

CATALOG

# CATALOG SGARIA STAINLESS STEEL BARS

# COMPANY PROFILE

## THE SGARIA

In addition to the best products, we work objectively and efficiently, with integrity and a sense of urgency to produce the best services.

Check out some of the pillars of our company:

**Customer Focus:** Our customers are the reason for our existence. We are committed to satisfy your demands on the right place and in the right time

**Safety:** We are strict in meeting our standards, valuing the safety of our customers and contributors;

**Quality:** We seek to maximize our results by valuing quality in every detail of our operation;

**Teamwork:** Together we complete our goals, acting in a shared way we reach more easily the achievements and better results, sharing accomplishments and success.



## CERTIFICATES

By gathering technical strength with design and experience, Sgaria has all the documentation required to deliver you a certified product.





## Sgaria Brasil

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**Address:** Avenida Juscelino Kubitschek, 206 Galpão,  
Piumhí-MG Cep 37925-000  
Telephone: +55 37 3412-0539  
CNPJ: 28.446.398/0001-03



## Sgaria China

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**Address:** Business Center in Mirae Asset Tower,  
166 LujiAzui Ring Road 20Floor  
Phone: +86 (21) 60314584  
VAT CODE: 91310115MA1K4CN75C



## Sgaria EUA

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**Address:** 175 SW 7th Street –  
Unit#1515, Miami – FL 33130  
Phone: +1 786 773 4767  
VAT CODE: 83-1661307



## Sgaria Hong Kong

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**Address:** 10 / F, Pilkem Commercial Center,  
8 Pilkem Street, Jordan, Kowloon, Hong Kong



# Stainless Steel Round Bars

Product range 产品系列范围

Min. diameter (mm) /

2

Max. diameter (mm) /

500



## MANUFACTURING STANDARD PRODUCT DESIGNATION

ASTM A276

Standard Specification for Stainless Steel Bars and Shapes

ASTM A479

Standard Specification for Stainless Steel Bars and Shapes for Use in Boilers and Other Pressure Vessels

ASTM A582

Standard Specification for Free-machining Stainless Steel Bars

EN 10088-3

Stainless steels for general purposes

## Supply conditions -

- Dimensional tolerances according to EN 10278 (see table)

*EN 10278*

- Edge beveling: standard for grades acc. to EN 10277-3. Upon request for other grades.

*EN 10277-3*

UPON REQUEST,  
GRADES AND DIMENSIONS  
VARYING FROM STANDARD  
CAN BE CONSIDERED.



### OPTIONAL PROCESSING

- Rolling -
- Chamfering -
- Filleting -
- Threading -
- Turning -
- Drilling holes -
- Grinding -
- Bending -
- Cut to length -

### DIMENSIONAL TOLERANCES EN 10278

EN 10278

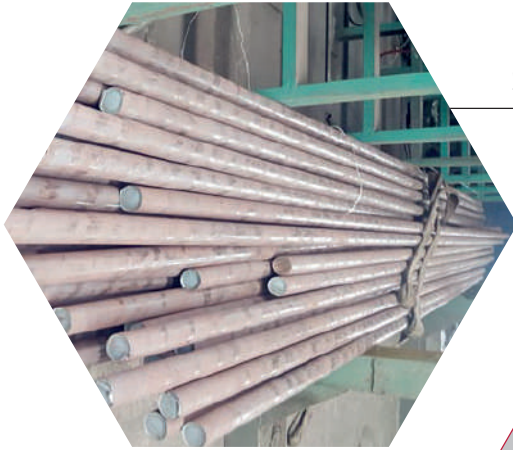
Product Type	tolerance class according to ISO 286-2						
	h6	h7	h8	h9	h10	h11	h12
Drawn				R	R	R,S,H,F	R,S,H,F
Turned				R	R	R	R
Grounded	R	R	R	R	R	R	R
Polished	R	R	R	R	R	R	R

