IN PURSUIT OF EXCELLENCE

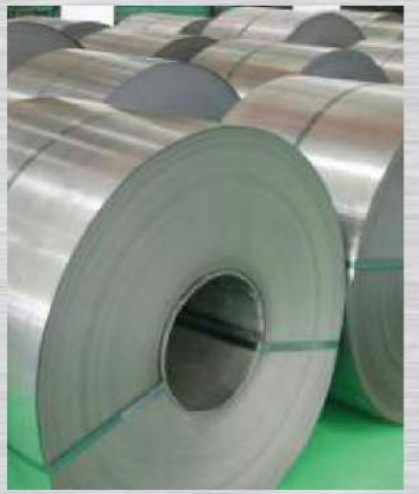
HISAR METAL

An ISO 9001 : 2009 Company

Hisar Metal Industries Limited

STAINLESS STEEL STRIPS

The Company - In Brief



Hisar Metal Industries Ltd. was set up at Hisar in the year 1991 to produce High Precision, Ultra Thin Stainless Steel Strips, Located in the state of Haryana, 160 kms. from New Delhi, the capital of India. Hisar is popularly known as the 'Stainless Steel City of India'.

Over the years, Hisar Metal has achieved a phenomenal growth. Utilising state-of-art technology and high precision imported machinery, we are able to manufacture ultra thin, upto 0.05mm, high precision Stainless Steel Strips with dimensional accuracy, excellent flatness and smooth surface finish.

Backed by a dedicated, skilled technical workforce and a flair to excel in providing services and quality have made it possible for Hisar Metal to stand out as one of the leading supplier of high quality Stainless Steel Strips to the Industry, domestic as well overseas.

To evolve, is the only way to stand against the fierce onslaught of global competition. Undaunted obsession for growth has never allowed slightest lenience in obeying our stringent quality control, and pursuing dynamic Research & Development.

Perseverance, die hard quality consciousness, further augmented our business acumen and empowered us to meet demanding international standards.

ISO 9001

DNV

MGMT. SYS.
RvA C 024

DNV Certification B.V.

Stainless Steel Characteristics

Stainless Steel has two main characteristics. They all contain varying amount of chromium, possess a higher resistance to corrosion and a higher resistance to scaling at high temperatures.
Stainless Steel is not a single specific material but a group of steels containing a minimum of 11% chromium with or without varying addition of nickel, molybdenum, titanium and other elements.

Stainless Steel Range

Stainless Steel is classified into three important range viz. Austenitic, Ferritic and Martensitic.

Austenitic

Austenitic Stainless Steel contains Nickel and Chromium. They are non-magnetic, excellent corrosion resistant and can't be hardened by heat treatment.

Ferritic

Ferritic Stainless Steel contains Chromium without Nickel. They are magnetic, good corrosion resistant and can't be hardened by heat treatment.

Martensitic

Martensitic Stainless Steel contains Chromium without Nickel. They are magnetic, fairly corrosion resistant and can be hardened by heat treatment.

Product Range

Cold Rolled Stainless Steel Sheet & Coils of different grades conforming to AISI and BIS or equivalent international specifications are supplied in the following sizes and finishes.

GRADES : AISI 301, 304, 304 L, 316L, 321, 202, 409 M, 410S, 420, 430 & J4 (1% Ni)

Hardness

Min.	150 HV
Max.	550 HV

THICKNESS and MAX. WIDTH

Thickness (mm.) \ Max. width (mm.)	355	460	715
0.05 - 0.15	■		
0.15 - 0.25	■	■	
0.25 - 5.00	■	■	■

FINISHES

Finish	Description
CR	Work hardened for specific hardness.
2B	Cold Rolled, Annealed, Pickled and Skin Passed on polished rolls.
2D	Cold Rolled, Annealed and Pickled.
BA	Cold Rolled, Bright Annealed and Skin Passed on polished rolls.

Captive Power

We have our own captive power supply to sustain internal consumption. Recently installed 6.5 MW Gensets caters to our needs in excess to our requirement, ensures uninterrupted supply of power all the time.

Stainless Steel, since its first cast in the year 1913, has come a long way. Today, Stainless Steel the versatile metal, is widely used not only by the heavy industries but paractically by all small and medium industries that manufacture our day to day utility product- be it cooking utensiles or high precision electronic gadgetary. The demand base of the Indian stainless steel industry is second to textile industry in terms of sheer magnitude. No doubt StainlesS Steel is called - the versatile metal, because of its numerous applications and extra ordinary properties.

Continuous Annealing & Pickling

Continuous Bright Annealing Furnace electrically heated with fully digital DC drive system coupled with PLC technology to ensure consistent Annealing properties and surface quality.

