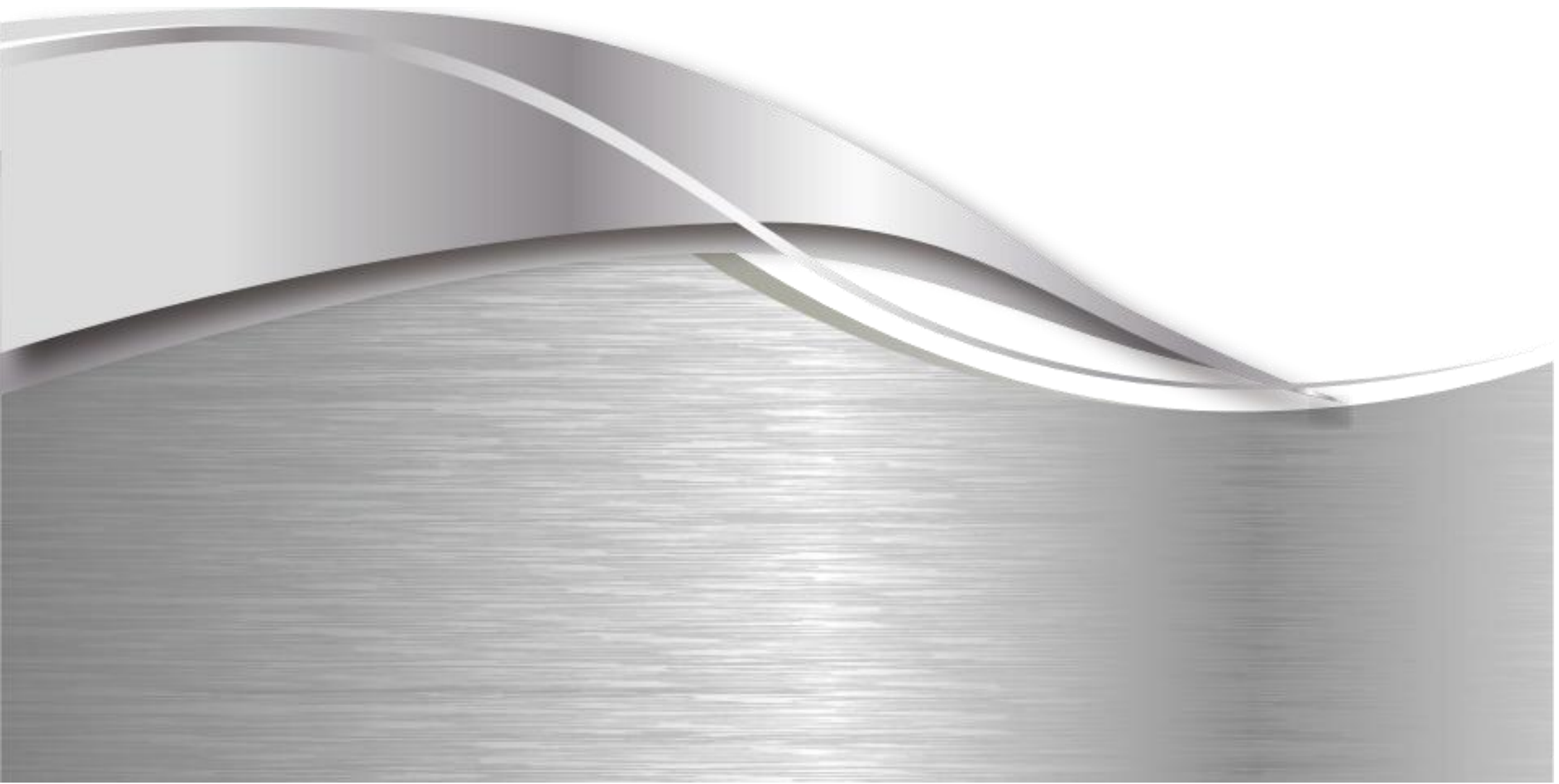


青拓集团板带材产品导览手册（2024）

Sheet and Strip Products Guide Manual of Tsingtuo Group (2024)



炼百年不锈钢 筑绿色未来

Making Life-long Stainless Steel and Creating a Sustainable Future

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我们竭力打造受人尊敬的世界一流企业

COMMITTED TO BUILDING A FIRST-RATE

RESPECTABLE ENTERPRISE IN THE WORLD

上世纪 80 年代，青山实业诞生于浙江温州，秉承“敢为人先 廉洁敬业”的青山精神，敢思人所未思、敢为人所未为、敢至己所未致，成为世界规模最大的不锈钢企业。

青山实业董事局设在上海，旗下拥有青拓集团、永青集团、青山控股集团、上海鼎信集团等四大集团，下辖 200 余家子公司，2023 年销售额达到 3821 亿元人民币，荣列 2023 财富世界 500 强第 257 位，中国企业 500 强第 74 位，中国民营企业 500 强第 14 位。

创新驱动发展，专注成就卓越，青山不断创新生产工艺、拓展产业领域，已经形成了贯穿不锈钢上中下游的产业链，生产基地遍布福建、广东、浙江、上海，奋斗足迹同样延伸到印尼、印度、美国和津巴布韦等地，为进一步整合全球资源探寻空间。

新的征程已经开启，新的蓝图已经绘就。广大青山人将依旧不忘初心、砥砺前行，以绿色精神，创生态之道，持续巩固在不锈钢行业的地位，把不锈钢改变生活、提高人们生活品质的理念融入实际行动中，并尝试向新能源领域探索，旨在为人类的绿色可持续发展贡献力量。

炼百年不锈，筑绿色未来！

Tsingshan Industry was established in Wenzhou, Zhejiang Province in the 1980s. Adhering to the spirit of “daring to be the first and upholding integrity and professionalism”, Tsingshan has become the largest stainless steel enterprise in the world by coming up with initiative ideas and implementing innovative actions to its best ability.

The board of directors of Tsingshan Industry is located in Shanghai. It conducts businesses through four groups, i.e. Tsing Tuo Group, Eternal Tsingshan Group, Tsingshan Holding Group and Shanghai Decent Group, with more than 200 subsidiaries under its jurisdiction. Tsingshan Industry achieved a sales revenue of RMB 382.1 billion, ranking 257th in the Fortune Global 500, the 74th among the Top 500 enterprises in China and the 14rd among the Top 500 private enterprises in China in 2023.

Innovation drives development, and concentration makes excellence. By continuing to innovate production processes and expand industrial areas, Tsingshan has built an industrial chain through stainless steel upstream and downstream enterprises, with production bases throughout Fujian, Guangdong, Zhejiang, Shanghai, and reach covering Indonesia, India, the United States and Zimbabwe, thus seeking opportunities for further consolidation of global resources.

The new journey has started, and the new blueprint has been prepared. Tsingshan people will continue to stay true to their original aspiration and forge ahead. The Group will continue to consolidate our position in the stainless steel industry in the spirit of environmental protection and create a way of ecology, integrate the concept of stainless steel changing life and improving people's quality of life into practical actions, and try to explore the new energy field, in order to make contributions to the sustainable development of human being's green economy.

Making life-long stainless steel and creating a sustainable future!

产品特点

PRODUCT FEATURES



品种齐全

品种覆盖 200、300、400、QN 和双相不锈钢等五大系列；产品规格覆盖 0.2mm~3.0mm（冷轧）、2.0mm~16.0mm（热轧）板带材。

品质优良

20 多年来始终致力于不锈钢产品和生产工艺的研发，从原材料到最终产品，处处严格把关。保证了产品成分精准，性能优良。

价格合理

先进的技术在保证产品质量的基础上有效降低了生产成本，造就了产品优良的性价比。

Complete Varieties

The grades cover four major series, including 200 series, 300 series, 400 series, QN series and Duplex stainless steel. Specifications cover 0.2mm~3.0mm (cold rolled), 2.0mm-16.0mm (hot rolled) coils & plates.

