be reduced and removed.

在建的12座罩式退火炉及酸洗线，可满足客户的特殊需求。

Twelve bell-style annealing furnace and pickling line under construction can meet the special requirement of clients.



- 1、平整机
- 2、开平机组
- 3、热轧线
- 4、百事泰



主要检测设备及能力/ Main Equipment

现有检测设备600余台套,其中引进设备61台套,获得了CNAS国家实验室认可资质证书,先进的检验设备、完善的质量管理体系,为生产合格优质的产品提供了保障。

There are more than 600 sets of testing equipment, including 61 sets of imported equipment, access to the CNAS National Laboratory Accreditation Certificate. Those advanced testing equipment and perfect quality management system provide a guarantee for the production of qualified products.



研发能力/ R&D Capacity

研发团队现有博士79人、硕士177人;高级职称116人、中级职称108人、高级技师5人、技师8人;设置试验室79个,试验设备371台套。高素质的研发力量、先进的试验手段,为产品研发创造了有利的条件。

The R&D team is of 79 Ph.D, 177 master besides 116 senior grade, 108 intermediate grade, 5 senior technicians and 8 technicians. There are also 79 laboratory and 371 sets of testing equipment as the guarantee of high quality product.

上图: 全能自动化分析中心
左图: 研发团队

质量体系认证 Quality Management System Certification

2005年首次通过ISO9000:2000质量体系认证
2010年通过ISO9000:2008质量体系认证。

Qiansteel passed ISO9000:2000 in 2005 and
ISO9000:2008 quality system audit in 2010.



产品认证/ Product Certification

- ◆2007年7月，出口欧洲的结构钢（S235-S355系列）通过了英国劳氏质量认证公司的CE产品认证；
 - ◆2007年7月，船板（A-DH36）通过了九国船级社（中国、美国、德国、挪威、韩国、法国、日本、英国、意大利）船板认证；2008年6月，通过了法国船级社船板免检认证；
 - ◆2008年12月，锅炉和压力容器用钢（Q245R、Q345R）通过国家质量监督检验检疫总局认证；
 - ◆2009年6月，焊接气瓶用钢（HP245、HP265、HP295、HP325、HP345、HP365）通过国家质量监督检验检疫总局认证；
 - ◆2010年3月，管线用钢（B-X80）通过了国家质量监督检验检疫总局认证；
 - ◆2010年4月，铁路用耐候钢（09CuPCrNi-A、Q450NQR1）通过了铁道部中铁铁路产品认证中心认证。
- ◆In July 2007, the structural steel (S235-S355) for Europe export passed CE product certification of LR.
 - ◆In July 2007, ship-bulding steel sheet (A-DH36) passed the certification of the ship classification societies of 9 countries. In June 2008, it passed the exemption certification of the French ship classification society.
 - ◆In December 2008, steel sheets for pressure vessels (Q245R, Q345R) passed the certification of GAQSIQ.
 - ◆In June 2009, steel sheets for welded gas cylinders (HP245, HP265, HP295, HP325, HP345, HP365) passed the certification of GAQSIQ.
 - ◆In March 2010, the pipeline steel (B-X80) passed the certification of GAQSIQ.
 - ◆In April 2010, the weathering resistant steel used for railway (09CuPCrNi-A, Q450NQR1) passed the certification of China Railways Product Certification Center.

产品荣誉/ Product Honor

2009年4月，管线钢（X80）荣获河北省“科学技术成果二等奖”；

2009年8月，“首钢西气东输二线用厚规格X80热轧卷板的研制、开发”项目荣获中国钢铁协会、中国金属学会“冶金科学技术二等奖”；

2010年3月，集装箱用钢（SPA-H）、结构用钢（SS400）荣获中国钢铁工业协会冶金产品实物质量“金杯奖”称号；

2010年3月，高等级管线钢（X70、X80）荣获首钢总公司“首钢十大名优产品”称号；

2010年4月，荣获中国石油技术开发公司中亚天然气管道项目“优秀钢板供应商”称号；

2010年12月，低碳铝镇静钢（SPHC）、汽车大梁钢（510L）、管线用钢（B~X80）荣获中国钢铁工业协会冶金产品实物质量“金杯奖”称号。

In April 2009, the pipeline steel (X80) won the “Science and Technology Achievement Award” of Hebei province.

In August 2009, the pipeline steel (X80) for the West-East gas transmission II won the “China Metallurgical Science and Technology Award” by China Iron and Steel Association (CISA) and The Chinese Society for Metals (CSM).

In March 2010, SPA-H of container steel and SS400 of structural steel had been awarded “Gold Cup” of metallurgical products by CISA.

At the same time, pipeline X70 and X80 won the title of “Top 10 Good Products” of Shougang.

In April 2010, pipeline steel for the Central Asian gas transmission pipeline won the “excellent steel supplier” by China Petroleum Technology & Development Corporation (CPTDC).

In December 2010, SPHC of low carbon Al-killed steel, 510L of automobile beam steel and B-X80 of pipeline steel had been awarded “Gold Cup” of metallurgical products by CISA.



产品包装 / Packing





根据钢板的特点和运输方式主要分为3种包装方式。

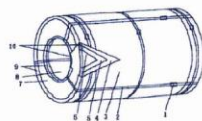
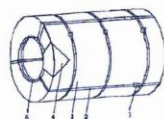
The packing of steel plates consists of three manners according to the characteristic of steel plates and the modes of transportation.

(1) 普通热轧钢卷 / Ordinary hot-rolled steel coil

根据钢卷的特点和运输方式分为5种包装方式。

There are five kinds of packing methods.

适用产品 Products		捆带图示 Schemes
A类	内部供冷轧 Hot-rolled coils for Cold-rolling plants of Shougang	
B类	国内商品卷 Hot-rolled coils for domestic market	
C类	出口商品卷 Hot-rolled coils for export	
D类	热轧高强度厚钢带 High-strength hot-rolled thick steel strip	
E类	酸洗钢带 Pickling steel strip	筒包装 Simple packing 见图1 Fig.1
		精包装 Precision packing 见图2 Fig.2
其他 others		



1-锁扣, 2-捆带, 3-防锈纸或防锈薄膜, 4-钢带, 5-内周金属护角

1- Lock catch, 2-Binding strip, 3-Antirust paper or film, 4-Steel coil, 5-Iron corner guard (Inner)

1-锁扣, 2-捆带, 3-外用护角, 4-外用缓冲材料, 5-塑料薄膜, 6-钢带, 7-端部圆护角, 8-内周护板, 9-内、外周金属护角圈, 10-内、外缓冲护角圈内周金属护角

1- Lock catch, 2-Binding strip, 3-Paper corner guard (Outer), 4-Cushioning material (Outer), 5-Plastic film, 6-Steel coil, 7-Round corner guard at end, 8-Shield (inner), 9-Metal corner guard rings at inside and outside circle, 10-Metal corner guard

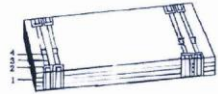


产品包装与标签 Packing and Tag

普通热轧钢板/Ordinary hot-rolled steel plate

1-钢板, 2-护角, 3-捆带, 4-锁扣

1- Steel plate, 2- Protect horn, 3- Bundle of belt, 4- Lock catch



- 热轧钢板包装时, 按包裸露捆扎, 单张成包的不用捆扎。
- 横向捆扎不少于四道, 边部可加护角。
- 两端捆带位置固定在距钢板端部200-500mm处。

- When packed, the hot-rolled steel plates should be strapped by package with no slipcover. If there is only one plate in a package, the package should not be strapped.
- There are at least four horizontal strapping, and the corner protector may be added on the edge of package.
- Both ends of the bundles are fixed at 200-500mm away from the end of the plate.