Tolerances (Tolerance on Thickness)

Thickness (mm)		Tolerance on Thickness (+/-)for Width(mm) <250	<250 to <500	<500 to <1000
0.05	0.15	0.005	0.005	-
0.15	0.25	0.015	0.020	-
0.25	0.40	0.030	0.040	0.040
0.40	0.60	0.040	0.040	0.050
0.60	0.80	0.050	0.060	0.070
0.80	1.00	0.060	0.070	0.080
1.00	1.25	0.070	0.080	0.080
1.25	1.50	0.080	0.090	0.100
1.50	2.00	0.090	0.110	0.120
2.00	2.50	0.100	0.120	0.150
2.50	3.00	0.120	0.150	0.200
3.00	4.00	0.150	0.170	0.200

Tolerance on Width

Condition to edge	<250	Width Tolerance of nominal Width(mm) <250 to <500	<500 to <1000
Mill Edge	+5	+10	+20
	-0	-0	-0
Trim Edge	+5	+5	+5
	-0	-0	-0

Mechanical Properties (At Room Temperature)

Stainless Steel Grades AISI	Condition	Tensile Strength Mpa (min.)	Yield Strength Mpa (min.)	% Elongation (min.)	Hardness R_B (max.)
202	Annealed	525	225	40	95
301	Annealed	515	205	40	95
304	Annealed	515	205	40	92
304 L	Annealed	485	170	40	92
316	Annealed	515	205	40	95
316 L	Annealed	485	170	40	95
321	Annealed	515	205	40	95
409 M	Annealed	450	275	20	90
410 S	Annealed	415	205	22	89
420	Annealed	690	-	15	96
430	Annealed	415	205	22	89
J 4 (1% Ni)	Annealed	600	300	25	100

Tolerance on Slit Width

Thickness(mm)		Width Tolerance (+/-) on nominal Width(mm) <150	150<250	250<500	500<1000
0.60		0.15	0.20	0.25	0.50
0.60	1.00	0.20	0.25	0.25	0.50
1.00	1.50	0.20	0.30	0.30	0.60
1.50	2.50	0.25	0.35	0.35	0.70
2.50	4.00	0.30	0.40	0.40	0.80

