IATF16949

DSM 帝思曼

400 series stainless steel and special metal service provider

Shanxi Disiman Special Metal Technology Co., Ltd.
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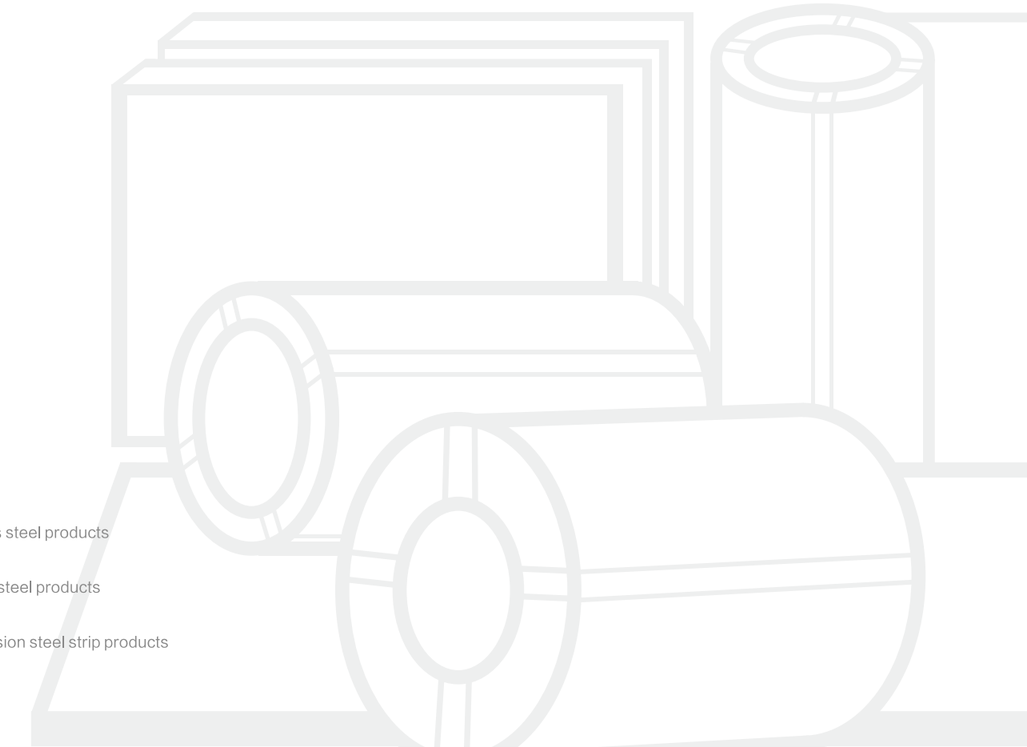
info@dsmsteel.com www.dsmsteel.com

- Cold-rolled stainless steel products
- Hot-rolled stainless steel products
- Stainless steel precision steel strip products



Devoted Special Metal

STEEL
SUPPLIER
SINCE
1999



Spirit of the Craftsman
Striving for Perfection

Dear partners,

Since the foundation of DSM, we've been working hard to make it a leading service provider for 400 series stainless steel and special metal in China. We always believe that maintaining sustainable development and taking social responsibility will eventually benefit the enterprise itself. We keep innovative thinking on business management and corporate culture to enhance our domestic and overseas competitiveness. we've been learning from every fortune 500 companies. We cooperated to find a suitable path for 400series and special metal processing and operating. Our highly experienced team can provide you a whole set of solutions and supporting service for 400 series stainless steel and special metal of any specification. we've always been dedicated to become a major player of Martensitic stainless steel industry in China and most importantly, to maximize the return for all the partners.

CEO 崔鹏





Enterprise Profile

Dedicated to 400 series and special metal more than 20 years, DSM adheres to the “integrity, innovation, refinement and mutually benefits” business philosophy and has developed from a stainless steel trading enterprise into a comprehensive one mainly engaging in stainless steel production and processing, technical marketing and distribution services.

Striving to build a globally competitive stainless steel and special metal processing service platform, DSM has established five processing centers in Taiyuan, Wuxi, Foshan, Tianjin and Yangjiang now, totally covering the area of 60,000㎡. Meanwhile, DSM has set up cooperation relationship with other well-known steel enterprises like TISCO, Baowu Steel, JISCO, Lianzhong, Taishan Steel, Tsingshan, POSCO.

Adhering to “customer-oriented” policy, DSM is committed to building a stainless steel chain supermarket and advanced manufacturing workshop. DSM has advanced processing equipment and is able to operate cold rolling, slitting, transverse shearing, plate shearing, heat treatment, laser cutting, reciprocating winding, surface treatment and other processing according to customers’ requirements. Our customers covers new energy, automobile, petrochemical, shipbuilding, textile, home appliances, rail transit, pressure containers, building hardware, medical equipment, electronic products, kitchenware etc.

Having passed ISO9001, ISO14001, ISO45001 and IATF16949 international certifications and owning senior technical experts and backbone team in the field of steel material processing technology, DSM has been identified as a high-tech enterprise and specialized new enterprise. DSM helps customers to continuously improve the existing materials, research and develop new materials, and provide target service to end customers.

In the future, DSM will accelerate the industrial layout with a global vision, enhance technological innovation and manufacturing process control and continue to improve product and service to promote the high-quality development. DSM will become a globally competitive stainless steel processing service enterprise with rapid pace and create a new win-win era with customers!

Corporate Culture

Value concept: Honesty, innovation, refinement and mutual benefits!

Service aim: Customer first, quality first!

Enterprise style: Be serious and efficient; stick to the commitment!

Operation Strategy

1. Upgrade new equipment; provide new facilities; Launch new products;
2. Improve the processing capacity; broaden the service network; deepen customization; expand the target group;
3. Adhere to technological innovation; develop innovative projects; promote intelligent management;
4. Strengthen budget management; improve the inventory mechanism; optimize the operation of funds.