热轧酸洗钢板/Pickling hot-rolled steel plate

捆带视垫木或托架数量而定, 底垫板可以不加, 包装方法如图。

The number of bundles are conditioned by the number of skids or brackets. The bottom tie plate may not be necessary, and the packing manner is shown in the schematic drawing.

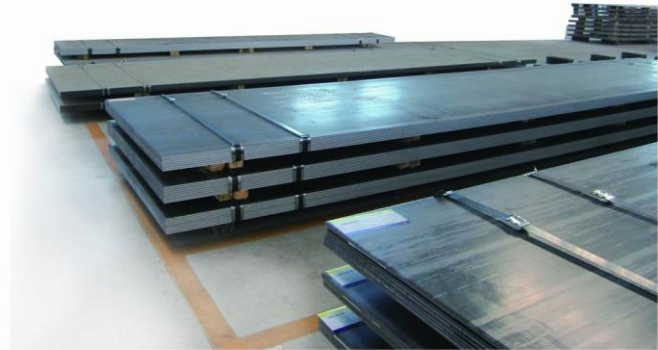


1-锁扣, 2-捆带, 3-包装盒, 4-塑料薄膜, 5-防锈纸, 6-托架, 7-底垫板, 8-钢板

1- lock catch, 2- bundle of belt, 3- box, 4- plastic film, 5- antirust paper, 6- bracket, 7- bottom plate, 8- steel plate

标签/Product Tag

品牌 BRAND		品名 PRODUCT		生产日期 DATE	
首钢 SHOU GANG		SHOU GANG GROUP			
牌号 STEEL GRADE		钢卷捆包号 COIL/PACK NO.			
标准 SPECIFICATION		重量 (T) WEIGHT		认证号 LICENSE NO.	
规格 (mm) SIZE	张数 SHEETS	客户名称 PURCHASER			
合同号 CONTRACT NO.		到站港 DESTINATION			
其它 OTHER					
制 造 厂 : 河北省首钢迁安钢铁有限责任公司 MANUFACTURER: HEBEI SHOU GANG QIAN'AN IRON & STEEL CO., LTD. 地 址 : 中国河北省迁安市杨店子镇 ADDRESS : YANG DIAN ZI TOWN, QIAN'AN, HEBEI, P.R.C.					





1、厚度偏差/Thickness Tolerance

公称厚度 Nominal Thickness, mm	厚度允许偏差 Thickness Tolerance							
	普通精度 PT.A Normal Precision PT.A				较高精度 PT.B Senior Precision PT.B			
	公称宽度 Nominal Width, mm				公称宽度 Nominal Width, mm			
	600~1200	>1200~1500	>1500~1800	>1800	600~1200	>1200~1500	>1500~1800	>1800
>4.0~5.0	±0.24	±0.26	±0.28	±0.29	±0.19	±0.21	±0.22	±0.23
>5.0~6.0	±0.26	±0.28	±0.29	±0.31	±0.21	±0.22	±0.23	±0.25
>6.0~8.0	±0.29	±0.30	±0.31	±0.35	±0.23	±0.24	±0.25	±0.28
>8.0~10.0	±0.32	±0.33	±0.34	±0.40	±0.26	±0.26	±0.27	±0.32
>10.0~12.5	±0.35	±0.36	±0.37	±0.43	±0.28	±0.29	±0.30	±0.36
>12.5~15.0	±0.37	±0.38	±0.40	±0.46	±0.30	±0.31	±0.33	±0.39
>15.0~19.0	±0.40	±0.42	±0.45	±0.50	±0.32	±0.34	±0.37	±0.42

*规定最小屈服强度 $R_s \geq 345N/mm^2$ 的钢带，厚度允许偏差应增加 10%。

2、宽度偏差/Width tolerance

	公称宽度 Nominal width, mm	宽度偏差 Thickness tolerance, mm
不切边钢板 Untrimmed plates	≤1500	+20 0
	>1500	+25 0
切边钢板 Trimmed plates	≤1200	+3 0
	>1200~1500	+5 0
	>1500	+6 0

尺寸公差 Tolerance of Size

3、长度偏差 /Length Tolerance

公称长度 Nominal length, mm	长度允许偏差 Length tolerance, mm
2000~8000	5%*公称长度
>8000	+40 0

4、不平度 /Flatness

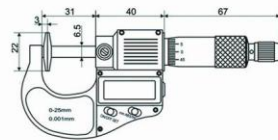
公称宽度 Nominal width, mm	不平度 Flatness ≤mm		
	屈服强度 Yield strength		
	<220Mpa	220-320Mpa	>320Mpa
≤1200	18	22	27
>1200~1500	23	29	34
>1500	28	35	42

如用户对钢带的不平度有要求，在用户开卷设备能保证质量的前提下，供需双方可以协商规定，并在合同中注明。

Note: The requirement of flatness comes to negotiation between purchasers and suppliers and agreements have to be added in the contract.

5、镰刀弯/ Camber

公称宽度 Nominal width, mm	宽度偏差 Thickness tolerance, mm	
不切边钢板 Untrimmed plates	≤1500	+20 0
	>1500	+25 0
切边钢板 Trimmed plates	≤1200	+3 0
	>1200~1500	+5 0
	>1500	+6 0



6、开平板规格范围/ Available Sizes

公称长度 Nominal length, mm	长度允许偏差 Length tolerance, mm
2000~8000	5%*公称长度
>8000	+40 0

公称宽度 Nominal width, mm	不平度 Flatness ≤mm		
	屈服强度 Yield strength		
	<220Mpa	220-320Mpa	>320Mpa
≤1200	18	22	27
>1200~1500	23	29	34
>1500	28	35	42

产品大纲 Type of Products

目前已开发生产的涵盖电工钢、管线钢、汽车用钢、集装箱用钢等18大类板材产品，广泛应用于“西气东输二线”等国家重点工程和国内汽车、家电、集装箱板等行业，产品出口到东南亚、欧洲、非洲等国家和地区。

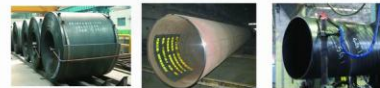
The developed main products such as electrical steel, pipe line steel, automotive steel and container steel used for the Chinese West-East natural gas transmission project II, automobiles, digital home appliances, containers, etc., are exporting to Southeast Asia, Europe, Africa and other countries and regions.