High Quality

We have devoted to the research and development of stainless steel products and production process for more than twenty years. Strict quality tests and control from raw material to final products guarantee accurate chemical composition and excellent properties of our products.

Reasonable Price

By the means of advanced technology, the manufacturing cost is reduced effectively on the basis of quality assurance, by which an excellent performance price ratio is created.



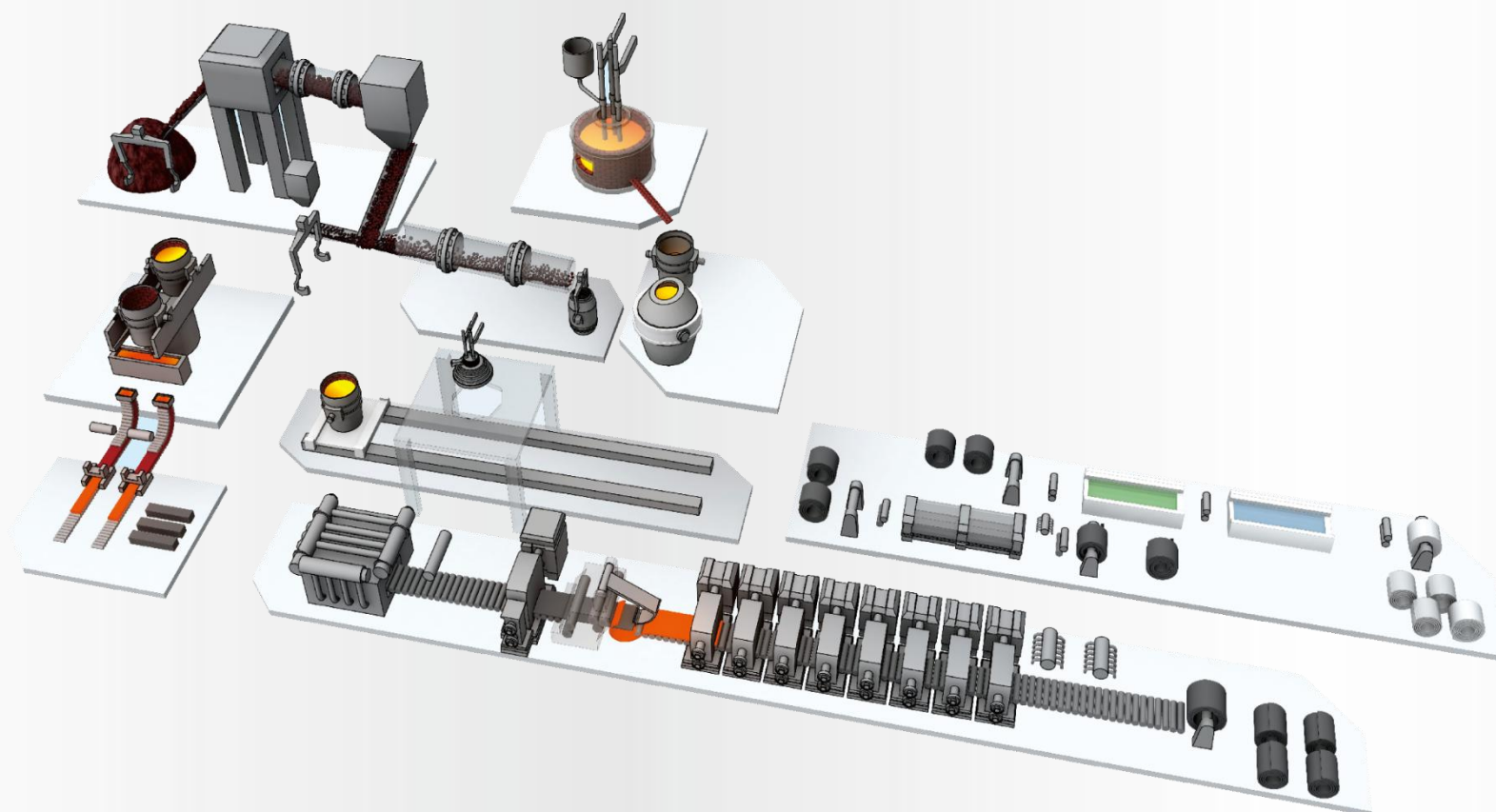


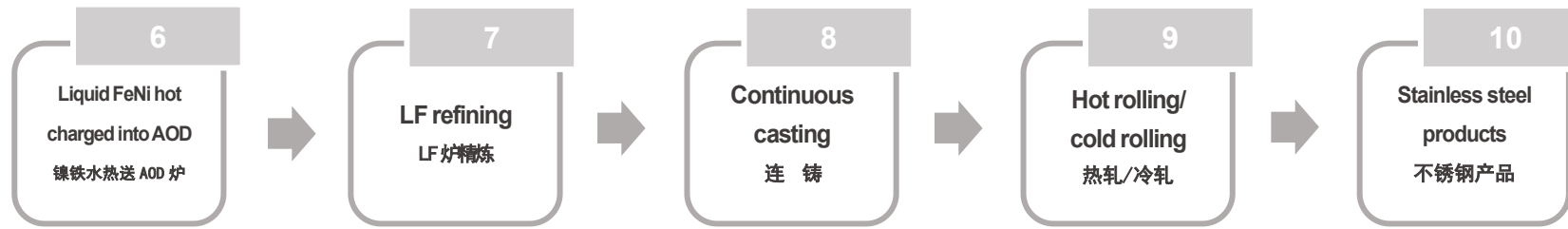
做大做强不锈钢已沉淀为青山企业的信念，并已融入青山人的血液。在这片领域中，我们首创由镍铁矿直接生产不锈钢的全新生产工艺流程，为绿色钢铁奉献了自己的力量。

Becoming bigger and stronger in the stainless steel industry has been the belief of Tsingshan Steel and has been deeply rooted into the minds of Tsingshan personnel. In this field, we initiated the brand new production process in making stainless steel directly from laterite ore, through which we made our valuable contributions to green steel program.