Development History

1999

1999/01
Set up the company

2003

2003/09
Set up Shanghai Branch

2006

2006/06
Established the storage & machining center in Foshan

2007

2007/12
Established the storage & machining center in Wuxi

2013

2013/06
Headquarters was settled in Taiyuan Stainless Steel Industrial Park

Stainless steel cold rolling mill was established in Taiyuan

Stainless steel shearing mill was established in Taiyuan

2014

2014/03
Stainless steel precision steel strip factory was established in Taiyuan

2015

2015/09
Passed ISO9001 International certification

2018

2018/02
Stainless steel cold rolling mill was established in Tianjin

2018/04
Passed IATF16949 International certification

2019

2019/09
Be identified as High-tech Enterprise

2020

2020/08
Stainless steel cold rolling mill was established in Yangjiang

2020/10
Be identified as Enterprise Technology Center

2021

2021/06
Passed ISO45001&ISO14001 International certification

2023

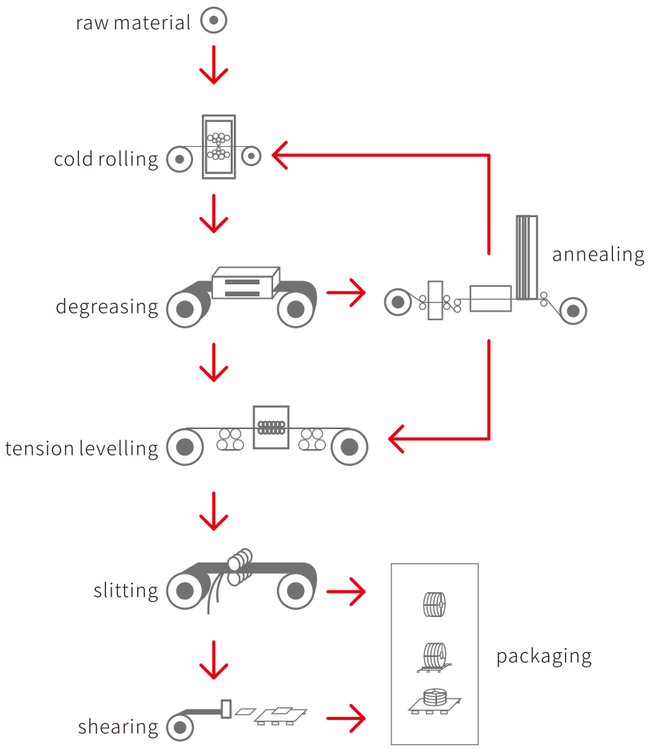
2023/06
Won the title of Excellent Private Enterprise

2023/08
Recognized as a Specialized and Special New Enterprise

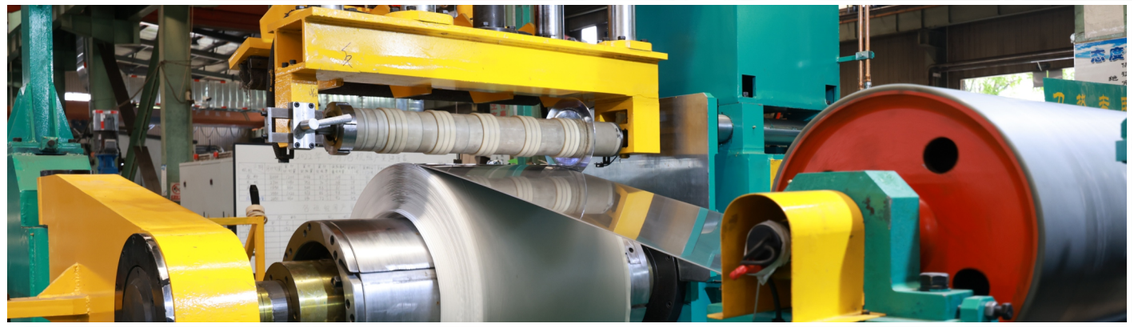
Production and Business Distribution



Work Flow and Equipment

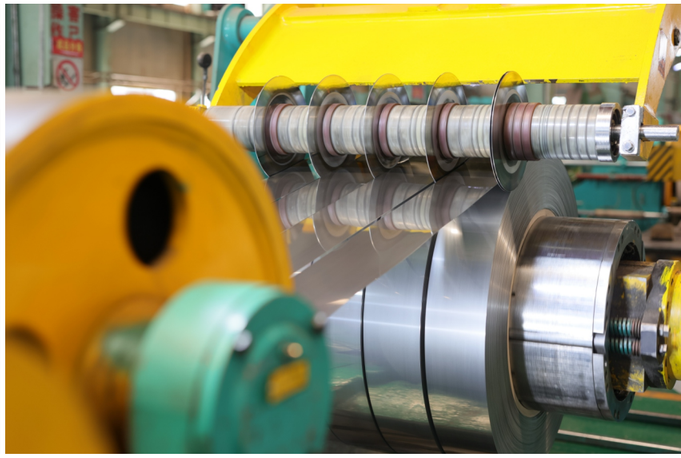
















Certifications


UNIVERSAL CERTIFICATION CENTRE CO., LTD.
QUALITY MANAGEMENT SYSTEM CERTIFICATE
No.: 02421Q3221153O8R2M
This is to certify that the quality system of
SHANXI DISIMAN SPECIAL METAL TECHNOLOGY CO., LTD.
(UNIFIED SOCIAL CREDIT CODE: 91140105076468294L)
(ADD: ZONE B,TAIYUAN STAINLESS STEL INDUSTRIAL PARK,NO.73,GANGYUAN ROAD,JIAN CAOPING DISTRICT,TAIYUAN CITY,P.R.CHINA ZIP: 030008)
(PLEASE REFER TO THE CERTIFICATE ANNEX FOR ADDRESSES)
is in conformity with:
GB/T19001-2016/ISO9001:2015
This system is valid for:
PRODUCTION AND SERVICE OF STAINLESS STEEL AND SPECIAL STEEL COLD ROLLED STEEL SHEET AND PRECISION STEEL STRIP
Issue date: 06-15-2021 This Certificate is validity until: 06-14-2024
Initial Certification date: 09-10-2015
(The surveillance audits shall be performed in a yearly manner during the validation. The continual effectiveness of the certificate shall be marked by the surveillance qualification logo as pasted below.)
Organization stamp: Representative of the centre (Director):
1st surveillance logo 2nd surveillance logo 3rd surveillance logo
ISO 9001 UCC IAF CNAS 中国认可 国际互认 MANAGEMENT SYSTEM CNAS C024-M