管线钢 Pipeline steel

首钢迁钢公司管线钢共涉及26个牌号，3大系列，包括普通输送用管线钢、抗HIC管线钢和石油套管。输送用管线钢主要用于石油、天然气和水等流体的输送管道；抗HIC管线钢用于含腐蚀介质（硫化氢）的石油及天然气的输送管道；石油套管用于石油井钻探。

There are 26 steel grades in 3 product categories about pipeline steel, including line pipe, HIC resistant pipeline steel and oil casing pipe.



管线钢 pipeline steel

类别 Classes	牌号 Grades	用途 Applications
管线钢 Pipeline steel	B (L245N, S245) X42 (L290 M, S290) X46 (L320 M, S320) X52 (L360 M, S360) X56 (L390 M, S390) X60 (L415 M, S415) X65 (L450 M, S450) X70 (L485 M, S485) X80 (L555 M, S555)	用于石油天然气输送管以及具有类似要求的其它流体输送管。 Applied to produce conveying tube of petroleum and natural gas and other fluid conveying tube with similar requirements.
	抗HIC管线钢 HIC resistant pipeline steel BMS-X65MS	主要用于含有腐蚀性气体（硫化氢）原油及天然气的输送钢管。 Used for the manufacture of steel pipe to transport oil and gas with corrosive gas such as H ₂ S.
	石油套管 Oil Casing Pipe J55, J55N, H40 N80, P110 SH80A, SH80B T626, T627, T630	主要用于石油井钻探。 Used for petroleum well drilling.

牌号 Grades	化学成分 Chemical composition, %						拉伸试验 Tensile test			0°C冲击试验 0°C Impact test		180° 弯 曲试验 180° Bending test	
	C' ≤	Si ≤	Mn' ≤	P ≤	S ≤	其他 other s	屈服强度 Yield strength, ≥ MPa	抗拉强度 Tensile strength, MPa	断后伸 长率 Elongat ion, %	冲击功 Impact Energy, J	纤维断面率 Fiber cross section rate %	弯芯直径 Pin diameter	
B	0.22	0.35	1.20	0.025	0.015	b, d	245-455	415-755	21	42	-	2a	
X42	0.20	0.35	1.30	0.025	0.015	c, d	290-495	415-755	21				
X46	0.20	0.35	1.40	0.025	0.015	c, d	320-525	435-755	20				
X52	0.20	0.35	1.40	0.025	0.015	c, d	360-530	460-755	19				
X56	0.20	0.40	1.40	0.025	0.015	c, d	390-545	490-755	18				
X60	0.20	0.40	1.40	0.025	0.015	c, d	415-565	520-755	17				
X65	0.20	0.40	1.45	0.025	0.015	c, d	450-600	535-755	17				47
X70	0.20	0.40	1.65	0.025	0.015	c, d	485-620	570-755	16				63
X80	0.20	0.40	1.85	0.025	0.015	c, d	555-690	625-755	15				96

高强钢

High-strength steel

高强钢共涉及27个牌号3大系列，包括车轮用钢、汽车大梁用钢（国标、德标、欧标）、工程机械用钢。车轮用钢、汽车大梁钢主要用于汽车车轮、大梁、车厢板等。工程机械用钢主要用于工程机械行业和煤矿机械行业，用于制造车架、吊臂等。

There are 27 steel grades in 3 product categories of high-strength steel, including wheel steel, beam steel and high strength steel for engineering machinery.



高强度 High-strength steel

HEBEI SHOUQIANG QIAN' AN IRON & STEEL CO., LTD

类别 Classes	牌号 Grades	用途 Applications
高强度 high-strength steel	工程机械用钢 High strength steel for engineering machinery	Q550D/E S0460MCC/D/E, S0500MCC/D/E, S0550MCC/D/E, S0600MCC/D/E, S0650MCC/D/E, S0700MCC/D/E 制作专用车大梁、车厢板、支架、吊臂等，具有 高强度、良好的韧性和成形性。 Used for truck frame, carriage, support frame, boom etc of special purpose vehicle due to high strength good toughness and formability.
	汽车大梁钢 Automotive Frame Steel	QStE340TM, QStE460TM, QStE500TM S315MC, S355MC, S420MC, S460MC S500MC 应用于载重汽车、轻卡、SUV 等汽车的主梁、横梁、 加强件等。 Used for t cargo carrying vehicle, light truck, SUV, etc to produce their main girder, crossbeam, reinforcements, etc.
	车轮用钢 Wheel Steel	330CL, 380CL, 440CL, 490CL S400CL, S420CL 广泛应用于载重卡车、客车的轮辐和轮辋。 Used for disk and rim of trucks and cars.

牌号 Grades	化学成分 Chemical composition, %									
	C	Si	Mn	P	S	Al ₁	Ti	V	Nb	Mo
S0520C/D/E	≤0.12	≤0.40	≤1.90	≤0.02	≤0.01	≥0.02	≤0.15	≤0.20	≤0.09	≤0.30
S0600C/D/E	≤0.12	≤0.40	≤1.90	≤0.02	≤0.01	≥0.02	≤0.15	≤0.20	≤0.09	≤0.30
S0700C/D/E	≤0.12	≤0.40	≤1.90	≤0.02	≤0.01	≥0.02	≤0.15	≤0.20	≤0.09	≤0.30
S0800C/D/E	≤0.12	≤0.50	≤2.10	≤0.02	≤0.01	≥0.02	≤0.20	≤0.20	≤0.09	≤0.50
S0850C/D/E	≤0.12	≤0.50	≤2.10	≤0.02	≤0.01	≥0.02	≤0.20	≤0.20	≤0.09	≤0.50
S0880C/D/E	≤0.12	≤0.50	≤2.10	≤0.02	≤0.01	≥0.02	≤0.20	≤0.20	≤0.09	≤0.50
S0460MCC/D/E	≤0.10	≤0.30	≤1.50	≤0.025	≤0.010	≥0.015	≤0.15	≤0.20	≤0.09	
S0500MCC/D/E	≤0.10	≤0.30	≤1.60	≤0.025	≤0.010	≥0.015	≤0.15	≤0.20	≤0.09	
S0550MCC/D/E	≤0.12	≤0.30	≤1.80	≤0.025	≤0.010	≥0.015	≤0.15	≤0.20	≤0.09	
S0600MCC/D/E	≤0.12	≤0.30	≤1.90	≤0.025	≤0.010	≥0.015	≤0.15	≤0.20	≤0.09	
S0650MCC/D/E	≤0.12	≤0.30	≤2.00	≤0.025	≤0.010	≥0.015	≤0.15	≤0.20	≤0.09	
S0700MCC/D/E	≤0.12	≤0.30	≤2.10	≤0.025	≤0.010	≥0.015	≤0.15	≤0.20	≤0.09	