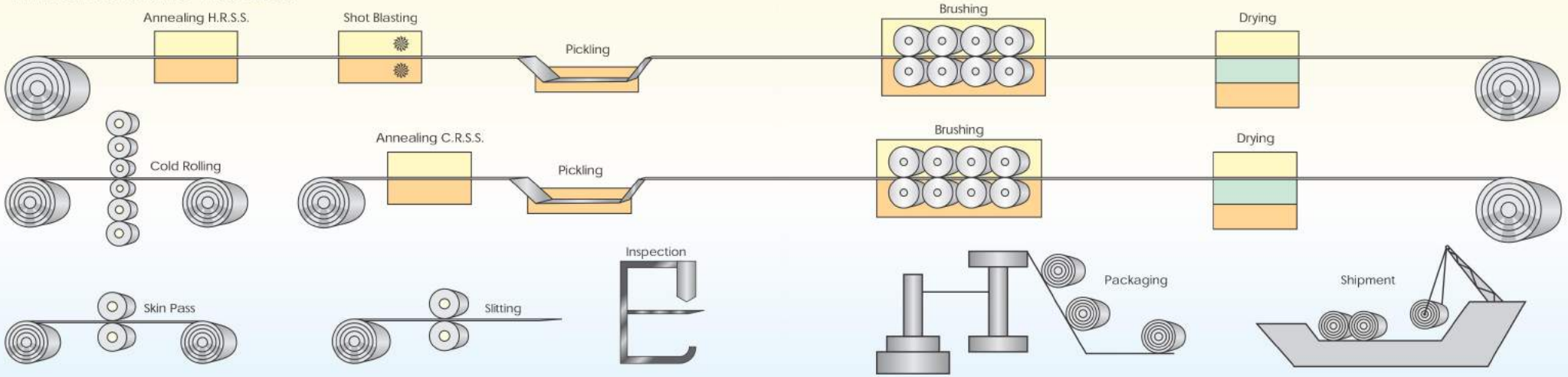
Chemical Composition PERCENTAGE

Stainless Steel Grade AISI	C Max.	Si Max.	Mn Max.	Cr.	Ni	P Max.	S Max.	Other Element
202	0.08	1.00	7.5/10.00	17.00/19.00	4.00/6.00	0.060	0.030	-
301	0.15	1.00	2.00	16.00/18.00	6.00/8.00	0.045	0.030	-
304	0.08	0.75	2.00	18.00/20.00	8.00/10.50	0.045	0.030	-
304 L	0.03	0.75	2.00	18.00/20.00	8.00/12.00	0.045	0.030	-
316	0.08	0.75	2.00	16.00/18.00	10.00/14.00	0.045	0.030	Mo : 2.00/3.00
316 L	0.03	0.75	2.00	16.00/18.00	10.00/14.00	0.045	0.030	Mo : 2.00/3.00
321	0.08	0.75	2.00	17.00/19.00	9.00/12.00	0.045	0.030	Ti : 5x%C min.
409 M	0.03	1.00	1.00	10.50/12.50	1.00 max.	0.030	0.030	Ti : 0.75 max.
410 S	0.08	1.00	1.00	11.50/13.50	0.60 max.	0.040	0.030	-
420	0.35	1.00	1.00	12.00/14.00	0.75 max.	0.040	0.030	-
430	0.12	1.00	1.00	16.00/18.00	0.75 max.	0.040	0.030	-
J4 (1%Ni)	0.10	0.75	8.50/10.00	15.00/16.00	1.2 max.	0.090	0.030	-

Main Characteristic & Typical Applications

Stainless Steel Grade AISI	Main Characteristics	Typical Applications/End products
202	High Cold work hardening rate, good formability.	Water tubings, watch parts foot rule, Industrial knives, bus body accessories, utensils, kitchen appliances, kerosene and gas stove parts.
301	Attains high strength by being cold worked, while retaining good ductility.	Used in cold worked condition for springs & wear plates.
304	Better welding characteristics with good formability and general corrosion resistance.	Watch parts, engine gaskets, flexible houses, foot rule, door hinges, capillary tubings and sinks.
304 L	Low carbon content, weldable and resistance to sensitisation. Good corrosion and oxidation resistance.	Hypodermic needles and capillary tubings.
316	Superior corrosion resistance to sea water and many chemicals and weldable.	Engine gaskets, flexible hoses, process plant and paper industry equipment.
316 L	Low carbon content, highly corrosion resistant, weldable and resistant to sensitisation.	Process plant parts particularly in thick sections.
321	Weldable and resistant to sensitisation. Good corrosion and oxidation resistance.	Heater elements, process plant, furnace parts and high temperature tubes.
409 M	Good corrosion and oxidation resistance.	Auto mufflars, catalytic converters and transformer cases.
410 S	Weldable and resistant to scaling. Good corrosion and heat resistance.	Turbine blades, fasteners and fishing tackle.
420	Superior wearability, excellent corrosion resistance and hardenable to 500 BHN.	Surgical instruments, knife blades and value parts.
430	Superior corrosion resistance and formable.	Automobile trim and food processing plants.
J4 (1%Ni)	High Cold work hardening rate, normal formability.	Welded tubes, utensils, kitchen appliances, sink.

MANUFACTURING PROCESS



Quality Policy

Quality Policy

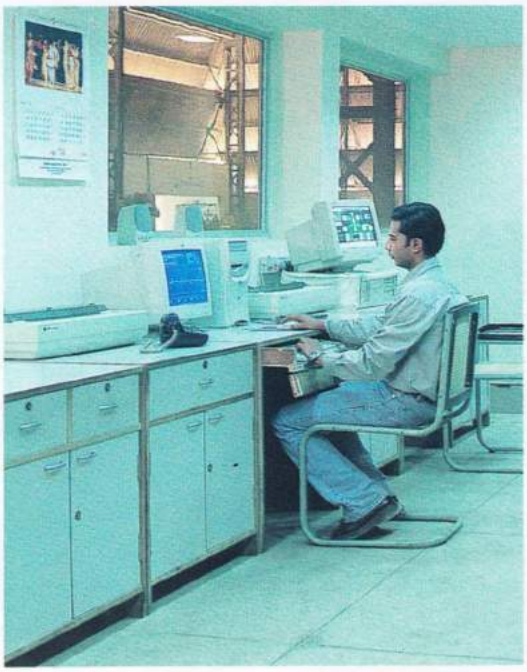
The management of **Hisar Metal Industries Limited** is committed to:

- Sustainable development in constantly changing global environment.
- We commit to maintaining a consistent supply of quality standard Stainless Steel products at a competitive price, timely delivery and outstanding customer service.
- Improving effectiveness of quality management system by improvement, meeting customer and applicable requirements and periodic review of objectives and targets.
- Provide clean, safe, healthy & conducive work environment to its employees and working towards enhancing their competence.
- Working towards improved relationship with all interested parties

Dated: 1st May, 2017 Director

Quality Policy

We intend to become a loyal supplier to our customer by providing them world class Stainless Steel Strips at competitive prices, on time every time, meeting customer requirements as well as expectations and continually improving the effectiveness of Quality managements System