UNIVERSAL CERTIFICATION CENTRE CO., LTD.
OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM CERTIFICATE
No.: 02421S3221066I4R0M
This is to certify that the OHSMS system of
SHANXI DISIMAN SPECIAL METAL TECHNOLOGY CO., LTD.
(UNIFIED SOCIAL CREDIT CODE: 91140105076468294L)
(ADD: ZONE B,TAIYUAN STAINLESS STEL INDUSTRIAL PARK,NO.73,GANGYUAN ROAD,JIAN CAOPING DISTRICT,TAIYUAN CITY,P.R.CHINA ZIP: 030008)
(PLEASE REFER TO THE CERTIFICATE ANNEX FOR ADDRESSES)
Is in conformity with:
GB/T45001-2020/ISO45001:2018
This system is valid for:
PRODUCTION AND SERVICE OF STAINLESS STEEL AND SPECIAL STEEL COLD ROLLED STEEL SHEET AND PRECISION STEEL STRIP AND RELATED MANAGEMENT ACTIVITIES
Issue date: 06-15-2021 This Certificate is validity until: 06-14-2024
(The surveillance audits shall be performed in a yearly manner during the validation. The continual effectiveness of the certificate shall be marked by the surveillance qualification logo as pasted below.)
Organization stamp: Representative of the centre (Director):
1st surveillance logo 2nd surveillance logo 3rd surveillance logo
ISO 45001 UCC CNAS 中国认可 国际互认 MANAGEMENT SYSTEM CNAS C024-M


UNIVERSAL CERTIFICATION CENTRE CO., LTD.
ENVIRONMENTAL MANAGEMENT SYSTEM CERTIFICATE
No.: 02421E3221081 2R0M
This is to certify that the environmental system of
SHANXI DISIMAN SPECIAL METAL TECHNOLOGY CO., LTD.
(UNIFIED SOCIAL CREDIT CODE: 91140105076468294L)
(ADD: ZONE B,TAIYUAN STAINLESS STEL INDUSTRIAL PARK,NO.73,GANGYUAN ROAD,JIAN CAOPING DISTRICT,TAIYUAN CITY,P.R.CHINA ZIP: 030008)
(PLEASE REFER TO THE CERTIFICATE ANNEX FOR ADDRESSES)
Is in conformity with:
GB/T24001-2016/ISO14001:2015
This system is valid for:
PRODUCTION AND SERVICE OF STAINLESS STEEL AND SPECIAL STEEL COLD ROLLED STEEL SHEET AND PRECISION STEEL STRIP AND RELATED MANAGEMENT ACTIVITIES
Issue date: 06-15-2021 This Certificate is validity until: 06-14-2024
(The surveillance audits shall be performed in a yearly manner during the validation. The continual effectiveness of the certificate shall be marked by the surveillance qualification logo as pasted below.)
Organization stamp: Representative of the centre (Director):
1st surveillance logo 2nd surveillance logo 3rd surveillance logo
ISO 14001 UCC IAF CNAS 中国认可 国际互认 MANAGEMENT SYSTEM CNAS C024-M


NSF ISR
Certificate of Registration
This certifies that the Quality Management System of
Shanxi Disiman Special Metal Technology Co., Ltd.
No.32 workshop, area a, Taiyuan Stainless Steel Industrial Park, No.73 Gangyuan Road, Jiancaoping District, Taiyuan City, Shanxi Province, China 030008
Has been assessed by NSF-ISR and found to be in conformance to the following standards(s):
IATF 16949:2016
Scope of Registration:
Manufacturing of Stainless Steel Fine Belt
Exclusions: Product Design
IATF Certificate Number: 0401240
Certificate Number: CNIATF047165
Certificate Issue Date: 26-MAY-2021
Registration Date: 26-MAY-2021
Expiration Date*: 25-MAY-2024
Jennifer Moorcraft, Global Managing Director
NSF International Strategic Registrations
789 North Dixboro Road, Ann Arbor, Michigan 48105 | (888) NSF-9000 | www.nsf-isr.org
Page 1 of 2

QUALITY ASSURED FIRM ISO 9001 UCC

OCCUPATIONAL HEALTH & SAFETY ASSURED FIRM ISO 45001 UCC

ENVIRONMENT ASSURED FIRM ISO 14001 UCC

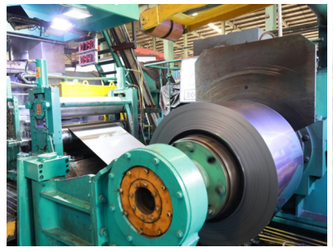
IATF16949

Processing Capability

⊙ Cold rolling

With a number of AGC four-high and twenty-high rolling mills, different thicknesses can be customized.

Cold rolling is usually done longitudinally. The process generally includes raw material preparation, rolling, degreasing, annealing, finishing and so on. Raw materials of cold rolling are hot rolled products. The purpose of degreasing is to remove the lubricating grease attached to the rolled material during rolling so as not to pollute the steel surface during annealing, and to prevent the carburization of stainless steel. Annealing is to eliminate the work hardening caused by cold deformation through recrystallization to restore the plasticity of the material and reduce the deformation resistance of the metal. Finishing includes check, cutting, leveling, packaging and other steps to produce higher quality steel coils.





Technical specifications

Cold rolling equipment

	minimum limit	maximum limit
thickness	0.04mm	4.5mm
thickness tolerance	±0.003mm	±0.05mm
width	100mm	780mm
inner diameter	300mm	508mm

⊙ Slitting

Provide trimming, slitting, roll services and process products with different widths

Advantages:

· high material utilization rate

· fast cutting speed

· small burr





Technical specifications

slitting equipment

	minimum limit	maximum limit
thickness	0.05mm	10mm
width	4.2mm	1500mm
width tolerance	±0.02mm	±0.1mm
inner diameter	300mm	508mm

⊙ Traverse Shearing

The steel coil is cut into plates by leveling, and processed to different lengths.