HEBEI SHOUQIANG QIAN' AN IRON & STEEL CO., LTD

牌号 Grades	质量等级 Quality Grade	上屈服强度 Upper yield strength MPa	抗拉强度 Tensile strength MPa	断后伸长率 Elongation %	弯曲试验, 180°, B=35mm Bending test, 180°, B=35mm		冲击功 Impact Energy AkV, J	
					a≤6mm	a>6mm		
S0460MCC	C	≥460	590-750	≥18	d=1.5a	d=2a	0°C	≥40
	D				d=1.5a	d=2a	-20°C	≥40
	E				d=1.5a	d=2a	-40°C	≥27
S0500MCC	C	≥500	610-770	≥17	d=1.5a	d=2a	0°C	≥40
	D				d=1.5a	d=2a	-20°C	≥40
	E				d=1.5a	d=2a	-40°C	≥27
S0550MCC	C	≥550	670-830	≥16	d=1.5a	d=2a	0°C	≥40
	D				d=1.5a	d=2a	-20°C	≥40
	E				d=1.5a	d=2a	-40°C	≥27
S0400MCC	C	≥600	690-850	≥17	d=1.5a	d=2a	0°C	≥40
	D				d=1.5a	d=2a	-20°C	≥40
	E				d=1.5a	d=2a	-40°C	≥27
S0650MCC	C	≥650	700-880	≥15	d=1.5a	d=2a	0°C	≥40
	D				d=1.5a	d=2a	-20°C	≥40
	E				d=1.5a	d=2a	-40°C	≥27
S0700MCC	C	≥700	750-930	≥14	d=1.5a	d=2a	0°C	≥40
	D				d=1.5a	d=2a	-20°C	≥40
	E				d=1.5a	d=2a	-40°C	≥27
S0520	C	≥420	≥520	≥18			0°C	≥40
	D				d=2a	-20°C	≥40	
	E				d=2a	-40°C	≥27	
S0600	C	≥500	≥600	≥18			0°C	≥40
	D				d=2a	-20°C	≥40	
	E				d=2a	-40°C	≥27	
S0700	C	≥620	≥700	≥16			0°C	≥40
	D				d=2a	-20°C	≥40	
	E				d=2a	-40°C	≥27	
S0800	C	≥720	≥800	≥14			0°C	≥40
	D				d=2a	-20°C	≥40	
	E				d=2a	-40°C	≥27	
S0850	C	≥750	≥850	≥12			0°C	≥40
	D				d=3a	-20°C	≥40	
	E				d=3a	-40°C	≥27	
S0880	C	≥780	≥880	≥12			0°C	≥40
	D				d=3a	-20°C	≥40	
	E				d=3a	-40°C	≥27	

高强度 High-strength steel



车轮钢图片

牌号 Grades	拉伸试验 Tensile test			180° 冷弯弯心直径 d 180° Bending Test Diameter d
	下屈服强度 Lower yield strength MPa	抗拉强度 Tensile strength MPa	断后伸长率 Elongation % ≥	弯曲试样宽度 b=35mm Width of bending sample b=35mm
3300L	≥225	330-430	33	0.5a
3800L	≥235	380-480	28	a
54000L	≥235	400-520	26	a
4200L	≥290	420-520	26	a
4400L	≥290	440-550	26	a
4900L	≥325	490-600	24	2a
55000L	≥400	500-600	25	2a
5400L	≥355	540-660	22	2a
55500L	≥450	550-650	24	2a
5900L	≥420	590-710	20	2a

牌号 Grades	化学成分 Chemical composition, %									
	C	Si	Mn	P	S	Al ₁	Ti	V	Nb	Mo
3300L	≤0.10	≤0.05	≤0.50	≤0.025	≤0.015	≥0.015				
3800L	≤0.12	≤0.15	≤1.20	≤0.025	≤0.015	≥0.015				
S4000L	≤0.16	≤0.15	0.8-1.40	≤0.025	≤0.015	≥0.020				
S4200L	≤0.16	≤0.30	≤1.40	≤0.025	≤0.015	≥0.015				
4400L	≤0.16	≤0.35	≤1.50	≤0.030	≤0.025					
4900L	≤0.16	≤0.55	≤1.70	≤0.030	≤0.025					
S5000L	≤0.16	≤0.50	≤1.60	≤0.025	≤0.020	0.01~0.06				
5400L	≤0.16	≤0.55	≤1.70	≤0.030	≤0.025	—	—	—		
S5500L	≤0.16	≤0.50	≤1.60	≤0.025	≤0.020	0.01~0.06				
5900L	≤0.16	≤0.55	≤1.70	≤0.030	≤0.025					

高强度 High-strength steel

HEBEI SHOUQIANG QIAN' AN IRON & STEEL CO.,LTD



汽车大梁钢 / Beam steel

牌号 Grades	化学成分 Chemical composition, %									
	C	Si	Mn	P	S	Al _r	Ti	V	Nb	Mo
420L	≤0.12	≤0.50	≤1.20	≤0.30	≤0.30					
510L	≤0.20	≤1.00	≤1.60	≤0.30	≤0.30					
S610L	≤0.12	≤0.50	≤1.7	≤0.30	≤0.25	≤0.06	≤0.22	0.10	∕	∕
S700L	≤0.20	≤0.50	≤2.00	≤0.02	≤0.01	∕	∕	0.20	∕	∕
S750L	≤0.20	≤0.60	≤2.00	≤0.02	≤0.01	∕	∕	0.20	∕	∕
S315MC	≤0.12	≤0.50	≤1.30	≤0.025	≤0.020	∕	≤0.15		∕	∕
S355MC	≤0.12	≤0.50	≤1.50	≤0.025	≤0.020	∕	≤0.15		∕	∕
S420MC	≤0.12	≤0.50	≤1.60	≤0.025	≤0.015	∕	≤0.15		∕	∕
S460MC	≤0.12	≤0.50	≤1.60	≤0.025	≤0.015	∕	≤0.15		∕	∕
S500MC	≤0.12	≤0.50	≤1.70	≤0.025	≤0.015	∕	≤0.15		∕	∕
QStE340T M	≤0.12	≤0.50	≤1.30	0.025	0.02	∕	≤0.15		∕	∕
QstE380T M	≤0.12	≤0.50	≤1.40	0.025	0.02	∕	≤0.15		∕	∕
QstE420T M	≤0.12	≤0.50	≤1.50	0.025	0.015	∕	≤0.15		∕	∕
QstE460T M	≤0.12	≤0.50	≤1.60	0.025	0.015	∕	≤0.15		∕	∕
QstE500T M	≤0.12	≤0.50	≤1.70	0.025	0.015	∕	≤0.15		∕	∕