工艺流程

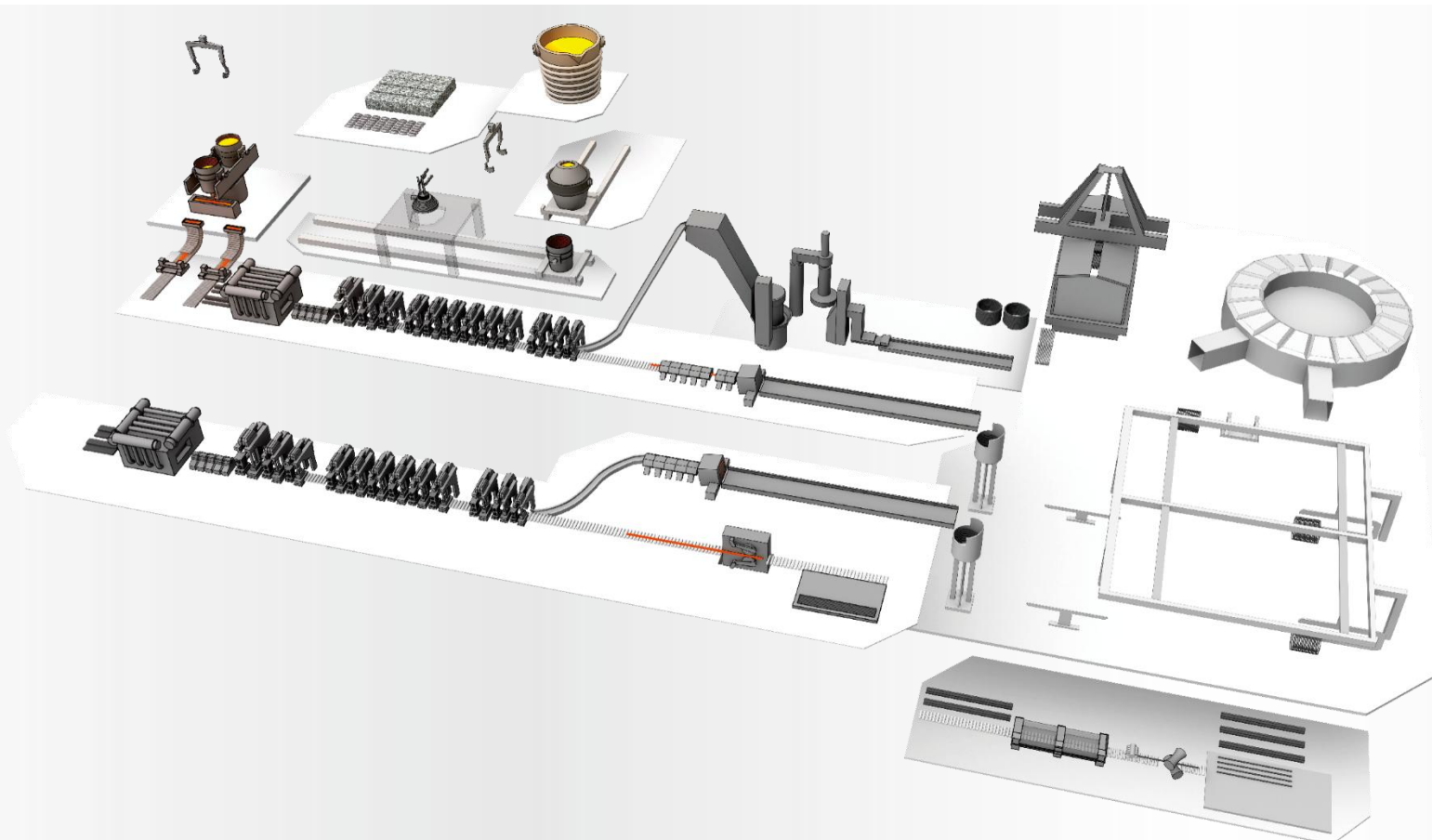
MANUFACTURING PROCESS



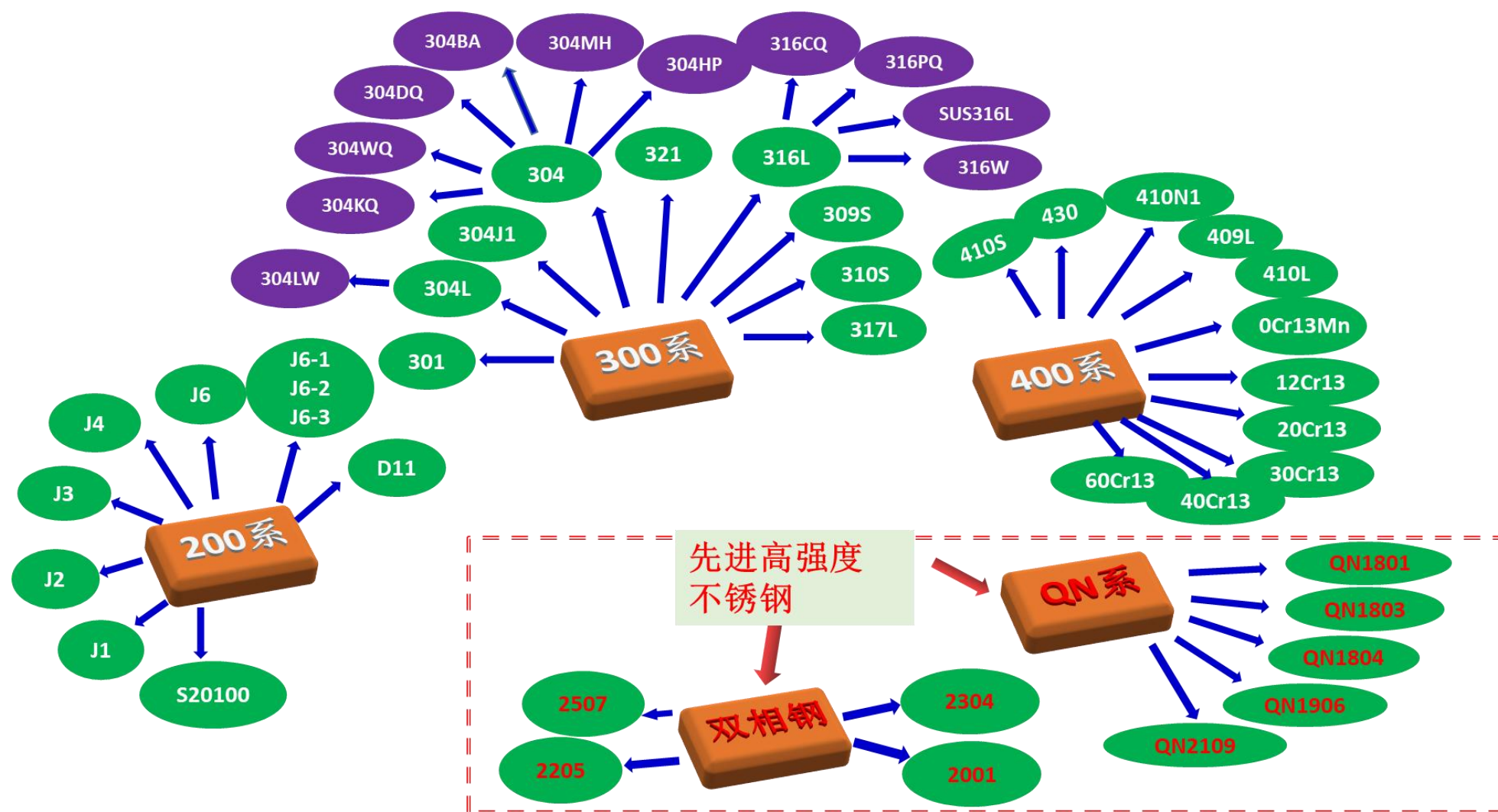


青山成功打造了不锈钢产业的完整产业链，从原矿开采到不锈钢成品投放市场，各环节环环相扣，产业链首尾贯通，并通过不断的工艺创新和产品升级来保持企业活力、产品竞争力和市场领导力。

Tsingshan has successfully built the complete industrial chains in the stainless steel industry. All links from ore mining to finished product marketing are closely associated. Through continuous technological innovation and product upgrading, Tsingshan has successfully maintained enterprise vitality, product competitiveness and market leading position.



产品树



FLAT

板材-Flat



常用牌号、性能、用途

GENERAL GRADES, PROPERTIES AND APPLICATIONS

系列	常用订货标准与牌号			参照牌号			性能	主要用途
	标准	流通牌号	GB	JIS	ASTM	EN		
奥氏体 300 系	JIS/ASTM	304	06Cr19Ni10	SUS304	S30400	1.4301	奥氏体不锈钢 ,具有良好的耐蚀性能、耐热性、机械性能优良、无磁性。	建筑工程、装饰装潢、化学食品工业、 医药、纤维产业、汽车零部件等。
	JIS/ASTM	304L	022Cr19Ni10	SUS304L	S30403	1.4307	耐晶间腐蚀性性能优异且焊接性佳。	用于化工、煤炭、石油、原子能工业等领域。
	JIS	304J1	-	SUS304J1	-	-	奥氏体不锈钢 ,无磁性 ; 添加 Cu ,具有良好的成型加工性能 ,生产成本较低。	广泛用于餐具、 家电制品、建筑装潢等多方面的领域。
	JIS/ASTM	316	06Cr17Ni12Mo2	SUS316	S31600	1.4401	耐腐蚀性 ,高温强度特别优秀 ,无磁性。	广泛用于腐蚀因素多的环境。
	JIS/ASTM	316L	022Cr17Ni12Mo2	SUS316L	S31603	1.4404	316 的低碳钢种 ,耐晶间腐蚀性优异 ,可在更苛刻的腐蚀条件下使用 。	用于食品、纸张、染料、草酸及肥料等生产设备 ,同是广泛应用于石油化工、核反应堆、沿海设施等领域。
	JIS/ASTM/GB	316Ti	06Cr17Ni12Mo2Ti	SUS316Ti	S31635	1.4571	316 钢种的基础上添加 Ti ,具有极强的抗晶间腐蚀能力 。	广泛应用于石油化工 ,机电五金 ,船舶 ,电厂。
	JIS/ASTM	321	06Cr18Ni11Ti	SUS321	S32100	1.4541	添加了 Ti ,耐晶间腐蚀性能优异 。	广泛用于建筑工程、化工设备等领域。
	JIS/ASTM	301	12Cr17Ni7	SUS301	S30100	1.4319	奥氏体不锈钢 ,冷加工强化高塑性好。	汽车压铸件、冷轧精密带、轮罩、弹簧等领域。
	JIS/ASTM	309S	06Cr3Ni13	SUS309S	S30908	1.4833	具有优良的塑性和焊接性能 ,高温强度高 。	高压蒸汽锅炉、汽轮机 ,工业炉内胆等领域。
	JIS/ASTM	310S	06Cr25Ni20	SUS310S	S31008	1.4845	高端耐热不锈钢 ,良好的抗蠕变性能。	广泛用于化工设备 ,退火炉胆等耐热件等领域。