The production line of the shearing machine is mainly composed of loading trolley, uncoiling machine, leveling machine, feeding machine, shearing machine, conveying device, stacking device, etc. The metal coil is produced by unwinding, leveling, sizing, cutting into the required length to produce stainless steel plates with excellent flatness, cooperating with the stacking system.

Advantages:

· high shear accuracy

· double station stacking; efficient and fast

Technical specifications

traverse shear equipment

	minimum limit	maximum limit
thickness	0.4mm	18mm
width	60mm	2000mm
length	500mm	15000mm
length tolerance	±1mm	







⊙ Plate shearing

Cut the steel plate to change the original width and length.

Plate shearing is to fix the upper blade of the cutting machine on the tool holder and the lower blade on the working bench, on which a material supporting ball is installed to avoid being scratched. The rear stop is used for plate positioning, and its position is adjusted by the motor. The cylinder is used to press the sheet to prevent it from moving during shearing. The guardrail is a safety device to prevent accidents. Cut the steel plate into the desired width and length to produce high quality steel plates with the desired flatness and straightness.

Technical specifications

plate shearing equipment

	minimum limit	maximum limit
thickness	0.4mm	20mm
width	80-2000mm	
length	100-6000mm	
length tolerance	±1mm	







⊙ Heat treatment

Improve the structure of the material to increase the hardness of materials.

Heat treatment process generally includes three mutually connected continuous steps -- heating, heat preservation and cooling. In a controlled atmosphere or protective atmosphere, melted salt and vacuum, this process is to heat the metal materials above the phase-transition temperature to obtain high temperature structure. After a certain period of time, the internal and external temperature is consistent so that the microstructure transformation is complete. Then cool the materials to room temperature or lower at a certain speed to improve the structure of them and obtain excellent performance of the materials.

Technical specifications

heat treatment equipment

	minimum limit	maximum limit
steel type	20Cr13\30Cr13\40Cr13\50CrMoV\60Cr13	
thickness	0.1mm	2.5mm
width	10mm	300mm
surface	2B	polishing
hardness	Max Hv600(depend on materials)	



⊙ Laser cutting

High-precision cutting is done according to customers' drawings.

Laser cutting is to irradiate the workpiece via a focused high-power density laser beam so that the irradiated material quickly melt, vaporize, ablate or reach the ignition point, and simultaneously the high-speed airflow can blow off the melted material to cut workpiece up.

Advantages:

· efficient

· fast

· excellent

Technical specifications

laser cutting equipment

	minimum limit	maximum limit
iron sheet	1mm	50mm
stainless steel	0.5mm	60mm
aluminium sheet	1mm	30mm
copper sheet	1mm	20mm
working bench	2.5m×12m	
laser power	15000W	

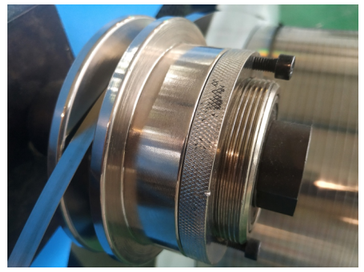


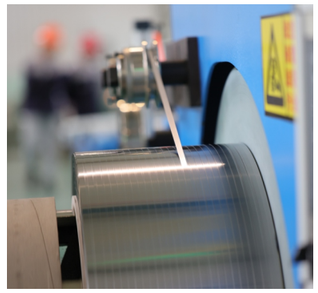




⊙ Oscillate Winding

Weld multi-plate steel tapes from end to end and wind them to meet the needs of automatic production and save labor costs. Reciprocating winding is to weld a number of coils together from end to end to make a large coil above the paper sleeve. The goal of it is to produce longer metal strip to wind around a single spool, which reduces coil setup time, increases productivity, and reduces the risk of damage due to over handling.







Technical specifications

reciprocating winding equipment

thickness	min 0.2mm
width	8-25mm
H-wheel width	max 350mm
single reel weight	max 600kg
inner diameter	300-400mm
external diameter	max750mm

⊙ Surface treatment

Change the original surface of stainless steel to meet different decorative needs.

Surface treatment refers to the process including sandblasting, polishing，etc. In order to remove various foreign matter attached to the surface and provide a good substrate suitable for the coating requirements to ensure that the coating film has good corrosion resistance, decorative performance and some special functions, the surface of objects must be pre-treated before painting to produce products that meet the requirements of corrosion resistance, wear resistance, decoration or other special functions.

Technical specifications

surface treatment equipment

	minimum limit	maximum limit
thickness	0.3mm	3mm
width	700mm	1570mm
raw material surface	2D, 2B, BA	
finished product surface	NO.4, HL, SB	
external diameter of raw material	1000mm	2100mm
inner diameter of raw material	508mm	610mm
inner diameter of finished product	508mm	



DSM 帝思曼

Cooperative Industry

High-quality stainless steel materials of DSM are widely used in important industries around the world.

new energy · automobile · petrochemical · shipbuilding · home appliances · textile

rail transit · pressure container · construction hardware · medical equipment · electronics · kitchenware & tableware

430

Japanese Standard	DSM	C≤%	Mn≤%	P≤%	S≤%	Si≤%	Cr	Ni≤%	Min tensile strength	Min yield strength	Min elongation %	Max hardness			bend	density/20°C
									Mpa	Mpa	50mm	HBW	HRB	HV		kg/dm³
SUS430	430	0.12	1	0.04	0.03	1	16.00-18.00	0.75	420	205	22	183	89	200	180	7.7

Characteristic

Typical non-heat treatment hardening ferrite series stainless steel has low thermal expansion rate and excellent oxidation resistance.

Application

decorative materials and outdoor advertising columns;
electronic products HDD, tableware, bolts, nuts, sieve meshes and burners, etc;
architectural decoration, fuel burner parts, household appliances, gas stove parts, washing machine;
absorption tower, nitric acid heat exchanger, acid tank, conveying pipe and tank;
industrial pipes for food, wine, etc.