HEBEI SHOUQIANG QIAN' AN IRON & STEEL CO.,LTD

高强度 High-strength steel

汽车大梁钢产品性能 (国标与企标):

Mechanical properties of beam steel (Shougang specification)

牌号 Grades	厚度 Thickness mm	下屈服强度 Lower yield strength MPa	抗拉强度 Tensile strength MPa	断后伸长率 Elongation %	宽冷弯 180° b=35mm	
					Width of bending sample 180° b=35mm	
					厚度≤12mm Thickness≤12mm	厚度>12mm Thickness>12mm
420L		≥280	420-520	≥26	a≤12.0, d=0.5a; a>12.0, d=a	
510L		≥355	510-630	≥24	d=a	
S610L		≥500	610-700	≥18	d=a	
S700L	3-10	≥620	≥700	≥17	d=2.0a	
	>10	≥600	≥700	≥15		
S750L	3-10	≥670	750-900	≥15	d=2.0a	
	>10	≥650	800-950	≥15		

汽车大梁钢产品性能 (德标):

Mechanical property of beam steel (Germany specification)

牌号 Grades	上屈服强度 Upper yield strength MPa	抗拉强度 Tensile strength MPa	A80mm, LO=80mm		180° 冷弯弯心直径 d 180° Bending test diameter d 弯心试样宽度 b=35mm Width of bending sample b=35mm
			厚度 Thickness<3mm	厚度 Thickness≥3mm	
QStE340TM	≥340	420-540	≥19	≥25	0.5a
QStE380TM	≥380	450-590	≥18	≥23	
QStE420TM	≥420	480-620	≥16	≥21	
QStE460TM	≥460	520-670	≥14	≥19	
QStE500TM	≥500	550-700	≥12	≥17	1a

汽车大梁钢产品性能 (欧标):

Mechanical property of beam steel (European specification)

牌号 Grades	上屈服强度 Upper yield strength MPa	抗拉强度 Tensile strength MPa	A80mm, LO=80mm		180° 冷弯弯心直径 d 180° Bending Test Diameter d 弯心试样宽度 b=35mm Width of bending sample b=35mm
			厚度 Thickness<3	厚度 Thickness≥3	
S315MC	≥315	390-510	≥20	≥24	0a
S355MC	≥355	430-550	≥19	≥23	0.5a
S420MC	≥420	480-620	≥16	≥19	0.5a
S460MC	≥460	520-670	≥14	≥17	1a
S500MC	≥500	550-700	≥12	≥14	1a

耐候钢

High quality weathering resistant steel

首钢迁钢公司耐候钢共涉及13个牌号, 5大系列, 分别为高耐候集装箱板、搅拌罐、铁路耐候、电力塔架和耐硫酸点蚀钢。耐候钢, 即耐大气腐蚀钢, 具有优质钢的强韧、塑延、成型、焊割、磨蚀、高温、抗疲劳等特性; 耐候性为普碳钢的2~8倍, 涂装性为普碳钢的1.5~10倍。同时, 它具有耐锈, 使构件抗腐蚀延寿、减薄降耗, 省工节能等特点。耐候钢主要用于铁道、车辆、桥梁、塔架等长期暴露在大气中使用的钢结构。如, 集装箱、铁道车辆、石油井架、海港建筑、采油平台及化工石油设备中含硫化氢腐蚀介质的容器等结构件。



耐候钢 High quality weathering resistant steel

HEBEI SHOUQIANG QIAN' AN IRON & STEEL CO.,LTD

类别 Classes	牌号 Grades	用途 Applications	
耐候钢 High quality weathering resistant steel	集装箱用钢 Container steel	SPA-H, S070J, S0550J, S070J, S0550 主要用于制作集装箱, 厚规格制作梁, 薄规格制作面板。 As raw materials of beam and outside plate of container.	
	搅拌罐用钢 Mixing tank steel	S0520J, S0750GJ 主要用于水泥搅拌罐, 水泥泵车, 水泥散装车等水泥专用车辆。 As raw materials of cement mixing tank, cement pump truck and bulk cement truck	
	电力塔架用钢 High-strength low-alloy structural steel	S0345DX, S0420DX, S0460DX	主要用于制作电力塔架, 信号塔等电力和通讯塔架行业。 As raw materials of electric tower, signal tower and telecommunication tower.
		STKT590 A572065/C, A572060, A572050V	
	铁路耐候钢 Weathering steel of railway vehicle	090uPcNi-A	主要用于车辆, 建筑、塔架和其他结构用的高耐候低合金结构钢。 Low alloy structural steel used as raw materials of railway vehicle, building, tower and others.
Q450NGR1			
耐酸钢 Sulfuric acid dew point corrosion-resistant steel	Q295NS, Q315NS, Q345NS	广泛用于钢制烟囱、烟道和集尘器以及各种室外需耐大气腐蚀的钢铁构件。 As raw materials of structural parts of chimney, flue, dust collector and outdoor	

集装箱用钢/Container steel

牌号 Grade	化学成分 Chemical composition, %					厚度 Thickness mm	拉伸试验 Tensile test			180° 弯曲试验 Bending test	冲击试验 Impact test	
	C≤	Mn≤	P≤	S≤	C≤		抗拉强度 Tensile strength MPa	屈服强度 Yield strength MPa	断后伸长率 Elongation %		弯芯直径 Pin diameter	试验温度 Testing temperature °C
SPA-H	≤0.1	≤0.20	≤0.07	≤0.03	≤0.03	≤6	≥490	≥355	≥22	a	-	-
	≤0.2	≤0.75	≤0.15	≤0.05	≤0.05	>6-16	≥490		≥15	2.0a	常温	≥47



上二: 集装箱
上三: 集装箱
上四: 搅拌罐
右图: 桥梁



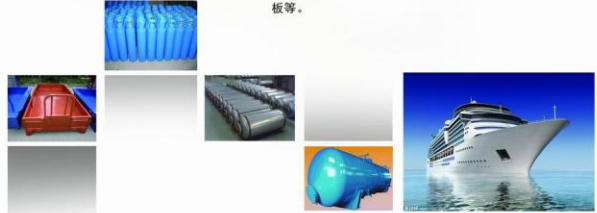
HEBEI SHOUQIANG QIAN' AN IRON & STEEL CO.,LTD