系列	常用订货标准与牌号			参照牌号			性能	主要用途
	标准	流通牌号	GB	JIS	ASTM	EN		
奥氏体 QN 系	GB	QS380-MY	12Cr17Mn8Ni2N				经济型含氮奥氏体不锈钢 ,具有良好的耐腐蚀性能 ,成型性能好。	防盗门、 墅门
	GB	QN1701	12Cr17Mn7Ni2Cu2N				经济型含氮奥氏体不锈钢 ,具有良好的耐腐蚀性能 ,较高的力学性能。	建筑工程、家用电器、装饰装潢、 汽车零部件等
	GB	QN1801	12Cr17Mn8Ni2N				经济型含氮奥氏体不锈钢 ,具有 304 级的耐点蚀性能 ,较高的力学性能。	建筑工程、家用电器、装饰装潢、 汽车零部件等
	GB	QN1803	08Cr19Mn6Ni3Cu2N			1.4376	含氮奥氏体不锈钢 ,304 级耐蚀性能、高强度、无磁性。	建筑工程、家用电器、装饰装潢、 餐具厨卫、化工工业、 汽车零部件等
	GB	QF1804	06Cr18Mn7Ni4CuN				硬度降低 ,易成型 ,优良的耐腐蚀性能。	餐具制品、家用电器、
	GB	QN1804	05Cr19Mn6Ni5Cu2N			1.4372	在 QN1803 基础上降低 C 元素 ,具有优异的抗晶间腐蚀性能。	用于化工、 煤炭、石油、原子能工业等领域。
	GB	QN1906	05Cr19Ni6Mn4Cu2MoN				含氮奥氏体不锈钢 ,316L 级耐蚀性能、高强度、无磁性。	用于食品、纸张、染料、草酸及肥料等生产运输设备 ,同是广泛应用于石油化工、沿海设施等领域。
	GB	QN2008	05Cr20Ni7Mn4N		S30478		含氮奥氏体不锈钢 ,316L 级耐蚀性能、高强度、无磁性。	用于沿海工业、建筑工程、 汽车零部件、家用电器等。
	Q/TTIG	QF2109					成型性能良好 ,耐腐蚀性能达到耐海水腐蚀级别。	用于手套模具、化工工业、石油、海洋工程等领域
	GB	QN2109	05Cr21Ni10Mn3Cu2Mo2N				耐海水腐蚀级含氮奥氏体不锈钢 ,耐腐蚀性能优于 317L 不锈钢。	海洋牧场、化工工业、脱硫塔等恶劣腐蚀环境
	Q/TTIG	QM4					无磁钢 ,形变不产生磁性	电气柜、电磁屏蔽设备等。
	Q/TTIG	QM5					无磁钢 ,形变不产生磁性	电气柜、电磁屏蔽设备等。
双相钢	ASTM	S32001	022Cr21Mn5Ni2N		S32001		经济型双相不锈钢 ,304 级耐腐蚀性 ,强度高 ,疲劳性能优异。	建筑工程、家用电器、工业厂房、化工工业、 汽车零部件等。
	ASTM	S32304	022Cr23Ni4MoCuN		S32304	1.4362	具有 316L 级耐腐蚀性 ,强度高 ,性价比高。	建筑工程、交通桥梁、化工工业、 汽车零部件等。
	ASTM	S32205	022Cr23Ni5Mo3N		S32205	1.4462	优异的耐腐蚀性能 ,强度高 ,耐酸腐蚀性能好。	建筑工程、海洋工程、化工工业、 轮船运输、造纸行业等。
	ASTM	S32507	022Cr25Ni7Mo4N		S32507	1.4410	超级双相不锈钢 ,优异的耐腐蚀耐酸不锈钢 ,强度高。	海洋工程、化工工业、 轮船、海水淡化等。

系列	常用订货标准与牌号			参照牌号			性能	主要用途
	标准	牌号	GB	JIS	ASTM	EN		
铁素体	JIS/ASTM	SUH409L	022Cr11Ti	SUH409L	S40903	1.4521	超纯铁素体不锈钢 ,优良的耐高温性能、焊接性和可加工性	汽车排气系统 ,深冲制品
	JIS/ASTM	SUS410L	022Cr12	SUS410L	S41003		优良的可加工性、焊接性	深冲制品
	ASTM/GB	410S	06Cr13	SUS410S	S41008		优良的可加工性、焊接性	深冲制品
	JIS/ASTM/GB	SUS430	10Cr17	SUS430	S43000	1.4016	优良的可加工性、焊接性	深冲制品 ,家电领域
	ASTM/JIS	439	022Cr17NiTi	SUS430LX	439	1.4510	在 430 基础上添加 Ti ,具有优良的耐蚀性、耐高温性能	汽车排气系统、电梯
	JIS	SUS436L	019Cr18MoTi	SUS436L			具有优良的耐蚀性、耐高温性能	电梯、汽车排气系统、家电领域
	ASTM	S44100	022Cr18NiTi		S44100	1.4509	具有优良的耐蚀性、耐高温性能、导热性好 ,热胀系数小	汽车排气系统 ,热交换器
	Q/TTIG	QES21	022Cr22		S44203		具有优良的耐蚀性、优良加工性	电梯领域
	JIS	SUS443J1	019Cr21CuTi	SUS443J1	S44330		优良的加工性能、耐蚀性、耐高温性能 ,可用于替代 304	电梯、家电领域
马氏体	GB	12Cr13	12Cr13	SUS410	410	1.4006	马氏体不锈钢 ,淬火后硬度约 36HRC	刹车盘、刀具
	GB/JIS	20Cr13	20Cr13	SUS420J1	420	1.4021	马氏体不锈钢 ,淬火后硬度约 45HRC	刀具 ,刹车盘
	GB/JIS	30Cr13	30Cr13	SUS420J2	420	1.4028	马氏体不锈钢 ,淬火后硬度约 65HRC ,具有良好的耐磨性	刀具 ,模具钢
	GB	40Cr13	40Cr13		420	1.4031	马氏体不锈钢 ,淬火后硬度约 67HRC ,具有良好的耐磨性	刀具 ,模具钢
	GB	50Cr15MoV	50Cr15MoV			1.4116	马氏体不锈钢 ,淬火后硬度约 67HRC ,具有良好的耐磨性	高端的刀具钢
	ASTM	431	17Cr16Ni2	SUS431	431	1.4057	具有良好的抗高温、抗氧化性能	可用于模具、机械零件等
	GB	04Cr13Ni5Mo o	04Cr13Ni5Mo	SUSF6NM	S41500	1.4313	具有良好的耐腐蚀性和力学性能	水电钢
沉淀硬化	ASTM	631	07Cr17Ni7Al	SUS631	631	1.4568	高强度,抗疲劳,具有良好的耐腐蚀性和高温力学性能	用于精密电子, 航天、医疗。石油和工业等领域