Products

hot rolled coil, cold rolled coil, precision steel strip





410SC/0Cr13Mn

DSM	C≤%	Si≤%	Mn≤%	P≤%	S≤%	Cr	Ni≤%	N	Min tensile strength	Min yield strength	Min Elongation %	Max hardness		
									Mpa	Mpa	50mm	HBW	HRB	HV
410SC	0.08-0.12	0.4-0.8	0.7-1.0	0.035	0.01	11.50-12.50	0.6		450	205	15	229	98	241
0Cr13Mn	0.045-0.08	0.6	1.00-2.50	0.035	0.03	11.50-14.50	0.6	0.008-0.020	410	205	20		93	

Characteristic

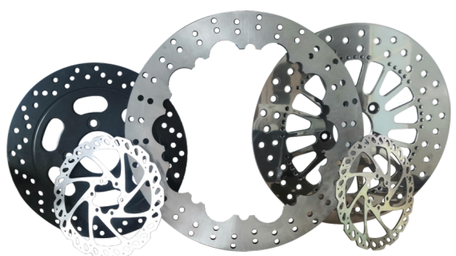
Compared with 410 stainless steel, 410SC/0Cr13Mn improves its quenching hardness by controlling the amount of Mn and N.

Application

Wear resistance is necessary. Quenching hardness is required between HV350-420 to make motorcycle brake disc.

Products

cold rolled coil, hot rolled coil



410S/410

Japanese Standard	DSM	C≤%	Mn≤%	P≤%	S≤%	Si≤%	Cr	Ni≤%	Min tensile strength	Min yield strength	Min Elongation %	Max hardness			bend	density/20℃
									Mpa	Mpa	50mm	HBW	HRB	HV		kg/dm³
SUS410S	06Cr13	0.08	1	0.04	0.03	1	11.5-13.5	0.6	440	205	20	201	93	210	180	7.75
SUS410	12Cr13	0.15	1	0.04	0.03	1	11.5-13.5	0.6	440	205	20	201	93	210	180	7.7

Characteristic

06Cr13 has better corrosion resistance and formability than 12Cr13.
Excellent corrosion resistance and machinability.

Application

cutting tools, medical equipment, stamping parts, expansion bolts

Products

hot rolled coil, cold rolled coil, precision steel strip



422

DSM	C≤%	Si≤%	Mn≤%	P≤%	S≤%	Cr	Mo≤%	Min tensile strength	Min yield strength	Min Elongation %	Max hardness		
								Mpa	Mpa	50mm	HBW	HRB	HV
TMS422	0.36-0.40	0.30-0.50	0.45-0.65	0.025	0.01	13.20-14.00	0.90-1.10	590	330	22		95	

Characteristic

Improve corrosion resistance and hardness as well as fatigue resistance. Prevent heavy metal migration. Don't affect the fatigue value at high temperatures.

Application

air conditioner compressor valve plate

Products

hot rolled coil, cold rolled coil, precision steel strip



420J1/420U6

Japanese Standard	DSM	C≤%	Mn≤%	P≤%	S≤%	Si≤%	Cr	Ni≤%	N≤%	Min tensile strength	Min yield strength	Min Elongation %	Max hardness			density/20℃
										Mpa	Mpa	50mm	HBW	HRB	HV	kg/dm³
SUS420J1	20Cr13	0.16-0.25	1	0.04	0.03	1	12.00-14.00	0.6		520	225	18	223	97	234	7.75
	420U6	0.13-0.25	1	0.04	0.03	1	13.00-14.50	0.6	0.06-0.12	520	225	18	223	97	234	7.75

Characteristic

420U6 has better formability, corrosion resistance and strength/wear resistance than 420J1.
Formability: minimizes center segregation;
Corrosion resistance: inhibit the formation of chromium carbide;
Strength/wear resistance: chromium nitride precipitation;

Application

high quality table knives with corrosion resistance and wear resistance
mechanical parts of wear resistance
cutting tools products

Products

hot rolled coil, cold rolled coil, precision steel strip



40Cr13/420J2

European standard	Chinese standard	C≤%	Mn≤%	P≤%	S≤%	Si≤%	Cr	Ni≤%	Min tensile strength	Min yield strength	Min Elongation %	Max hardness	
									Mpa	Mpa	50mm	HRB	HV
1.4031		0.36-0.42	1	0.04	0.015	1	12.5-14.5		max 760	205	12	98	240
1.4034		0.43-0.5	1	0.04	0.015	1	12.5-14.5		max780	205	12	99	245
	40Cr13	0.36-0.45	0.8	0.04	0.003	0.8	12.0-14.0	0.6	590	225	15		
1.4028	30Cr13	0.26-0.35	1	0.04	0.03	1	12.0-14.0	0.6	540	225	18	99	247

Characteristic

The hardness of 40Cr13 is higher than that of 30Cr13 after quenching.
The hardness of 420J2 is higher than that of 420J1.

Application

cutting tools, nozzle seat valves, textile machinery accessories, etc.

Products

hot rolled coil, cold rolled coil, precision steel strip



50Cr15MoV/1.4116

European standard	DSM	C≤%	Mn≤%	P≤%	S≤%	Si≤%	Cr	Mo≤%	V	Min tensile strength	Min yield strength	Min Elongation %	Max hardness		
										Mpa	Mpa	50mm	HBW	HRB	HV
1.4116	50Cr15MoV	0.45-0.55	1	0.04	0.015	1	14.00-15.00	0.50-0.80	0.10-0.20	850		12	280	100	280

Characteristic

The content of C increases to 0.5% and Cr increases to 15%. Meanwhile, with vanadium element added, the hardness after quenching can reach HRC56 or so, and it has good processing and grinding resistance for the tool industry.

Application

blades of food industry and knives

Products

hot rolled coil, cold rolled coil, precision steel strip



409L

Japanese Standard	Chinese standard	C≤%	Mn≤%	P≤%	S≤%	Si≤%	Cr	Ni≤%	N≤%	others	Min tensile strength	Min yield strength	Min Elongation %	Max hardness			bend	density /20°C
											Mpa	Mpa	50mm	HBW	HRB	HV		kg/dm³
SUH409L		0.03	1	0.04	0.03	1	10.50-11.75	0.6		Ti6XC%-0.75	360	175	25	162	80	175	180	7.75
	022Cr11Ti	0.03	1	0.04	0.02	1	10.50-11.75	0.6	0.03	Ti:0.15-0.5e 且Ti≥8(C+N), Nb:0.10	380	170	20	179	88	200	180	7.75

Characteristic

409 stainless steel is resistant to corrosion, high temperature and fatigue, which can make components of the exhaust system last longer and lighter.