Product Applications

Fibre Optic Cable

Food Processing Parts

Sinks

Piston Rings

Pens

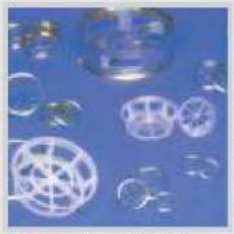
Filters

Engine Gaskets

Structured Packing

Camera Parts

Flexible Metal Hose & Bellows



Cascade Mini Rings

Automotive Parts

Hose Clamps

Hypodermic Needles

Watch Bands

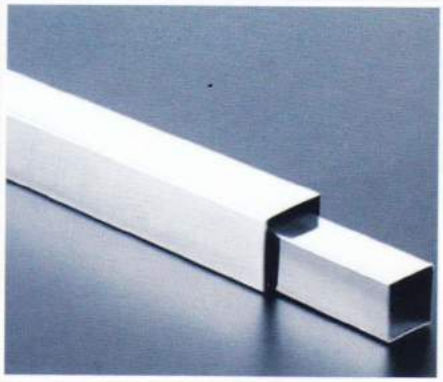
Shoe Insert

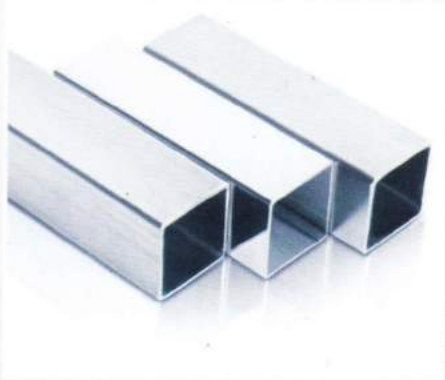
Door

Industrial Thermometer

HISAR METAL

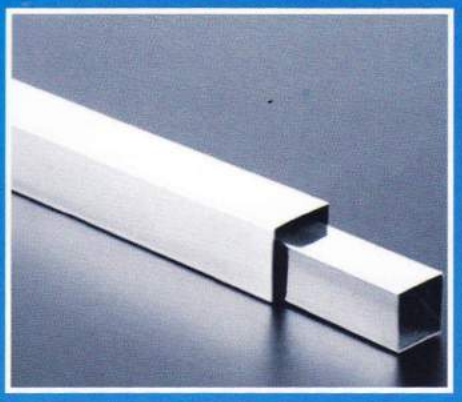
Welded Tubes & Pipes

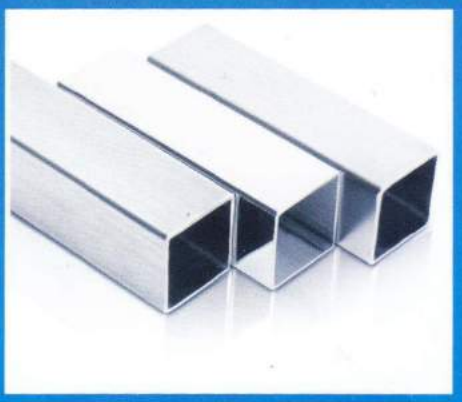




Hisar Metal Industries Limited is a specialist in manufacturing welded pipes & tubes. With its enviable manufacturing infrastructure, vast experience and depth in understanding of the subject, its capabilities match with the best in business, globally.

Equipments like fully integrated and automatic tube mills (with online annealing, eddy current testing, marking etc.), semi automatic tube mills, solution annealing furnaces, cold-drawing facilities, multiple support machines like straightening, cutting, ends facing, polishing, high capacity pickling & passivation setup, U-bending facility etc. give a consummate versatility that is unparalleled.





S.S. Pipes (NB)

15 mm NB - 25 mm NB	Sch 5, 10, 40, 80
32 mm NB - 50 mm NB	Sch 5, 10, 40
65 mm NB - 100 mm NB	Sch 5, 10

S.S. Tubes (OD)