FLAT



常用牌号、性能、用途 GENERAL GRADES, PROPERTIES AND APPLICATIONS

Series	General Standards And Grades		Reference Grade				Properties	Main Applications
	Standards	Grades	GB	JIS	ASTM	EN		
Austenite 300 series	JIS/ASTM	304	06Cr19Ni10	SUS304	S30400	1.4301	With good corrosion resistance, heat resistance, excellent mechanical properties, no magnetism.	Architecture engineering, decoration, chemical industry, food industry, pharmaceuticals industry, fiber industry, auto parts, etc.
	JIS/ASTM	304L	022Cr19Ni10	SUS304L	S30403	1.4307	With excellent intergranular corrosion resistance and good weldability.	Chemical industry, coal, petroleum industry and nuclear energy industry etc.
	JIS/ASTM	304J1	-	SUS304J1	-	-	With addition of Cu, good formability and processing performance, low manufacturing cost, no magnetism.	Tableware, household appliances , architecture and decoration etc.
	JIS/ASTM	316	06Cr17Ni12Mo2	SUS316	S31600	1.4401	With excellent corrosion resistance and high temperature resistance, no magnetism.	For equipment working under corrosive environment.
	JIS/ASTM	316L	022Cr17Ni12Mo2	SUS316L	S31603	1.4404	Low carbon steel of 316, with excellent intergranular corrosion resistance, harsh corrosion environment applicable.	Production equipment for food, paper, dye, oxalic acid and fertilizer, petroleum industry, chemical industry, nuclear reactor and coastal facilities etc.
	JIS/ASTM/GB	316Ti	06Cr17Ni12Mo2Ti	SUS316Ti	S31635	1.4571	With addition of Ti based on 316, excellent intergranular corrosion resistance.	Chemical industry, petroleum industry electromechanical industry, hardware, vessel, power plant etc.
	JIS/ASTM	321	06Cr18Ni11Ti	SUS321	S32100	1.4541	With addition of Ti, excellent intergranular corrosion resistance.	Architecture engineering, chemical equipment etc.
	JIS/ASTM	301	12Cr17Ni7	SUS301	S30100	1.4319	The austenitic stainless steel is non-magnetic, easy for processing and has high toughness and high yield.	Automotive rolled-up stock, decorative parts, wheel covers, springs, etc.
	JIS/ASTM	309S	06Cr3Ni13	SUS309S	S30908	1.4833	With excellent plastic properties, weldability, and high temperature resistance.	Chemical equipment, heat resisting part etc.
	JIS/ASTM	310S	06Cr25Ni20	SUS310S	S31008	1.4845	High-end heat-resistant stainless steel, with good creep resistance.	Widely used in chemical equipment, annealing furnace gallbladder and other heat-resistant parts and other fields.

Series	General Standards And Grades		Reference Grade				Properties	Main Applications
	Standards	Grades	GB/YB	JIS	ASTM	EN		
Austenite QN series	GB	QS380-MY	12Cr17Mn8Ni2N				Economic nitrogen austenitic stainless steel, with good corrosion resistance, good molding performance.	Security door, villa door.
	GB	QN1701	12Cr17Mn7Ni2Cu2N				Economical nitrogen austenitic stainless steel with good corrosion resistance and high mechanical properties.	Construction engineering, household appliances, decoration, auto parts, etc.
	GB	QN1801	12Cr17Mn8Ni2N				Economic nitrogen austenitic stainless steel, with 304 grade pitting corrosion resistance, high mechanical properties.	Construction engineering, household appliances, decoration, auto parts, etc.
	GB	QN1803	08Cr19Mn6Ni3Cu2N			1.4376	Nitrogen austenitic stainless steel, grade 304 corrosion resistance, high strength, non-magnetic.	Construction engineering, household appliances, decoration, tableware kitchen and bath, chemical industry, auto parts, etc.
	GB	QF1804	06Cr18Mn7Ni4CuN				Reduced hardness, easy to form, excellent corrosion resistance.	Tableware products, household appliances, etc.
	GB	QN1804	05Cr19Mn6Ni5Cu2N			1.4372	By reducing the C element on the basis of QN1803, it has excellent intergranular corrosion resistance.	Used in chemical, coal, petroleum, atomic energy industry and other fields.
	GB	QN1906	05Cr19Ni6Mn4Cu2MoN				Nitrogen austenitic stainless steel,316L grade corrosion resistance, high strength, non-magnetic.	Used in food, paper, dyes, oxalic acid and fertilizer production and transportation equipment, is widely used in petrochemical, coastal facilities and other fields.
	GB	QN2008	05Cr20Ni7Mn4N		S30478		Nitrogen austenitic stainless steel, grade 316L corrosion resistance, high strength, non-magnetic.	Used in coastal industry, construction engineering, auto parts, household appliances and so on.
	Q/TTIG	QF2109					The molding performance is good, and the corrosion resistance reaches the level of seawater corrosion resistance.	Used in glove mold, chemical industry, petroleum, offshore engineering and other fields.
	GB	QN2109	05Cr21Ni10Mn3Cu2Mo2N				Seawater corrosion resistant grade nitrogen austenitic stainless steel, corrosion resistance is better than 317L stainless steel.	Used in Marine pastures, chemical industry, desulfurization tower and other harsh corrosive environment
	Q/TTIG	QM4					Non-magnetic steel, deformation does not produce magnetism	Electric cabinet, electromagnetic shielding equipment, etc.
	Q/TTIG	QM5					Non-magnetic steel, deformation does not produce magnetism	Electric cabinet, electromagnetic shielding equipment, etc.
Dual-phase steel	ASTM	S32001	022Cr21Mn5Ni2N		S32001		Economical duplex stainless steel, grade 304 corrosion resistance, high strength, excellent fatigue properties.	Construction engineering, household appliances, industrial plants, chemical industry, auto parts, etc.
	ASTM	S32304	022Cr23Ni4MoCuN		S32304	1.4362	With 316L grade corrosion resistance, high strength, cost-effective.	Used in construction engineering, traffic Bridges, chemical industry, auto parts and so on.
	ASTM	S32205	022Cr23Ni5Mo3N		S32205	1.4462	Excellent corrosion resistance, high strength, good acid corrosion resistance.	Construction engineering, Marine engineering, chemical industry, shipping, paper industry, etc.
	ASTM	S32507	022Cr25Ni7Mo4N		S32507	1.4410	Super duplex stainless steel, excellent corrosion and acid resistant stainless steel, high strength.	Marine engineering, chemical industry, ships, seawater desalination, etc.