Application

motorcycle exhaust pipe

Products

hot rolled coil, cold rolled coil



6Cr13

DSM	C≤%	Mn≤%	P≤%	S≤%	Si≤%	Cr	Min tensile strength	Min yield strength	Min Elongation %	Max hardness		
							Mpa	Mpa	50mm	HBW	HRB	HV
6Cr13	0.6-0.7	1	0.04	0.03	1	12.50-14.00	540		15		95	

Characteristic

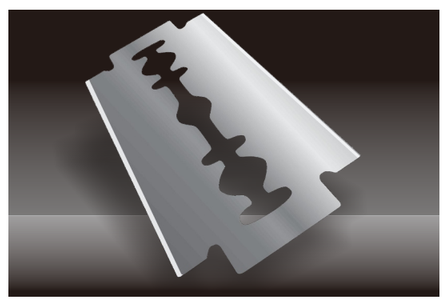
The content of C increases to 0.6% and the hardness after quenching can reach HRC 58 or so, which obtains better processing and grinding resistance to make tool industry.

Application

disposable razor, disposable surgical blade

Products

precision steel strip



301

Japanese Standard	DSM	C≤%	Mn≤%	P≤%	S≤%	Si≤%	Ni≤%	Cr	N≤%	Min tensile strength	Min yield strength	Min Elongation %	Max hardness			density/20℃
										Mpa	Mpa	50mm	HBW	HRB	HV	kg/dm³
301	301	0.15	2	0.045	0.03	1	6.00-8.00	16.00-18.00	0.1	520	205	40	207	95	218	7.93

hardness	Min yield strength Mpa	Min strength of extension Mpa	min ratio of elongation A/%			hardness
			＜0.4mm	0.4-0.8mm	≥0.8mm	HV(min)
1/4H	515	860	25	25	25	250
1/2H	760	1035	15	18	18	310
3/4H	930	1205	10	12	12	370
H	965	1275	8	9	9	430
EH	1790	1860				490





Characteristic

The steel is the most easy to cold deformation, strengthening its strength and hardness and retaining enough plasticity and toughness.

Application

trains, aircraft, conveyor belts, auto parts, springs

Products

precision steel strip



304

Japanese Standard	DSM	C≤%	Mn≤%	P≤%	S≤%	Si≤%	Cr	Ni≤%	Min tensile strength	Min yield strength	Min Elongation %	Max hardness			density/20℃
									Mpa	Mpa	50mm	HBW	HRB	HV	kg/dm³
SUS304		0.08	2	0.045	0.03	1	18.00-20	8.00-10.50	520	205	40	187	90	200	7.93
	304	0.08	2	0.045	0.03	1	17.5-19.5	8.00-10.50	520	205	40	201	92	210	7.93

hardness	Min yield strength Mpa	Min strength of extension Mpa	min ratio of elongation A/%			hardness
			＜0.4mm	0.4-0.8mm	≥0.8mm	HV (min)
1/2H	515	860	10	10	12	250
3/4H	760	1035	6	7	7	310



Characteristic

Excellent processing performance and high toughness

Application

plate heat exchangers, bellows, household goods (1, 2 types of tableware, cabinets, indoor pipelines, water heaters, boilers, bathtub), auto parts (windshield wipers, mufflers, molding products), medical equipment, building materials, chemicals, food industry, agriculture, ship parts, mobile phones, etc

Products

cold rolled coil



321

Japanese Standard	DSM	C≤%	Mn≤%	P≤%	S≤%	Si≤%	Cr	Ni	others	Min tensile strength	Min yield strength	Min Elongation %	Max hardness			density/20℃
										Mpa	Mpa	50mm	HBW	HRB	HV	kg/dm³
SUS321	321	0.08	2	0.045	0.03	1	17.00-19.00	9.00-13.00	Ti≥5XC	520	205	40	187	90	200	8.03

Characteristic

It is Ni-Cr-Ti austenitic stainless steel with abrasion resistance, high temperature resistance, creep resistance, etc. It is used for making Acid containers, linings of wear resistant equipment and conveying pipes.



Application

petroleum exhaust gas combustion pipeline; engine exhaust pipe; boiler shell, heat exchanger, heating furnace components; silencing parts for diesel engines; boiler pressure vessel; chemical transport vehicles; expansion joint; spiral welded pipe for furnace pipe and dryer; aircraft.

Products

precision steel strip

1.4828

European standard	DSM	C≤%	Mn≤%	P≤%	S≤%	Si≤%	Cr	Ni≤%	N	Min tensile strength	Min yield strength	Min Elongation %	Max hardness			density/20℃
										Mpa	Mpa	50mm	HBW	HRB	HV	kg/dm³
1.4828	1.4828	0.2	2	0.045	0.015	1.5-2.5	19.00-21.00	11.00-13.00	0.11	550-750	230	28	223			7.98

Characteristic

1.4828 has excellent scaling resistance, high tensile strength at high temperatures, and low resistance to oxidation and reduction of sulfur-containing gases.



Application

stoves and other high temperature components like automotive exhaust ducts

Products

precision steel strip

316L

USS	DSM	C≤%	Mn≤%	P≤%	S≤%	Si≤%	Cr	Ni≤%	N	Mo	Min tensile strength	Min yield strength	Min Elongation %	Max hardness			density/20℃
											Mpa	Mpa	50mm	HBW	HRB	HV	kg/dm³
316L	316L	0.03	2	0.045	0.03	1.0	16.00-18.00	10.00-14.00	0.1	2-3	485	170	40	217	95	220	7.98

Characteristic

316L has a wide range of applications in the chemical industry because of its excellent corrosion resistance,and is also a derivative of 18-8 austenitic stainless steel, with 2 ~ 3% Mo element added.



Application

automotive exhaust ducts, heat exchangers of pulp and paper equipment , dyeing equipment, film washing equipment, pipelines, external materials of buildings in coastal areas, as well as high-end watch chains, watch cases, etc.