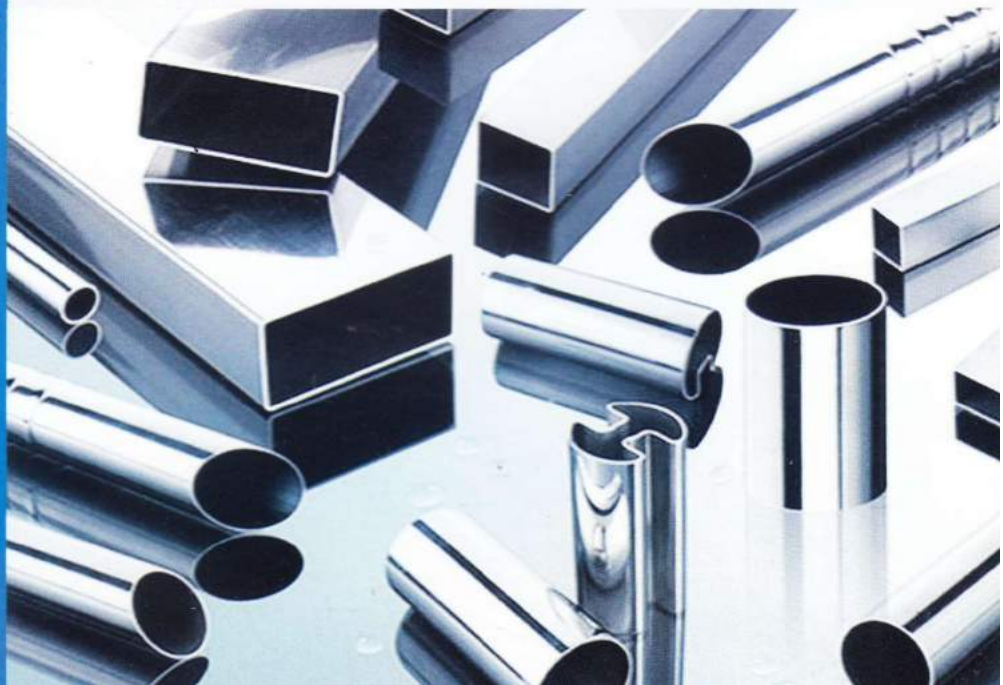
4.76 mm - 12.7 mm	0.3 mm to 1.50 mm thickness
12.7 mm - 22 mm	14 Swg, 16 Swg, 18 Swg, 20 Swg, 22 Swg
25.4 mm - 50.8 mm	10 Swg, 12 Swg, 14 Swg, 16 Swg, 18 Swg, 20 Swg, 22 Swg
63.5 mm - 88.9 mm	10 Swg, 12 Swg, 14 Swg, 16 Swg, 18 Swg, 20 Swg
101.6 mm - 114.3 mm	10 Swg, 12 Swg, 14 Swg, 16 Swg, 18 Swg

S.S. Square Pipes

15 mm × 15 mm	16 Swg, 18 Swg, 20 Swg
20 mm × 20 mm	16 Swg, 18 Swg, 20 Swg
25 mm × 25 mm	16 Swg, 18 Swg, 20 Swg
30 mm × 30 mm	16 Swg, 18 Swg, 20 Swg
40 mm × 40 mm	16 Swg, 18 Swg, 20 Swg
50 mm × 50 mm	16 Swg, 18 Swg, 20 Swg

S.S. Rectangle Pipes

13 mm × 26 mm	16 Swg, 18 Swg, 20 Swg
16.5 mm × 32.5 mm	16 Swg, 18 Swg, 20 Swg
20 mm × 40 mm	16 Swg, 18 Swg, 20 Swg
25 mm × 50 mm	16 Swg, 18 Swg, 20 Swg
25 mm × 75 mm	16 Swg, 18 Swg, 20 Swg
35 mm × 65 mm	16 Swg, 18 Swg, 20 Swg
40 mm × 80 mm	16 Swg, 18 Swg, 20 Swg
50 mm × 100 mm	16 Swg, 18 Swg, 20 Swg



Standard Specifications

Type		Alloy	Standard specifications			Chemical composition %						Gravity
			AISI ASTM	JIS	Others	C	Cr	Ni	Mo	Cu	Others	
Austenitic	General use, corrosion and heat resistant	NTK 201	AISI 201	SUS 201		≤0.15	16.00 ~18.00	3.50 ~5.50			Mn 5.50~7.50 N≤0.25	7.93
		NTK 301	AISI 301	SUS 301		≤0.15	16.00 ~18.00	6.00 ~8.00				7.93
		NTK 304	AISI ASTM 304	SUS 304	DIN W-Nr1.4301	≤0.08	18.00 ~20.00	8.00 ~10.50				7.93
	Cold finished/ good drawability	NTK 304S	AISI ASTM 304	SUS 304	DIN W-Nr1.4301	≤0.06	18.00 ~20.00	9.00 ~10.50				7.93
		NTK D-5	AISI ASTM 304	SUS 304		≤0.08	18.00 ~20.00	9.00 ~10.50			S≤0.005	7.93
		NTK D-6				≤0.030	15.00 ~16.00	6.00 ~9.00		1.50 ~3.00		7.93
		NTK 305	AISI ASTM 305	SUS 305	DIN W-Nr1.4303	≤0.12	17.00 ~19.00	10.50 ~13.00				7.93
		NTK XM7	ASTM XM7	SUS XM7		≤0.08	17.00 ~19.00	8.00 ~10.50		3.00 ~4.00		7.93
	Highly sectile	NTK 303	AISI 303	SUS 303	DIN W-Nr1.4305	≤0.15	17.00 ~19.00	8.00 ~10.00			P≤0.20 S≤0.15	7.93
		NTK F-1				≤0.08	17.00 ~19.00	8.00 ~10.00	≤0.60		S≤0.03	7.93
	Resistant to intergranular corrosion	NTK 304L	AISI ASTM 304L	SUS 304L	DIN W-Nr1.4306	≤0.030	18.00 ~20.00	9.00 ~13.00				7.93
		NTK 321	AISI ASTM 321	SUS 321	DIN W-Nr1.4541	≤0.08	17.00 ~19.00	9.00 ~13.00			Ti≥5×C%	7.93
		NTK 347	AISI ASTM 347	SUS 347	DIN W-Nr1.4550	≤0.08	17.00 ~19.00	9.00 ~13.00			Nb≥10×C%	7.98
	Heat resistant	NTK 309	AISI 309	SUS 309		≤0.20	22.00 ~24.00	12.00 ~15.00				7.98
		NTK 309S	AISI ASTM 309S	SUS 309S		≤0.08	22.00 ~24.00	12.00 ~15.00				7.98
		NTK 310	AISI 310	SUS 310	DIN W-Nr1.4745	≤0.08	24.00 ~26.00	19.00 ~22.00				7.98
		NTK 310S	AISI ASTM 310S	SUS 310S	DIN W-Nr1.4845	≤0.08	24.00 ~26.00	19.00 ~22.00				7.98
		NTK 302B	AISI 302B	SUS 302B		≤0.15	17.00 ~19.00	8.00 ~10.00			Si 2.00~3.00	7.93
		NTK 330	AISI 330			≤0.15	14.00 ~17.00	33.00 ~37.00				7.98
	Super alloy	NTK NY-80A		NCF 800	Incology 800	≤0.10	19.00 ~23.00	30.00 ~35.00		≤0.75	Ai 0.15~0.60 Ti 0.15~0.60	8.02
Contains Mo	Acid resistant	NTK 316	AISI 316 ASTM	SUS 316		≤0.08	16.00 ~18.00	10.00 ~14.00	2.00 ~3.00			7.98
		NTK 317	AISI 317 ASTM	SUS 317		≤0.08	18.00 ~20.00	11.00 ~15.00	3.00 ~4.00			7.98