Series	General Standards And Grades		Reference Grade				Properties	Main Applications
	Standards	Grades	GB	JIS	ASTM	EN		
Ferrite	JIS/ASTM	SUH409L	022Cr11Ti	SUH409L	S40903	1.4521	Ultra-pure ferritic stainless steel with excellent high temperature resistance, weldability and machinability	Automotive exhaust system, deep drawing products
	JIS/ASTM	SUS410L	022Cr12	SUS410L	S41003		Excellent machinability and weldability	Deep drawing products
	ASTM/GB	410S	06Cr13	SUS410S	S41008		Excellent machinability and weldability	Deep drawing products
	JIS/ASTM/GB	SUS430	10Cr17	SUS430	S43000	1.4016	Excellent machinability and weldability	Deep drawing products, home appliances
	ASTM/JIS	439	022Cr17NiTi	SUS430LX	439	1.4510	The addition of Ti on the basis of 430 has excellent corrosion resistance and high temperature resistance	Automobile exhaust system, elevator
	JIS	SUS436L	019Cr18MoTi	SUS436L			It has excellent corrosion resistance and high temperature resistance	Elevators, automotive exhaust systems, home appliances
	ASTM	S44100	022Cr18NiTi		S44100	1.4509	It has excellent corrosion resistance, high temperature resistance, good thermal conductivity and small thermal expansion coefficient	Automotive exhaust systems, heat exchangers
	Q/TTIG	QES21	022Cr22		S44203		It has excellent corrosion resistance and excellent processability	Elevator
	JIS	SUS443J1	019Cr21CuTi	SUS443J1	S44330		Excellent processing performance, corrosion resistance, high temperature resistance, can be used to replace 304	Elevators, home appliances
Martensite	GB	12Cr13	12Cr13	SUS410	410	1.4006	Martensitic stainless steel, hardness of about 36HRC after quenching	Brake disc, cutting tool
	GB/JIS	20Cr13	20Cr13	SUS420J1	420	1.4021	Martensitic stainless steel, hardness of about 45HRC after quenching	Brake discs, cutting tool
	GB/JIS	30Cr13	30Cr13	SUS420J2	420	1.4028	Martensitic stainless steel, hardness of about 65HRC after quenching, with good wear resistance	Brake discs, cutting tool
	GB	40Cr13	40Cr13		420	1.4031	Martensitic stainless steel, hardness of about 67HRC after quenching, with good wear resistance	Tool, die steel
	GB	50Cr15MoV	50Cr15MoV			1.4116	Martensitic stainless steel, hardness of about 67HRC after quenching, with good wear resistance	High-end tool steel
	ASTM	431	17Cr16Ni2	SUS431	431	1.4057	It has good resistance to high temperature and oxidation	Can be used for mold, mechanical parts, etc
	GB	04Cr13Ni5Mo	04Cr13Ni5Mo	SUSF6NM	S41500	1.4313	It has good corrosion resistance and mechanical properties	Hydropower steel
Precipitation-hardening	ASTM	631	07Cr17Ni7Al	SUS631	631	1.4568	High strength, fatigue resistance, good corrosion resistance and high temperature mechanical properties	Precision electronics, aerospace, medical. Oil and industry



板材-Flat

成分
CHEMICAL COMPOSITION

类型 Series	牌号 Grade	主要化学成分% Chemical Composition %										
		C	Si	Mn	P	S	Ni	Cr	Mo	Cu	N	其他
奥氏体 300 系	301	≤0.150	≤1.00	≤2.00	≤0.045	≤0.030	6.00~8.00	16.00~18.00	/	/	≤0.10	/
	304	≤0.080	≤1.00	≤2.00	≤0.045	≤0.030	8.00~11.00	18.00~20.00	/	/	/	/
	304L	≤0.030	≤1.00	≤2.00	≤0.045	≤0.030	8.00~12.00	18.00~20.00	/	/	/	/
	304J1	≤0.080	≤1.70	≤3.00	≤0.045	≤0.030	6.00~9.00	15.00~18.00	/	1.00~3.00	/	/
	309S	≤0.080	≤1.00	≤2.0	≤0.045	≤0.030	12.00~15.00	22.00~24.00	/	/	/	/
	310S	≤0.080	≤1.50	≤2.00	≤0.045	≤0.030	19.00~22.00	24.00~26.00	/	/	/	/
	316	≤0.080	≤1.00	≤2.00	≤0.045	≤0.030	10.00~14.00	16.00~18.00	2.00~3.00	/	/	/
	316L	≤0.030	≤1.00	≤2.00	≤0.045	≤0.030	10.00~14.00	16.00~18.00	2.00~3.00	/	/	/
	316Ti	≤0.080	≤1.00	≤2.00	≤0.045	≤0.030	10.00~14.00	16.00~18.00	2.00~3.00	/	/	Ti≥5C
	321	≤0.080	≤1.00	≤2.00	≤0.045	≤0.030	9.00~12.00	17.00~19.00	/	/	/	Ti 5C~0.70

青拓集团板带材产品导览手册												
类型 Series	牌号 Grade	主要化学成分% Chemical Composition %										
		C	Si	Mn	P	S	Ni	Cr	Mo	Cu	N	其他
奥氏体 QN 系	QS380-MY	≤0.150	≤1.00	7.00~10.00	≤0.060	≤0.030	1.00~2.00	16.00~18.00	/	≤2.00	0.15~0.30	/
	QN1701	≤0.150	≤1.00	5.00~8.00	≤0.060	≤0.030	1.00~2.00	16.00~18.00	/	0.50~2.50	0.20~0.30	/
	QN1801	≤0.15	≤1.00	7.00~10.00	≤0.060	≤0.030	1.00~2.00	16.00~18.00	/	≤2.00	0.15~0.30	/
	QN1803	≤0.100	≤1.00	4.00~7.00	≤0.050	≤0.030	2.50~4.00	17.50~19.50	≤0.60	0.50~2.50	0.20~0.30	/
	QF1804	≤0.080	≤1.00	5.00~8.00	≤0.050	≤0.030	3.00~5.00	17.00~19.00	/	0.50~2.00	0.15~0.30	/
	QN1804	≤0.060	≤1.00	4.00~7.00	≤0.050	≤0.030	3.50~5.50	17.50~19.50	≤0.60	0.50~2.50	0.20~0.30	/
	QN1906	≤0.060	≤1.00	2.00~5.00	≤0.045	≤0.030	5.00~7.50	18.00~20.00	0.50~2.00	0.50~2.50	0.20~0.30	/
	QN2008	≤0.08	≤1.00	≤2.50	≤0.045	≤0.030	19.00~21.00	7.50~10.50	/	/	0.20~0.30	/
	QF2109	≤0.060	≤1.00	1.00~4.00	≤0.045	≤0.010	8.50~11.50	20.00~23.00	0.50~2.50	0.50~3.00	0.15~0.30	/
	QN2109	≤0.060	≤1.00	1.00~4.00	≤0.045	≤0.030	8.50~10.50	20.00~22.00	1.00~2.50	0.50~2.50	0.20~0.30	/
	QM4	≤0.150	≤1.00	13.00~16.00	≤0.045	≤0.030	4.00~6.00	15.80~19.00	≤0.60	0.20~1.20	0.15~0.25	/
	QM5	≤0.120	≤0.75	16.00~19.00	≤0.045	≤0.030	5.00~6.00	17.50~18.50	≤0.60	0.50~1.50	≥0.20	/
双相钢	S32001	≤0.03	≤1.00	4.00~6.00	≤0.040	≤0.030	1.00~3.00	19.50~21.50	≤0.60	≤1.00	0.05~0.17	/
	S32304	≤0.03	≤1.00	≤2.50	≤0.040	≤0.030	3.00~5.50	21.50~24.50	0.05~0.60	0.05~0.60	0.05~0.20	/
	S32205	≤0.03	≤1.00	≤2.00	≤0.040	≤0.030	4.50~6.50	22.00~23.00	3.00~3.50	/	0.14~0.20	/
	S32507	≤0.03	≤0.80	≤1.20	≤0.035	≤0.020	6.00~8.00	24.00~26.00	3.00~5.00	≤0.50	0.24~0.32	/