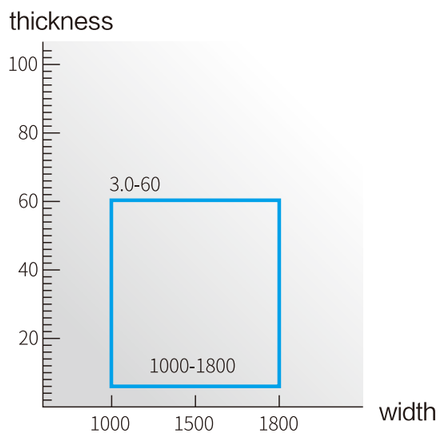
Products

precision steel strip

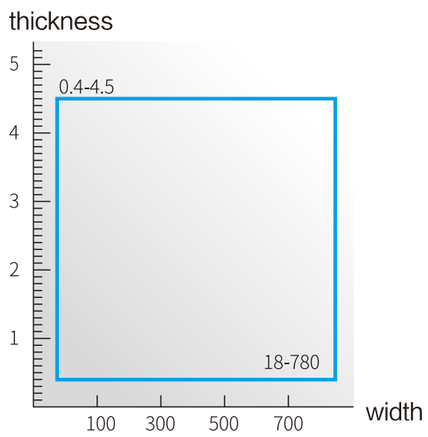
Manufacturable size ranges and dimensional tolerances

Unit (mm) Rolling range

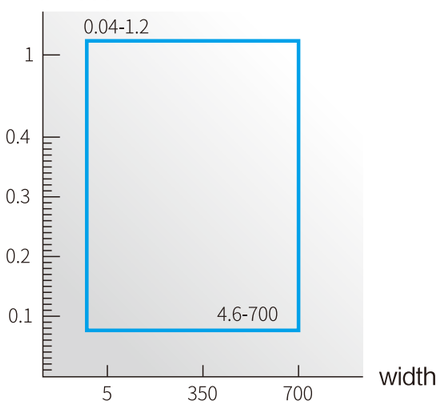
hot rolled coil and plate



cold-rolled strip

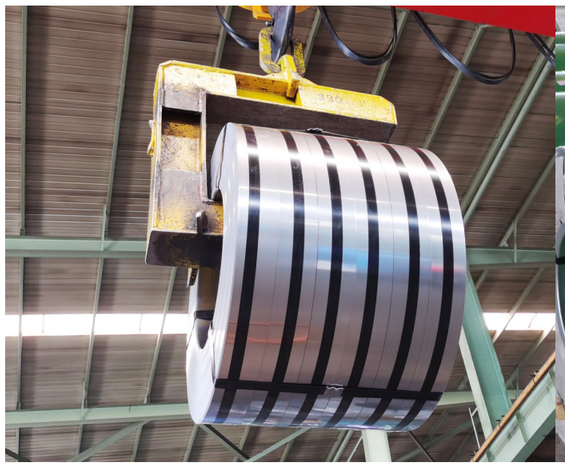


precision steel strip



Surface type

surface type	feature	surface treatment	application
2B	Gloss is stronger than 2D	After 2D treatment, a final mild cold rolling is carried out with a polishing roller to obtain a proper gloss. This is the most commonly used surface treatment,and can also be used as the first step in polishing.	general materials
2D	silver-white	Cold rolling is followed by heat treatment and pickling, and sometimes a final light rolling is performed on a rough surface roller.	general materials and deep drawing materials. Used for applications with less stringent surface requirements
BA	as bright as a mirror	No standard. But it is usually a bright annealed surface processing with high surface reflectivity.	building materials and kitchenware
TR	cold work hardening	Cold work hardening treatment. Depend on the size of the material and cold work amount. Adequate cold hardening of annealed descaled or bright-annealed steel plates. Greatly improve the strength level.	kitchenware
NO.4	intermediate grinding	The polished surface obtained by grinding the 2D and 2B materials with a 150-180# strop grinding belt. It is a universal. There are visible grains on specular reflecting surface.	building materials with bright surface
HL	filament	Mechanical polish with abrasive materials. After polishing, the surface appears a good silver gray or bright white continuous hair streaks.	architectural ornament
NO.1	silver-white and dull	A rough and dull surface appears after hot rolled to a specified thickness and then annealed and dephosphorized.	applications without a surface gloss
1E	hot rolled plate with grey surface	Hot rolling, heat treatment, mechanical peel removal, the method of mechanical peel removal (rough grinding or shot peening) depend on the product type and is chosen by the manufacturer unless specified.	
1C	hot rolled plate with black surface	Hot rolling, heat treatment, no skin removal, for further removal of skin or machined parts, or certain heat resistant applications.	
1U	hot rolled plate with black surface	Hot rolling, no heat treatment, no peeling, for further processing.	





Hardness conversion table

Inproducible hardness　Productive hardness

hardness		tensile strength	hardness		tensile strength	hardness		tensile strength
HV	HRC	N/mm2(kgf/mm2)	HV	HRC	N/mm2(kgf/mm2)	HV	HRC	N/mm2(kgf/mm2)
940	68	----	540	51.7	1860(190)	280	27.1	890(91)
920	67.5	----	530	51.1	1825(186)	275	26.4	875(89)
900	67	----	520	50.5	1795(183)	270	25.6	855(87)
880	66.4	----	510	49.8	1750(179)	265	24.8	840(86)
860	65.9	----	500	49.1	1705(174)	260	24	825(84)
840	65.3	----	490	48.4	1660(169)	255	23.1	805(82)
820	64.7	----	480	47.7	1620(165)	250	22.2	795(81)
800	64	----	470	46.9	1570(160)	245	21.3	780(79)
780	63.3	----	460	46.1	1530(156)	240	20.3	765(78)
760	62.5	----	450	45.3	1495(153)	230	18	730(75)
740	61.8	----	440	44.5	1460(149)	220	15.7	695(71)
720	61	----	430	43.6	1410(144)	210	13.4	670(68)
700	60.1	----	420	42.7	1370(140)	200	11	635(65)
690	59.7	----	410	41.8	1330(136)	190	8.5	605(62)
680	59.2	----	400	40.8	1290(131)	180	6	580(59)
670	58.8	----	390	39.8	1240(127)	170	3	545(56)
660	58.3	----	380	38.8	1205(123)	160	0	510(53)
650	57.8	----	370	37.7	1170(120)	150		490(50)
640	57.3	----	360	36.6	1130(115)	140		455(46)
630	56.8	----	350	35.5	1095(112)	130		425(44)
620	56.3	----	340	34.4	1070(109)	120		390(40)
610	55.7	----	330	33.3	1035(105)	110		
600	55.2	----	320	32.2	1005(103)	100		
590	54.7	2055(210)	310	31	980(100)	95		
580	54.1	2020(206)	300	32.2	950(97)	90		
570	53.6	1985(202)	295	31	935(96)	85		
560	53	1950(199)	290	28.5	915(94)			
550	52.3	1905(194)	285	27.8	905(92)			