Standard Specifications

Type		Alloy	Standard specifications			Chemical composition %						Gravity
			AISI ASTM	JIS	Others	C	Cr	Ni	Mo	Cu	Others	
Austenitic	Contains Mo, Resistant to interg-ranular corrosion	NTK 316L	AISI ASTM 316L	SUS 316L	DIN W-Nr1.4404	≤0.030	16.00 ~18.00	12.00 ~15.00	2.00 ~3.00			7.98
		NTK 316T			DIN W-NR1.4571	≤0.08	16.50 ~18.50	10.50 ~13.50	2.00 ~2.50		Ti≥5×C%	7.98
		NTK 317L	AISI ASTM 317L	SUS 317L		≤0.030	18.00 ~20.00	11.00 ~15.00	3.00 ~4.00			7.98
	Acid resistant (extra grades)	NTK 30A			Carpenter 20	≤0.020	19.00 ~21.00	28.00 ~30.00	2.00 ~3.00	3.00 ~4.00	Mn 2.50~3.50	8.02
Austenitic-ferritic (2-phase)		NTK R-4	ASTM 329	SUS 329 J1		≤0.03	23.00 ~26.00	4.00 ~6.00	1.00 ~2.50		N added	7.80
Austenitic	General use, corrosion and heat resistant	NTK 405	AISI ASTM 405	SUS 405	DIN W-Nr1.4002	≤0.08	11.50 ~14.50				Ai 0.10~0.30	7.75
		NTK 430	AISI ASTM 430	SUS 430	DIN W-Nr1.4016	≤0.12	16.00 ~18.00					7.70
		NTK 430 UC		SUS 430 LX		≤0.030	16.00 ~19.00				Nb 8×(C%+N%) ~0.80 N≤0.030	7.70
		NTK 430 UT		SUS 430 LX	ASTM XM-8	≤0.030	16.00 ~19.00				Ti 8×(C%+N%) ~0.80 N≤0.030	7.70
	Contains Mo, corrosion and heat resistant	NTK 434	AISI 434	SUS 434		≤0.12	16.00 ~18.00		0.75 ~1.25			7.70
		NTK U-1		SUS 444	UNS S44400	≤0.025	17.00 ~20.00		1.75 ~2.50		Ti 8×(C%+N%) ~0.80 N≤0.025	7.75
		NTK U-2		SUS 444	UNS S44400	≤0.025	17.00 ~20.00		1.75 ~2.50		Nb 8×(C%+N%) ~0.80 N≤0.025	7.75
		NTK U-3		SUS 436L		≤0.025	16.00 ~19.00		0.75 ~1.25		Nb 8×(C%+N%) ~0.80 N≤0.025	7.70
	Heat resistant	NTK 409L		SUS 409		≤0.03	10.50 ~11.75				Ti 6×C%~0.75	7.64
		NTK No. 4L		SUS 21		≤0.06	17.00 ~19.00				Ai 3.00~4.00	7.35
Martensitic		NTK 410		SUS 410		≤0.15	11.50 ~13.50					7.75
		NTK 410S	AISI 410 ASTM410S	SUS 410S		≤0.08	11.50 ~13.50					7.75
		NTK 420 J2	AISI ASTM 420	SUS 420 J2		0.26 ~0.40	12.00 ~14.00					7.75
Precipitation hardened		NTK 630		SUS 630		≤0.07	15.50 ~17.50	3.00 ~5.00		3.00 ~5.00	Nb 0.15~0.45	7.8
		NTK 631		SUS 631	UNS S17700	≤0.09	16.00 ~18.00	6.50 ~7.75			Ai 0.75~1.50	7.93