青拓集团板带材产品导览手册

类型 Series	牌号 Grade	主要化学成分% Chemical Composition %										
		C	Si	Mn	P	S	Ni	Cr	Mo	Cu	N	其他
铁素体	SUH409L	≤0.03	≤1.00	≤1.00	≤0.040	≤0.020	≤0.60	10.50~11.75	/	/	≤0.03	Ti: 0.15~0.50 Nb:0.10 Ti≥8* (C+N)
	SUS410L	≤0.03	≤1.00	≤1.00	≤0.040	≤0.030	≤0.60	11.00~13.50	/	/	/	/
	410S	≤0.08	≤1.00	≤1.00	≤0.040	≤0.030	≤0.60	11.50~13.50	/	/	/	/
	SUS430	≤0.12	≤1.00	≤1.00	≤0.040	≤0.030	≤0.75	16.00~18.00	/	/	/	/
	439	≤0.03	≤0.75	≤1.00	≤0.035	≤0.030	/	16.00~19.00	/	/	/	Ti+Nb:0.1~1.0
	SUS436L	≤0.025	≤1.00	≤1.00	≤0.040	≤0.030	/	16.00~19.00	0.75~1.50	/	≤0.025	Ti、Nb、Zr 或其 组合: 8* (C+N) ~0.80
	S44100	≤0.030	≤1.00	≤1.00	≤0.040	≤0.030	≤1.00	17.50~19.50	/	/	≤0.030	Ti: 0.10~0.50 Nb: (0.3+9*C) ~0.90
	QES21	≤0.030	≤0.75	≤1.00	≤0.040	≤0.030	≤0.60	19.50~21.50	/	/	≤0.050	/
	SUS443J1	≤0.025	≤1.00	≤1.00	≤0.030	≤0.030	/	20.50~23.00	/	0.30~0.80	≤0.025	Ti、Nb、Zr 或其 组合: 8* (C+N) ~0.80
马氏体	12Cr13	≤0.15	≤1.00	≤1.00	≤0.040	≤0.030	≤0.60	11.50~13.50	/	/	/	/
	20Cr13	0.16~0.25	≤1.00	≤1.00	≤0.040	≤0.030	≤0.60	12.00~14.00	/	/	/	/
	30Cr13	0.26~0.35	≤1.00	≤1.00	≤0.040	≤0.030	≤0.60	12.00~14.00	/	/	/	/
	40Cr13	0.36~0.45	≤0.80	≤0.80	≤0.040	≤0.030	≤0.60	12.00~14.00	/	/	/	/
	50Cr15MoV	0.45~0.55	≤1.00	≤1.00	≤0.040	≤0.015	/	14.00~15.00	0.50~0.80	/	/	V:0.10~0.20
	431	0.12~0.20	≤1.00	≤1.00	≤0.025	≤0.015	2.00~3.00	15.00~18.00	/	/	/	/
	04Cr13Ni5Mo	≤0.05	≤0.60	0.50~1.00	≤0.030	≤0.030	3.50~5.50	11.50~14.00	0.50~1.00	/	/	/
沉淀硬化	631	≤0.09	≤1.00	≤1.00	≤0.040	≤0.030	6.50~7.75	16.00~18.00	/	/	/	Al:0.75~1.50



板材-Flat

力学性能
MECHANICAL PROPERTIES

力学性能（固溶或退火态） Mechanical Properties (solution or annealed condition)						
类型 Series	牌号 Grade	屈服强度 Yield Strength MPa	抗拉强度 Tensile Strength MPa	伸长率 Elongation %	硬度 Hardness	
					HV	HRB
奥氏体 300 系	304	≥205	≥515	≥40	≤210	≤92
	304L	≥180	≥485	≥40	≤210	≤92
	304J1	≥155	≥450	≥40	≤200	≤92
	316	≥205	≥515	≥40	≤220	≤95
	316L	≥180	≥485	≥40	≤220	≤95
	316Ti	≥205	≥515	≥40	≤220	≤95
	321	≥205	≥515	≥40	≤220	≤95
	310S	≥205	≥515	≥40	≤220	≤95
	301	≥205	≥515	≥40	≤220	≤95
	309S	≥205	≥515	≥40	≤220	≤95

力学性能（固溶或退火态） Mechanical Properties (solution or annealed condition)						
类型 Series	牌号 Grade	屈服强度 Yield Strength MPa	抗拉强度 Tensile Strength MPa	伸长率 Elongation %	硬度 Hardness	
					HV	HRB
奥氏体 QN 系	QS380-MY	≥300	≥700	≥45	/	≤100
	QN1701	≥355	≥650	≥40	≤265	/
	QN1801	≥310	≥650	≥40	≤265	/
	QN1803	≥355	≥650	≥40	≤250	/
	QF1804	≥310	≥650	≥40	≤250	/
	QN1804	≥355	≥650	≥40	≤250	/
	QN1906	≥345	≥620	≥40	≤242	/
	QN2008	≥355	≥650	≥40	≤242	/
	QF2109	≥310	≥650	≥40	≤242	/
	QN2109	≥310	≥620	≥35	≤242	/
	QM4	≥350	≥620	≥40	≤242	/
	QM5	≥350	≥620	≥40	≤242	/
双相钢	S32001	≥450	≥620	≥25	≤265	/
	S32304	≥400	≥600	≥25	≤310	/
	S32205	≥450	≥655	≥25	≤310	/
	S32507	≥550	≥795	≥15	≤320	/

力学性能（固溶或退火态） Mechanical Properties (solution or annealed condition)						
类型 Series	牌号 Grade	屈服强度 Yield Strength MPa	抗拉强度 Tensile Strength MPa	伸长率 Elongation %	硬度 Hardness	
					HV	HRB
铁素体	SUH409L	≥170	≥380	≥20	≤200	≤88
	SUS410L	≥195	≥360	≥22	≤200	≤88
	410S	≥205	≥415	≥22	≤200	≤89
	SUS430	≥205	≥420	≥22	≤200	≤89
	439	≥175	≥360	≥22	≤200	≤88
	SUS436L	≥245	≥410	≥22	≤230	≤96
	S44100	≥241	≥414	≥20	/	≤90
	QES21	≥205	≥390	≥22	≤200	≤90
	SUS443J1	≥205	≥390	≥22	≤200	≤90
马氏体	12Cr13	≥205	≥450	≥20	≤210	≤96
	20Cr13	≥225	≥520	≥18	≤234	≤97
	30Cr13	≥225	≥540	≥18	≤247	≤99
	40Cr13	≥225	≥590	≥15	/	/
	50Cr15MoV	/	≤850	≥12	≤280	≤100
	431	/	/	/	≤295	/
	04Cr13Ni5Mo	≥620	≥795	≥15	≤308	/
沉淀硬化	631	≤380	≤1035	≥20		≤92



板材-Flat

生产规格
SIZE RANGE

热轧产品 奥氏体 300 系

Hot Rolled Products Austenite 300 series

Width 厚度 宽度 Thickness	≤2.2	2.21-2.50	2.51-2.70	2.71-2.90	2.91-3.20	3.21-3.60	3.61-4.10	4.10-4.50	4.51-5.10	5.11-5.60	5.61-6.40	6.41-7.10	7.11-7.90	7.91-9.10	9.11-10.0
≤950															
950-1000															
1001-1050															
1051-1100															
1101-1150															
1151-1200															
1201-1250															
1251-1300															
1301-1350															
1351-1400															
1401-1450															
1451-1500															
1501-1550															
1551-1600															

注：蓝色表示常规可生产规格
Normal Sizes

橙色表示可协商生产规格
Negotiable Sizes

灰色表示不可生产规格
Unavailable Sizes

热轧产品 奥氏体 QN 系(除 QN1906/QN2109)

Hot Rolled Products		Austenite QN series (exclusive of QN1906/QN2109)														
Width 厚度 宽度 Thickness		≤2.2	2.21-2.50	2.51-2.70	2.71-2.90	2.91-3.20	3.21-3.60	3.61-4.10	4.10-4.50	4.51-5.10	5.11-5.60	5.61-6.40	6.41-7.10	7.11-7.90	7.91-9.10	9.11-10.0
≤950																
950-1000																
1001-1050																
1051-1100																
1101-1150																
1151-1200																
1201-1250																
1251-1300																
1301-1350																
1351-1400																
1401-1450																
1451-1500																
1501-1550																
1551-1600																

热轧产品 奥氏体 QN 系(QN1906/QN2109)

Hot Rolled Products		Austenite QN series (QN1906/QN2109)														
Width 厚度 宽度 Thickness		≤2.2	2.21-2.50	2.51-2.70	2.71-2.90	2.91-3.20	3.21-3.60	3.61-4.10	4.10-4.50	4.51-5.10	5.11-5.60	5.61-6.40	6.41-7.10	7.11-7.90	7.91-9.10	9.11-10.0
≤950																
950-1000																
1001-1050																
1051-1100																
1101-1150																
1151-1200																
1201-1250																
1251-1300																
1301-1350																
1351-1400																
1401-1450																
1451-1500																
1501-1550																
1551-1600																