Chemical composition

new grade	Japanese standard	USS	European standard	C	Si	Mn	P	S	Ni	Cr	Mo	N	others
12Cr17Ni7	SUS301	301	1.4319	0.15	1.00	2.00	0.045	0.030	6.00-8.00	16.00-18.00		0.1	
06Cr19Ni10	SUS304	304	1.4301	0.07	0.75	2.00	0.045	0.030	8.00-10.50	17.50-19.50		0.1	
			1.4828	0.20	1.50-2.50	2.00	0.05	0.02	11.00-13.00	19.00-21.00		0.11	
06Cr23Ni13	SUS309S	309S	1.4833	0.08	0.75	2.00	0.045	0.030	12.00-15.00	22.00-24.00			
06Cr25Ni20	SUS310S	310S	1.4845	0.08	1.50	2.00	0.045	0.030	19.00-22.00	24.00-26.00			
06Cr17Ni12Mo2	SUS316	316	1.4401	0.08	0.75	2.00	0.045	0.030	10.00-14.00	16.00-18.00	2.00-3.00	0.1	
022Cr17Ni12Mo2	SUS316L	316L	1.4404	0.03	0.75	2.00	0.045	0.030	10.00-14.00	16.00-18.00	2.00-3.00	0.1	
06Cr17Ni12Mo2Ti	SUS316Ti	316Ti	1.4571	0.08	0.75	2.00	0.045	0.030	10.00-14.00	16.00-18.00	2.00-3.00		Ti≥5XC
06Cr18Ni11Ti	SUS321	321	1.4541	0.08	0.75	2.00	0.045	0.030	9.00-12.00	17.00-19.00		0.1	Ti≥5XC
022Cr11Ti	SUH409L	409L	1.4512	0.03	1.00	1.00	0.040	0.020	0.60	10.50-11.75		0.03	Ti:0.15-0.50 &Ti≥8X(C+N), Nb：0.10
022Cr12	SUS410L			0.03	1.00	1.00	0.040	0.030	0.60	11.00-13.50			
10Cr17	430	1.4016		0.12	1.00	1.00	0.040	0.030	0.75	16.00-18.00			
019Cr18CuNb	430J1L			0.025	1.00	1.00	0.040	0.030	0.60	16.00~20.00		0.025	"Cu:0.3-0.8 Nb:8X(+N)~0.8"
06Cr13	SUS410S	410S	1.4000	0.08	1.00	1.00	0.040	0.030	0.60	11.50-13.50			
022CR17NbTi	SUS430LX	439	1.4510	0.12	0.75	1.00	0.040	0.030	0.60	16.00-18.00	2.00-3.00		
		441		0.03	1.00	1.00	0.040	0.015		17.50-18.50			Ti:0.1-0.6; Nb:3(C+0.30) ~1.00
019Cr19Mo2NbTi		444	1.4521	0.025	1.00	1.00	0.040	0.030	1.00	17.50-19.50	1.75-2.50	0.035	Ti+Nb; [0.20+4X©+ N)]~0.80
12Cr13	SUS410	410	1.4006	0.15	1.00	1.00	0.040	0.030	0.60	11.50-13.50			
		410SC		0.08-0.12	0.4-0.8	0.7-1.0	0.035	0.010	0.60	11.50-12.50			
OCr13Mn				0.045-0.08	0.60	1.00-2.50	0.035	0.030	0.60	11.50-14.50		0.008-0.020	Nb＜0.010
20Cr13	SUS420J1	420	1.4021	0.16-0.25	1.00	1.00	0.040	0.030	0.60	12.00-14.00			
30Cr13	SUS420J2	420	1.4028	0.26-0.35	1.00	1.00	0.040	0.030	0.60	12.00-14.00			
		420U6		0.13-0.25	1.00	1.00	0.040	0.030	0.60	13.00-14.50		0.06-0.15	
40Cr13			1.4031	0.36-0.45	0.80	0.80	0.040	0.030	0.60	12.00-14.00			
46Cr13			1.4034	0.43-0.5	1.00	1.00	0.040	0.015		12.50-14.50			
	TMS422			0.36~0.40	0.30~0.50	0.45~0.65	0.025	0.010		13.20-14.00		0.90-1.10	
50Cr15MoV			1.4116	0.45-0.55	1.00	1.00	0.040	0.015		14.00-15.00	0.50-0.80		
6Cr13				0.60-0.70	1.00	1.00	0.040	0.030		12.5-14.00			
7Cr13Mo				0.65-0.75	1.00	1.00	0.040	0.030		12.50-14.00	0.05-1.0		V:0.05-0.2
022Cr25Ni7Mo4N		2507		0.03	0.80	1.20	0.035	0.020	6.0~8.0	24.00-26.00	3.0-5.0	0.24-0.32	Cu:≤0.5
022Cr23Ni5Mo3N		2205		0.03	1.00	2.00	0.030	0.020	4.5~6.5	22.00-23.00	3.0-3.5	0.14-0.20	
1Cr13A14				0.12	0.70	0.50	0.025	0.020	0.60	12.00-15.00			Al:4.0-6.0
0Cr15A15				0.08	0.70	0.50	0.025	0.020	0.60	14.00-15.50			Al:4.5-5.5
0Cr21A16				0.06	1.00	0.70	0.025	0.025	0.60	19.00-22.00			Al:5.0-7.0

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