耐候钢 High quality weathering resistant steel

专用板

Hot-rolled steel plates and airrips for special-use

目前, 迁钢公司专用板涉及34个牌号, 5大系列, 包括船板、欧标板、容器板 (包括焊瓶钢)、桥梁钢、花纹板等。



铁道车辆用耐大气腐蚀钢

Procurement of atmospheric Corrosion resisting steel for railwayrollingstock

牌号 Grades	化学成分 Chemical composition, %							
	C	Si	Mn	P	S	Cu	Cr	Ni
090uPc/Ni-A	≤0.12	0.25~0.75	0.20~0.50	0.060~0.120	≤0.015	0.25~0.50	0.30~1.25	0.12~0.65
Q450NQR1	≤0.12	≤0.75	≤1.50	≤0.025	≤0.008	0.20~0.55	0.30~1.25	0.12~0.65

牌号 Grades	产品厚度 Thickness mm	拉伸试验 Tensile test			冲击试验 Impact test		弯曲试验 Bending test	晶粒 度 Grain	夹杂物		
		屈服 Yield strength MPa ≥	抗拉强度 Tensile strength MPa ≥	断后伸长率 Elongation % ≥	试验温度 Testing temperature, °C	冲击功 Impact energy J ≥			芯径直径 Pin diameter	A	B
090uPc/Ni-A	≤6	345	480	24		21	a	≥7	≤2.5	≤2	
	>6										
Q450NQR1	≤6	450	550	22	60	2a	a				
	>6~14			20							2a
	>14~18			19							3a

类别 Classes	牌号 Grades	用途 Applications
船板 Ship-building steel	船板 A, B, D, A32, D32, A36, D36	用于制造船舶船体结构用的一般强度和高强度钢。 Normal and high strength structural steel for making ships sailing in ocean, sea and river.
桥梁钢 Bridge-building steel	Q345qC/D/E Q420qC/D/E Q460qC/D/E Q500qC/D/E	主要用于各类桥梁的制造。 Used for manufacturing all kinds of bridges.
容器板 Pressure vessel steel	Q245R, Q345R A516Gr55, A516Gr60, A516Gr65, A516Gr70	主要用于中常温压力容器受压元件的钢板。 Used for manufacturing middle & normal temperature pressure vessels. 适用于高缺口韧性的焊接压力容器。
焊瓶钢 Welding Gas Cylinder Steel	HP235, HP265, HP295, HP325, HP345	主要用于制造液化石油天然气气瓶。 Used for manufacturing gas cylinders to carry LNG.
花纹板 Checkered steel	Q235BHW, SS400HW	主要用于基础建设、以及车辆等设备上。 As raw materials to manufacture facilities of base construction and vehicles.

专用板 Hot-rolled steel plates and airrips for special-use

HEBEI SHOUANG QIAN AN IRON & STEEL CO.,LTD

牌号 Grades	化学成分 Chemical composition, %					
	C≤	Si	Mn	P≤	S≤	Alt
A	0.21	≤0.35	0.80-1.20	0.035	0.035	≥ 0.02
B	0.21	≤0.35	0.80-1.20	0.035	0.035	≥ 0.02
D	0.21	0.10-0.50	0.60-1.20	0.035	0.035	≥ 0.02
A32	0.18	0.10-0.50	0.90-1.60	0.035	0.035	0.020-0.085
D32	0.18	0.10-0.50	0.90-1.60	0.035	0.035	0.020-0.085
A36	0.18	0.10-0.50	0.90-1.60	0.035	0.035	0.020-0.085
D36	0.18	0.10-0.50	0.90-1.60	0.035	0.035	0.020-0.085



上图：桥梁钢

牌号 Grades	拉伸试验 Tensile test				冲击试验 Impact test					
	屈服强度, Yield strength, MPa≥	抗拉强度 Tensile strength, MPa		断后伸长率 Elongation, %		试验温度 Test temperature, °C		冲击功 Impact energy t J		
		CGS, DNV, BV, GL, RINA	ABS, LR, KR, NK	A ≥	A200mm		纵 Lon	横 Tra	≥	
					厚度 Thickness, mm					
A	235	400-520	22	<5 ~ 10	16	20	27	20		
<10 ~ 15				17	0					
<15 ~ 20				18	-20					
A32	315	440-570	22	<5 ~ 10	16	0	31	22		
<10 ~ 15				17	-20					
<15 ~ 20				18	-20					
D32	315	440-570	22	<5 ~ 10	16	0	31	22		
<10 ~ 15				17	-20					
<15 ~ 20				18	-20					
A36	355	490-630	21	<5 ~ 10	15	0	34	24		
<10 ~ 15				16	-20					
<15 ~ 20				17	-20					

桥梁钢/ Bridge steel

牌号 Grades	用途介绍 Application introduction
Q235qC, Q235qD, Q235qE Q345qC, Q345qD, Q345qE Q370qC, Q370qD, Q370qE Q420qC, Q420qD, Q420qE Q460qC, Q460qD, Q460qE Q500qC, Q500qD, Q500qE	主要用于各类桥梁的制造。 Used for bridge.

桥梁钢化学成分

牌号 Grades	化学成分 Chemical composition, %					拉伸试验 Tensile test			冲击试验 Impact test		180° 弯曲试验 180° bending test	
	C	Si≤	Mn≤	P	S	屈服强度 Yield strength, MPa≥	抗拉强度 Tensile strength, MPa	断后伸长率 Elongation, %	试验温度 Test temperature, °C	冲击功 Impact energy J	180° 弯曲试验 Pin diameter	
											产品厚度 Thickness, mm	
						≤16	>16	≤16	≤16	≥	≤16	>16
Q345qC	0.20			0.035	0.025	345	335	490	20	47	2a	3a
Q345qD	0.18	0.55	0.90-1.70	0.025	0.020							
Q345qE				0.020	0.010							
Q370qC	0.18	0.55	1.00-1.70	0.035	0.025	370	360	510	20	47		
Q370qD				0.025	0.020							
Q370qE				0.020	0.010							
Q420qC	0.18	0.55	1.00-1.70	0.035	0.025	420	410	540	19	47		
Q420qD				0.025	0.020							
Q420qE				0.020	0.010							
Q460qC	0.18	0.55	1.00-1.80	0.035	0.025	460	450	570	17	47		
Q460qD				0.025	0.020							
Q460qE				0.020	0.010							

HEBEI SHOUANG QIAN AN IRON & STEEL CO.,LTD

● 酸洗板/Pressure vessels steel

牌号 Grades	厚度 Thickness,mm	化学成分 Chemical composition, %						拉伸试验 Tensile test			冲击试验 Impact test		弯曲试验 bending test	
		C	Si	Mn	P	S	Alt	屈服强度 Yield strength, MPa	抗拉强度 Tensile strength, MPa	断后伸长率 Elongation, %	试验温度 Test temperature, °C	冲击功 Impact energy, J	试验温度 Test temperature, °C	芯径 Pin diameter
Q245R	3~16	0.20	0.35	0.50~1.00	0.025	0.015	0.020	245	400~520	25	0	31	1.5a	2a
	> 16~19						235							
Q345R	3~16	0.20	0.55	1.20~1.60	0.020	0.015	0.015	345	510~640	21	0	34		