热轧产品 双相钢(S32001/QD2001)

Hot Rolled Products		Dual-phase steel(S32001/QD2001)														
Width 宽度	厚度 Thickness	≤2.2	2.21-2.50	2.51-2.70	2.71-2.90	2.91-3.20	3.21-3.60	3.61-4.10	4.10-4.50	4.51-5.10	5.11-5.60	5.61-6.40	6.41-7.10	7.11-7.90	7.91-9.10	9.11-10.0
≤950																
950-1000																
1001-1050																
1051-1100																
1101-1150																
1151-1200																
1201-1250																
1251-1300																
1301-1350																
1351-1400																
1401-1450																
1451-1500																
1501-1550																
1551-1600																

热轧产品 双相钢(2304/2205/2507)

Hot Rolled Products		Dual-phase steel(2304/2205/2507)														
Width 宽度	厚度 Thickness	≤2.2	2.21-2.50	2.51-2.70	2.71-2.90	2.91-3.20	3.21-3.60	3.61-4.10	4.10-4.50	4.51-5.10	5.11-5.60	5.61-6.40	6.41-7.10	7.11-7.90	7.91-9.10	9.11-10.0
≤950																
950-1000																
1001-1050																
1051-1100																
1101-1150																
1151-1200																
1201-1250																
1251-1300																
1301-1350																
1351-1400																
1401-1450																
1451-1500																
1501-1550																
1551-1600																

热轧产品 铁素体和马氏体

Hot Rolled Products		Ferrite and Martensite														
Width 宽度	厚度 Thickness	≤2.2	2.21-2.50	2.51-2.70	2.71-2.90	2.91-3.20	3.21-3.60	3.61-4.10	4.10-4.50	4.51-5.10	5.11-5.60	5.61-6.40	6.41-7.10	7.11-7.90	7.91-9.10	9.11-10.0
≤950																
950-1000																
1001-1050																
1051-1100																
1101-1150																
1151-1200																
1201-1250																
1251-1300																
1301-1350																
1351-1400																
1401-1450																
1451-1500																
1501-1550																
1551-1600																

冷轧产品

Cold Rolled Products								
Width 宽度	厚度 Thickness	0.015-0.020	0.02-0.29	0.30-0.39	0.40-0.59	0.60-0.99	1.00-1.99	2.00-2.99
≤950								
950-1050								
1001-1200								
1201-1250								
1251-1500								
1501-1550								



板材-Flat

板材尺寸公差精度
SIZE TOLERANCE

热轧钢带和卷切钢板的厚度公差

Thickness Tolerance of Hot Rolled Coils and Sheets

尺寸精度 Size Tolerance				厚度精度 Thickness Tolerance				单位: mm	Unit:mm
GB/T 4237-2015				JIS G4304-12				ASTM A480/A480M-16	
≤1200		1200-1500	1500-1800	≤1000		1000-1250	1250-1600		
2.0-2.5	±0.22	±0.25	±0.29	2.0-2.5	±0.25	±0.30	-	<800	
2.5-3.0	±0.25	±0.28	±0.31	2.5-3.0	±0.30	±0.35	±0.40	2.00-2.11	±0.18
3.0-4.0	±0.28	±0.31	±0.33	3.0-4.0	±0.35	±0.40	±0.45	2.11-2.49	±0.20
4.0-5.0	±0.31	±0.33	±0.36	4.0-5.0	±0.40	±0.45	±0.50	2.49-2.90	±0.23
5.0-6.0	±0.33	±0.36	±0.38	5.0-6.0	±0.50	±0.55	±0.60	2.90-3.30	±0.25
6.0-8.0	±0.38	±0.39	±0.4	6.0-8.0	±0.60	±0.65	±0.65	3.30-3.68	±0.30
8.0-10.0	±0.42	±0.43	±0.45	8.0-10.0	±0.65	±0.65	±0.65	3.68-4.76	±0.36

宽度精度 Width Tolerance	交货状态 Delivery Condition			1000 以下	1000-1524	> 1524
	冷轧钢带 Cold Rolled Coils/Strips	轧制边	Mill Edge	0-25	0-30	0-30
		切边	Slit Edge	0-5	0-5	0-10
	热轧钢带 Hot Rolled Coils/Strips	轧制边	Mill Edge	0-20		
		切边	Slit Edge	0-5		



冷轧钢带和卷切钢板的厚度公差

Thickness Tolerance of Cold Rolled Coils and Sheets

尺寸精度 Size Tolerance			厚度精度 Thickness Tolerance	单位：mm	Unit:mm
GB/T 3280-2015				JIS G4305-12	
	≤1000	1000-1300	1300-2100		≤12501250-1600
0.3-0.5	±0.040	±0.045	-	0.3-0.6	±0.05±0.08
0.5-0.6	±0.045	±0.050	-	0.6-0.8	±0.07±0.09
0.6-0.8	±0.050	±0.055	-	0.8-1.0	±0.09±0.10
0.8-1.0	±0.055	±0.060	±0.065	1.0-1.25	±0.10±0.12
1.0-1.2	±0.060	±0.070	±0.075	1.25-1.6	±0.12±0.15
1.2-1.5	±0.070	±0.080	±0.090	1.6-2.0	±0.15±0.17
1.5-2.0	±0.080	±0.090	±0.100	2.0-2.5	±0.17±0.20
2.0-2.5	±0.090	±0.100	±0.110	2.5-3.15	±0.22±0.25
2.5-3.0	±0.110	±0.120	±0.120	3.15-4.0	±0.25±0.35
3.0-4.0	±0.130	±0.140	±0.140	4.0-5.0	±0.35±0.40
4.0-5.0	±0.140	±0.150	±0.150		

包装方式
PACKAGE



裸包装：适用于热轧钢卷，

陆路短途驳运

Bare package

For hot rolled coils,

short distance land transport



通用包装：适用于冷轧钢卷，

长途运输

General package

For cold rolled coils,

long distance transport



防锈纸包装：适用热轧钢卷，

海路运输

Rust-proof package

For hot rolled coils,

sea transport



简包装：适用于冷轧钢卷，

短途运输

Simple package

For cold rolled coils,

short distance transport

质量保证（资质）

QUALITY CERTIFICATIONS



测量管理体系 环境管理体系 能源管理体系 职业健康安全管理体系 质量管理体系 质量管理体系 环境管理体系 职业健康安全管理体系



测量管理体系 质量管理体系 CNAS 证书 两化融合管理体系 质量管理体系 两化融合管理体系 AD2000W0+PED4.3 证书 ASME 证书



印度 BIS 证书 CPR 证书 印度 BIS 证书 AD2000W0+PED4 证书 法国 BV 证书 中国 CCS 证书 美国 ABS 证书 挪威 DNV 证书

青拓集团板带材产品导览手册



ASME 证书

美国 ABS 证书

法国 BV 证书

法国 BV 工厂认可

挪威+德国船级社证书

中国 CCS 证书

韩国 KR 证书

美国 UL2809 再生料认证



英国 LR 证书

日本 NK 证书

意大利 RINA 证书

压力管道 PED4.3+AD2000 认证

AD2000（德国压力容器标准认证）

PED（欧盟压力设备认证）



压力管道 PED4.3+AD2000 认证

ATF16949:2016 体系认证

ATF16949:2016 体系认证

再生料认证（RCS）

再生料认证（RCS）

再生料认证（RCS）

美国 ASMM 材料认证

美国 UL2809 再生料认证



IATF 16949:2016 体系
认证

ISO9001 质量管理体系
认证

ISO14001 环境管理体系
认证

ISO14001 环境管理体系
认

HSAS18001 职业健康安
全管理体系认

CNAS 实验室认可

ISO10012 测量管理
体系

IATF16949 汽车质量管
理体系