**R:** round  
**S:** square  
**H:** hexagonal  
**F:** flat (up to L=100 mm)

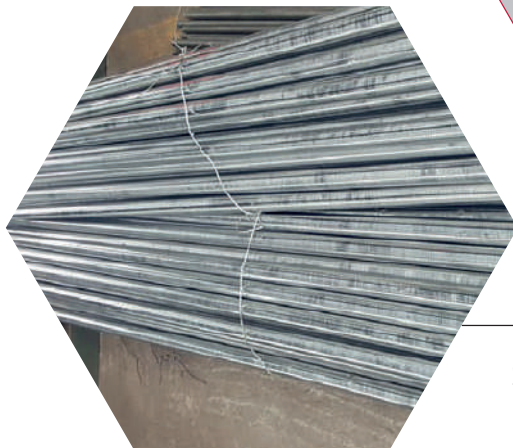
### FINISHED CONDITION

- a) Drawn, symbol+C (BLACK BAR)
- b) Turned, Symbol+SH (PEELED BAR)
- c) Groud, Symbol+SL (GRINDING BAR)
- d) Polished, Symbol +PL (POLISHED BAR)

The steel product shall be delivered in one or combination of the above finished conditions with or without heat treatment.

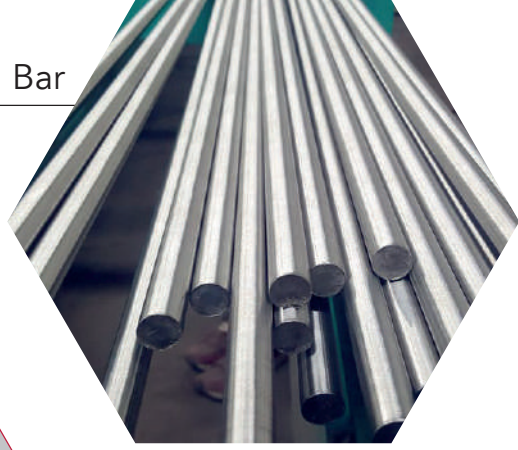


Stainless Steel **Black** Bar



Stainless Steel **Peeled** Bar

Stainless Steel **Grinding** Bar



Stainless Steel **Polished** Bar



*Permitted Variations in Size of Cold Finished Hexagonal, and Square Bars*

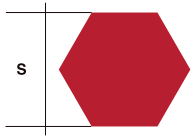
Specified Size, <sup>A</sup> in.[mm]	Permitted Variations from Specified Size, in.[mm] <sup>B</sup>	
	Over	Under
1/8 to 5/16 [3.0 to 8.0], excl	0	0.002 [0.05]
5/16 to 1/2 [8.0 to 13.0], excl	0	0.003 [0.08]
1/2 to 1 [13.0 to 25.0], incl	0	0.004 [0.10]
Over 1 to 2 [25.0 to 50.0], incl	0	0.006 [0.15]
Over 2 to 3 [50.0 to 75.0], incl	0	0.008 [0.20]
Over 3 [75.0]	0	0.010 [0.25]

<sup>A</sup> Distance across flats.

<sup>B</sup> When it is necessary to heat treat or heat treat and pickle after cold finishing, size tolerances are double those shown in the table




# Stainless Steel Hexagonal Bars



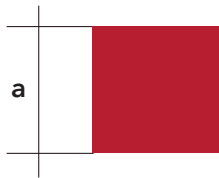
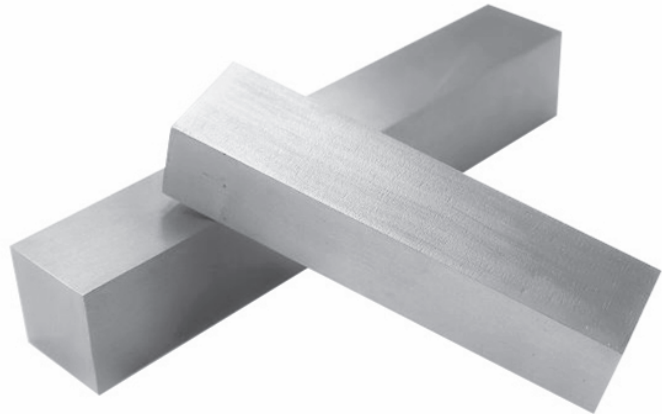
DELIVERY STATE & SIZE	MAIN GRADE
a) Cold Rolled(Polished/HairLine): S3.0mm - S6.0mm	304 304L
b) Cold Drawn(Bright/HairLine): S6.0mm - S80mm	316 316L 303
c) Hot Rolled(Sandblast/HairLine/Polished):S8.0mm- S180mm	