冷轧基料

Hot strip for cold rolling

首钢迁钢公司冷轧基料共涉及41个牌号，9大系列。包括低碳铝镇静钢、超低碳IF钢、烘烤硬化钢、高强结构钢、双相钢、高强IF钢、碳素结构钢、酸洗板、马口铁。主要用于家电板、汽车板和专用板。公司生产的冷轧基料除用于汽车结构板及家电板等内供外，还大批量对外销售，包括冷轧基料、酸洗板、马口铁、优质碳素钢。马口铁即镀锡薄钢板主要用于食品罐头的制造业。酸洗板主要应用于汽车行业、压缩机行业、机械制造业、零配件加工行业、风机行业、摩托车行业、钢家具、五金配件、电柜货架及各种形状的简单冲压件上，通过酸洗后不经冷轧而直接使用从而实现了某些冲压件的“以热代冷”。



冷轧基料 Hot strip for cold rolling

HEBEI SHOUQIANG QIAN' AN IRON & STEEL CO., LTD

类别 Classes	牌号 Grades	用途 Applications
冷成型用钢 Steel for cold forming	SPHC, SPHD, SPHE	用于轧制冷成型用热轧轧钢及钢带。 They are suitable for rolling continuous hot-rolled sheets & strips for cold forming.
低碳铝镇静 Low carbon aluminum killed steel	S0001, S0003 SD451D, SDX52D ZSA01, ZSA02 ZSA21, ZSA2B, ZSAUB	适用于简单成型、弯曲或焊接加工的产品。 They are suitable for rolling continuous hot-rolled sheets & strips for cold forming.
	36AC1	主要用于家电结构件。 They are suitable to structural part of household appliances.
超低碳 IF 钢 Ultra-low carbon IF steel	CSA01, CSA02, CSA01	主要用于制造汽车零部件，可制作汽车前车门、油箱、门、窗、车座板、侧围外板、门内外板、后备箱的内/外板等变形复杂的零件。
	SD054, SD005, SD006, SD007 SDX53P, SDX54D, SDX56D SDX57D	主要用于制造汽车零部件，可制作汽车前车门、油箱、门、窗、车座板、侧围外板、门内外板、后备箱的内/外板等变形复杂的零件。
	ZSA03, ZSA04, M3A30 M3A31, M3A33 M3A35, M3A43, M3A50	主要用于汽车结构件，加强件以及部分内外板。 It is mainly used for automotive structural parts, reinforcements and outside plates.
高强 IF 钢 High-strength IF steel	CR220IF	主要用于汽车结构件，加强件以及部分内外板。 It is mainly used for automotive structural parts, reinforcements and outside plates.
	ESAX1	超低碳镀锌铁磷硬化钢，主要用于对表面质量要求较高的汽车外板及高档家电板。 Ultra-low carbon galvanized bake hardening steel to produce high-grade finishing surface steel plates such as automobile outside plate and household electric appliance plate.
高强结构钢 High strength construction steel	M3A20, M3A21, M3A22, M3A23, M3A25, M3A26, M3A27, M3A28	主要用于制造汽车外板。 It is mainly used for outside plate of automobile.
	S280GD, S350GD, SE440	主要用于镀锌基板。 As a raw material of cold-rolled galvanized plate.
	H260LD, H300LD H340LD, H360LD H420LD	主要用于冷轧镀锌结构件、加强件。 Used for cold-rolled galvanized structural parts and reinforcements.
复相钢 Complex phase steel	45AU1	冷轧高强度钢，一般用作结构件用钢。 As a cold-rolling raw material used for structural steel.
	OR180BH, CR300BH	主要用于汽车结构件，加强件以及部分内外板。 They are mainly used for manufacturing automotive structural parts, reinforcements and outside plates.
酸洗板 Pickled Steel Sheet	SPHC-P, SPHD-P SPHE-P	普通酸洗板，主要应用于汽车、压缩机、机械制造、风机、摩托车、铜家具、五金配件、电气货架及各种形状的简单冲压件。 As raw materials of automobiles, compressors, machinery, fans, motorcycles, steel furniture, hardware fitting, cubicle shelving and simple drawing products.
	SAPH310-P、SAPH370-P SAPH400-P、SAPH440-P	适用于要求成型加工性能的汽车构架、车轮等汽车结构件。 Suitable for automotive structural parts such as frame and wheel by forming process.
优质碳素钢 High grade carbon steel	St37-2-P	用于汽车、摩托车结构件。 Suitable for structural parts of automobile and motorcycle.
	SAE1005, SAE1006, SAE1008, SAE1010, SAE1012, SAE1013, SAE1015, SAE1016, SAE1017, SAE1018, SAE1019	适用于工业与民用建筑和一般深冲用。 As raw materials of general deep drawing for industrial and civilian architecture.
马口铁 Tinplate	MR-11, MR-12, MR-13, MR-14 MR-125	用于食品及饮料的包装材料，以及油桶、化学品罐以及其它的杂项。 They are suitable to manufacturing steel packaging materials for food and beverage, as well as oil pot, chemicals tin and other steel cans.

冷轧基料
Hot Strip for Cold Rolling

牌号 Grades	化学成分 Chemical composition, %					
	C≤	Si≤	Mn	P≤	S≤	Alt≤
SAE1005	0.06	0.03	≤0.35	0.025	0.020	0.020-0.060
SAE1006	0.08	0.03	0.25-0.40	0.025	0.020	0.020-0.060
SAE1008	0.10	0.03	0.30-0.50	0.025	0.020	0.020-0.060
SAE1010	0.08-0.13	0.03	0.30-0.60	0.025	0.020	0.020-0.060
SAE1012	0.10-0.15	0.03	0.30-0.60	0.025	0.020	0.020-0.060
SAE1013	0.11-0.16	0.03	0.30-0.60	0.025	0.020	0.020-0.060
SAE1015	0.13-0.18	0.03	0.30-0.60	0.025	0.020	0.020-0.060
SAE1016	0.13-0.18	0.03	0.60-0.90	0.025	0.020	0.020-0.060
SAE1017	0.15-0.20	0.03	0.30-0.60	0.025	0.020	0.020-0.060
SAE1018	0.15-0.20	0.03	0.60-0.90	0.025	0.020	0.020-0.060
SAE1019	0.15-0.20	0.03	0.370-1.00	0.025	0.020	0.020-0.060