STANDARD WEIGHT OF TUBES

FERRITIC GRADES Kg/m

External diameter (mm)	Spessore - Thickness					
	0,8	1	1,2	1,5	1,8	2
26,9		0,642	0,765	0,945	1,121	1,235
32	0,619	0,769	0,917	1,135	1,348	1,488
34	0,659	0,818	0,976	1,209	1,438	1,587
35		0,843	1,006	1,246	1,482	1,637
36	0,698	0,868	1,036	1,284	1,527	1,687
38	0,738	0,918	1,095	1,358	1,616	1,786
39		0,943	1,125	1,395	1,661	1,835
40	0,778	0,967	1,155	1,432	1,705	1,885
41		0,992	1,185	1,470	1,750	1,935
41,3		1,000	1,194	1,481	1,763	1,950
42	0,818	1,017	1,214	1,507	1,795	1,984
43		1,042	1,244	1,544	1,839	2,034
44,5		1,079	1,289	1,600	1,906	2,108
45		1,091	1,304	1,618	1,929	2,133
48	0,937	1,166	1,393	1,730	2,063	2,282
50	0,976	1,215	1,452	1,804	2,152	2,381
50,8		1,235	1,476	1,834	2,188	2,421
51		1,240	1,482	1,842	2,197	2,431
52	1,016	1,265	1,512	1,879	2,241	2,480
53		1,290	1,542	1,916	2,286	2,530
54		1,315	1,572	1,953	2,330	2,579
55		1,339	1,601	1,990	2,375	2,629
57		1,389	1,661	2,065	2,464	2,728
58		1,414	1,691	2,102	2,509	2,778
60	1,175	1,463	1,750	2,176	2,598	2,877
60,3		1,471	1,759	2,188	2,612	2,892
63,5		1,550	1,854	2,307	2,755	3,051
65	1,274	1,587	1,899	2,362	2,822	3,125
70	1,373	1,711	2,048	2,548	3,045	3,373
76.2		1,865	2,232	2,779	3,322	3,681
80	1,572	1,959	2,345	2,921	3,491	3,869

AUSTENITIC GRADES Kg/m

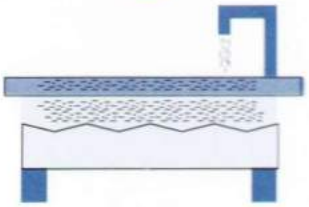
External diameter (mm)	Spessore - Thickness						
	0,8	1	1,2	1,5	1,8	2	2,5
26,9		0,648	0,772	0,954	1,131	1,247	
32	0,625	0,776	0,925	1,146	1,361	1,502	
34	0,665	0,826	0,986	1,221	1,451	1,602	
35		0,851	1,016	1,258	1,496	1,653	
36	0,705	0,876	1,046	1,296	1,541	1,703	
38	0,745	0,926	1,106	1,371	1,632	1,803	
39		0,951	1,136	1,408	1,677	1,853	
40	0,785	0,977	1,166	1,446	1,722	1,903	
41		1,002	1,196	1,484	1,767	1,953	
41,3		1,009	1,205	1,495	1,780	1,968	
42	0,825	1,027	1,226	1,521	1,812	2,003	2,473
43		1,052	1,256	1,559	1,857	2,053	
44,5		1,089	1,301	1,615	1,924	2,128	
45		1,102	1,316	1,634	1,947	2,153	
48	0,945	1,177	1,406	1,746	2,082	2,304	2,848
50	0,986	1,227	1,466	1,822	2,172	2,404	2,973
50,8		1,247	1,490	1,852	2,208	2,444	
51		1,252	1,496	1,859	2,217	2,454	
52	1,026	1,277	1,526	1,897	2,262	2,504	3,099
53		1,302	1,556	1,934	2,308	2,554	
54		1,327	1,586	1,972	2,353	2,604	
55		1,352	1,616	2,009	2,398	2,654	
57		1,402	1,677	2,084	2,488	2,754	
58		1,427	1,707	2,122	2,533	2,804	
60	1,186	1,477	1,767	2,197	2,623	2,904	3,599
60,3		1,485	1,776	2,208	2,637	2,919	
63,5		1,565	1,872	2,329	2,781	3,080	
65	1,286	1,602	1,917	2,385	2,848	3,155	3,912
70	1,386	1,728	2,067	2,573	3,074	3,405	4,225
76,2		1,883	2,253	2,806	3,353	3,716	
80	1,586	1,978	2,368	2,948	3,524	3,906	4,851