Theoretical Weight(kg/m):  $S(\text{mm}) \times S(\text{mm}) \times 0.0068$

 <b>HEXAGONAL COLD-DRAWN STEEL</b> acc. to EN 10088-3 EN 10088-3	
size mm	weight kg/m
10	0,68
11	0,82
12	0,98
13	1,14
14	1,33
15	1,52
16	1,73
17	1,96
18	2,18
19	2,45
20	2,70
21	3,00
22	3,29
23	3,57
24	3,92
25	4,21
26	4,60
27	4,96
28	5,29
30	6,12
32	6,96
34	7,86
35	8,33
36	8,81
38	9,81
40	10,88
41	11,40
42	12,00
45	13,77
46	14,40
48	15,67
50	17,00
55	20,56
60	24,45
65	28,65
70	32,25
75	38,24
80	43,50



# Stainless Steel Square Bars



## FINISH CONDITUION

a) Polished, Bright 2 x 2mm - 100 x 100mm

b) Sandblast

c) Mill, Pickled

## MAIN GRADE

304	410	15-5PH
304L	416	17-4PH
316		
316L		
303		





**SQUARE BARS**  
acc. to EN 10088-3

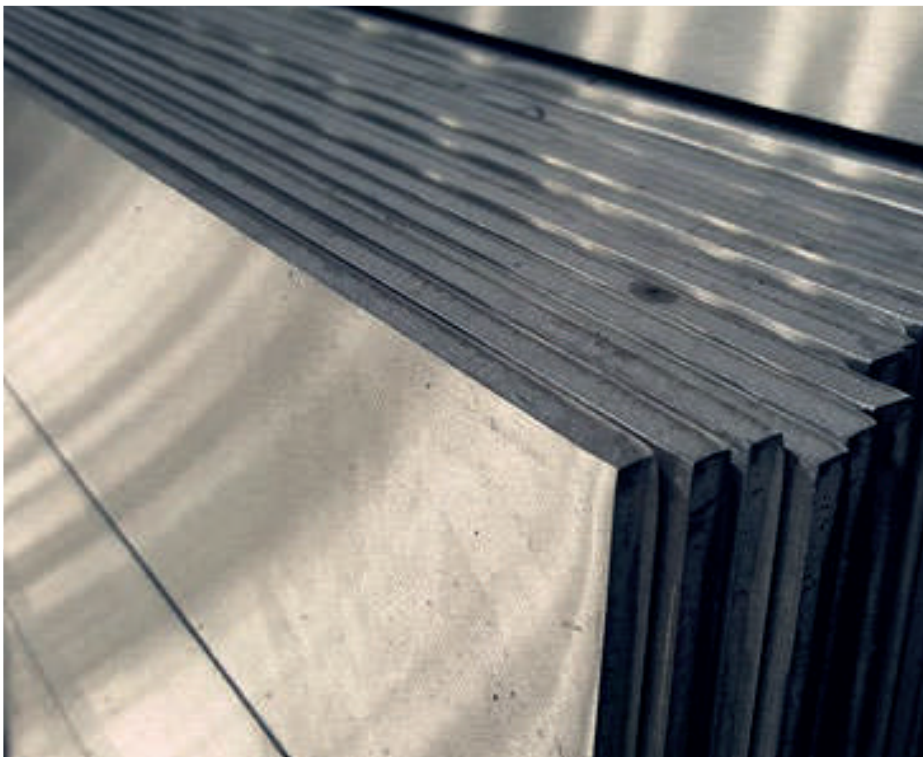
size (a) mm	weight kg/m
9	0.64
10	0.79
12	1.13
16	2.01
18	2.54
19	2.83
20	3.14
22	3.80
25	4.91
28	6.15
30	7.07
32	8.04
35	9.62
36	10.17
38	11.34
44	15.20
50	19.63
55	23.75
60	28.26
65	33.17
70	38.47
75	44.16
80	50.24
85	56.72
90	63.59
95	70.85
100	78.50
110	94.99
120	113.04
130	132.67
140	153.86
150	176.63
160	200.96