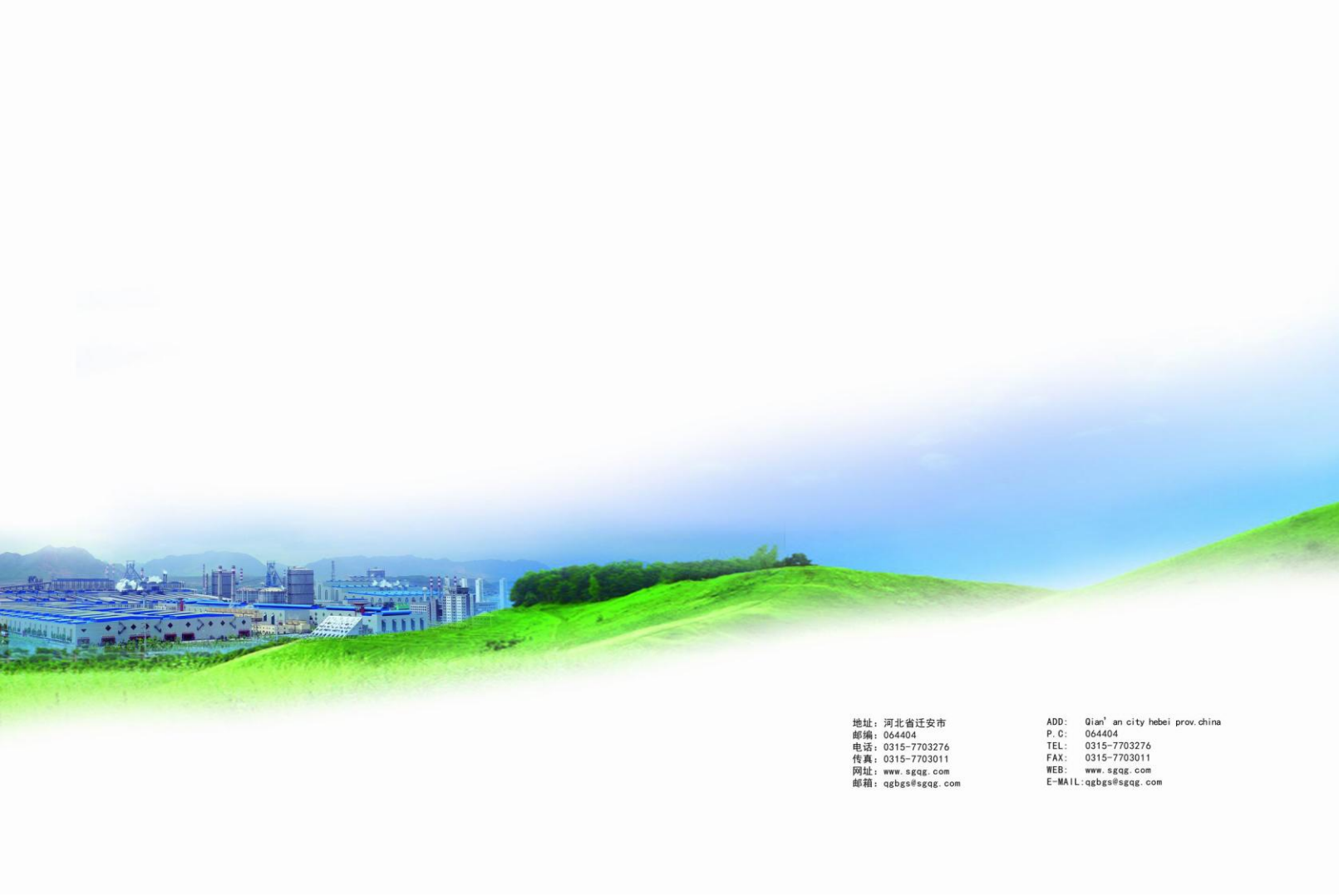
牌号 Grades	化学成分 Chemical composition, %				拉伸试验 Tensile test							
	C≤	Mn≤	P≤	S≤	抗拉强度 Tensile strength MPa	断后伸长率 Elongation, %						
						产品厚度 thickness, mm						
						1.2~< 1.6	1.6~< 2.0	2.0~< 2.5	2.5~< 3.2	3.2~< 4.0	≥4.0	
SPHC	0.12	0.50	0.035	0.030	≥ 270	≥ 27	≥ 29	≥ 29	≥ 29	≥ 31	≥ 31	
SPHD	0.08	0.50	0.030	0.025	≥ 270	≥ 30	≥ 32	≥ 33	≥ 35	≥ 37	≥ 39	
SPHE	0.06	0.50	0.025	0.020	≥ 270	≥ 31	≥ 33	≥ 35	≥ 37	≥ 39	≥ 41	

牌号 Grades	拉伸试验 Tensile test						180° 弯曲试验 180° Bending test		
	下屈服强度 Lower yield strength MPa	抗拉强度 Tensile strength MPa	下列厚度时的断后伸长率 Elongation in various thickness, %				180° 弯曲试验 180° Bending test	下列厚度时的弯曲直径 d, mm	
			厚度 Thickness, mm						
			1.6~2.0	2.0~2.5	2.5~3.15	3.15~4.0	4.0~6.0	≤2.0	≥2.0
SAPH310-P	≥185	≥310	≥33	≥34	≥36	≥38	≥40	0a	
SAPH370-P	≥255	≥370	≥32	≥33	≥35	≥36	≥37	1a	2a
SAPH400-P	≥255	≥400	≥31	≥32	≥34	≥35	≥36		
SAPH440-P	≥305	≥440	≥29	≥30	≥32	≥33	≥34	2a	3a

HEBEI SHOUQIANG QIAN' AN IRON & STEEL CO., LTD



类别 Classes	牌号 Grades	用途 Applications
碳素结构钢和 低合金结构钢 Carbon construction l steel and low alloy construction l steel	SM400A/B/C	主要用于建筑、桥梁、船舶、车辆、石油储罐、 工程机械、采矿机械等结构件。 They are used as construction parts in construction, bridge, ship, vehicle, oil tank, engineering machinery and mining machine.
	SM490A/B/C	
	SM490YA/B	
	SN400B	
	SS330/400/490/540	主要用于结构件。 They are used as structural parts.
	SS400B	
	S235JR/0、S275JR/0、S355JR/J0/J2/K2	
	Q215A/B	主要应用于建筑、工程机械等各个行业，一般结 构用钢板、钢带。 They are used as construction sheet or strip in construction and engineering machinery.
	Q235A/B/C/D	
	Q345A/B/C/D/E	
	Q390A/B/C/D/E	
	Q420A/B/C/D/E	
	20、40、45、65 Mn 75Cr	主要用于结构件 They are used as structural parts.
TQ295A	用于制造铁路用油罐封头。 They are used as tank sealing heads in railroad.	
A283GrC	用于建筑工程或机械用结构件、焊接件。 They are used as structural parts and welding parts.	



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