Process Chart for Welded Tubes

COIL SECTION

INSPECTION

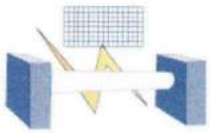
FORMING



DEGREASING TANK

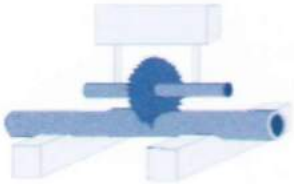
BRIGHT ANNEALING

STRAIGHTENING



100% EDDY CURRENT TESTING

MARKING

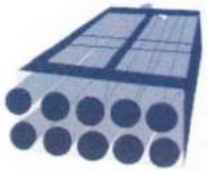


CUTTING TO SIZE & DEBURRING

VISUAL INSPECTION

DESTRUCTIVE MECHANICAL TESTING

HYDRO TESTING

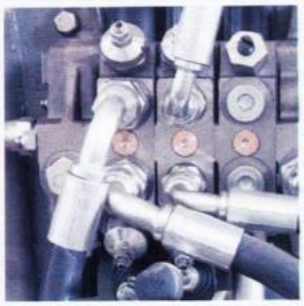


PACKING

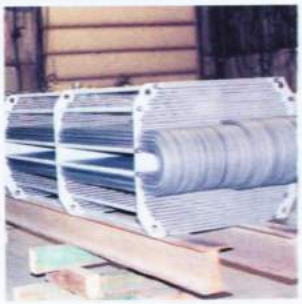
INDUSTRY SPECIFIC RANGE

Type	OD	Wall Thickness	Length	Specification etc.	Welding Method	Others
Pipes	¼" NB to 24" NB (13.70 to 609.6 mm)	Sch 5s, 10s, 20, 40s	4.5 to 6.1 mtrs. Standard; Customers' Specific Requirements Can also be met.	ASTM A312, A778	Tig, Plasma Welding used, Circumferential Welding May be used for Double Random Lengths (10 to 12 Mtrs.)	In Solution Annealed or As welded condition. Finish Pickled, Polishing done on request.
Heat Exchanger/ Condenser Tubes- Straight or U-Bent	0.58" to 2" (15.88 to 50.8 mm)	0.5 to 4.0 mm	Upto 30 Mtrs.; U Tubes As per customers' Requirements	ASTM A249, A269, DIN 17455 & 17457	Tig, Laser Welding Used	In Solution Annealed Condition. Bright Annealing may also be done. Finish-Pickled or BA. Polishing done on request.
Small Diameter/ Instrumentation/ Heating Element Tubing Straight or Coiled	5/16" to 5/8" (8 to 16 mm)	0.5 to 2.11mm	Upto 30 Mtrs; in Coiled form 400 Mtr lengths possible	ASTM A269	Tig. Laser Welding Used	In Solution Annealed Condition. Bright annealing may also be done. Finish-Pickled or BA. Polishing done on request.
Automotive Tubes	4.76 to 51 mm	0.3 to 2.11 mm	As per customers' requirements	Customer requirements	Tig. Laser welding used	In as welded or Solution Annealed condition
Sanitary Tubes for Dairy & Pharma	½" to 4" (12.7 to 101.6 mm)	0.5 to 3.0 mm	4 to 6 Mtrs.	ASTM A270, DIN 11850	Tig. Laser welding used	In Solution annealed or as welded condition. Bright annealing may also be done. Finish-Outside/ Inside Polishing possible.
Sugar Industry Tubes	3/8" to 4" (35 to 101.6 mm)	1.0 to 2.11 mm	Upto 15 Mtrs.	ASTM A249, A269, EN 10217.7	Tig. Welding used	In Solution annealed or As welded condition. Finish pickled.
Architectural Round Tubes	5/16" to 6" (8 to 152.4 mm)	0.5 to 4.0 mm	4 to 6 Mtrs or Customer specified	ASTM A-554	Tig. Laser welding used	In as welded condition. Finish pickled. Polishing done on request.
Architectural square & Rectangular tubes	25×25 to 120×120 mm	2.0 to 4.0 mm	4 to 6 Mtrs or Customer specified	ASTM A-554	Tig. Welding used	In as welded condition. Finish pickled. Polishing done on request.

Product Application



Hydrolics



Heaters

Automobiles

Boilers

Heat Exchanger

Healthcare

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An
ISO 9001:2015
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Company

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