# Stainless steel flat bars



MANUFACTURING STANDARD	PRODUCT DESIGNATION	GRADE	
EN 10088-2	Stainless steel flat products for general purposes	Austenitic EN 1.4301 1.4307	AISI 304 304L
EN 10028-7	Stainless steel flat products for pressure purposes	1.4541 1.4401 1.4404	321 316 316L
ASTM A276	Standard specification for stainless steel bars and shapes	1.4571 1.4406 1.4438 1.4541	316Ti 316LN 317L 321
ASTM A479	Standard specification for stainless steel bars and shapes for use in Boilers and Other Pressure Vessels		
ASTM A582	Standard specification for free-machining stainless steel bars		



## MANUFACTURING METHODS

**Cold Drawn**

**Hot Rolled**

**Forged**

**Cutting Plates**

### TOLERANCE IN WIDTH AND THICKNESS OF COLD ROLLED FLAT BARS

width mm	tolerance in width, +/- mm		thickness mm	tolerance in thickness, +/- mm
	thickness ≤ 6.5 mm	thickness > 6.5 mm		
1.50 to 9.50	0.12	0.12	0 to 0.70	0.03
9.50 to 25.00	0.10	0.10	0.70 to 1.00	0.04
25.00 to 50.00	0.15	0.10	1.00 to 25.00	0.05
50.00 to 75.00	0.20	0.10	25.00 to 50.00	0.08
75.00 to 115.00	0.25	0.13	50.00 to 75.00	0.10
			75.00 to 115.00	0.13

### TOLERANCE IN WIDTH AND THICKNESS FOR HOT ROLLED FLAT BARS

specified width mm	tolerance in thickness for thickness given, mm												tolerance in thickness, mm		
	3.2 to 13		13 to 25		25 to 50		50 to 100		100 to 150		150 to 200				
	+	-	+	-	+	-	+	-	+	-	+	-	+	-	
0 to 25.00	0.20	0.20	0.25	0.25	---	---	---	---	---	---	---	---	---	0.40	0.40
25.00 to 50.00	0.30	0.30	0.40	0.40	0.80	0.80	---	---	---	---	---	---	---	0.80	0.80
50.00 to 100.00	0.40	0.40	0.50	0.50	0.80	0.80	1.60	0.80	---	---	---	---	---	1.60	0.80
100.00 to 150.00	0.40	0.40	0.50	0.50	0.80	0.80	1.60	0.80	2.40	1.60	---	---	---	2.40	1.60
150.00 to 200.00	0.40	0.40	0.65	0.65	0.80	0.80	1.60	0.80	2.40	1.60	3.20	4.00	---	3.20	4.00
200.00 to 250.00	0.50	0.50	0.80	0.80	0.80	0.80	1.60	0.80	2.40	1.60	3.20	4.00	---	4.00	4.80

ASTM A484/A484M

### FLAT BARS 扁钢

weight kg/m

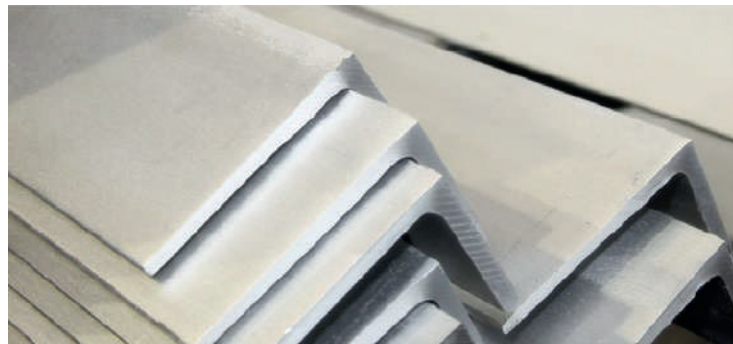
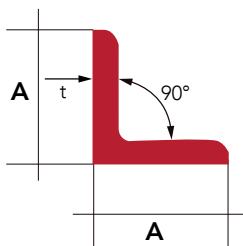
width mm	thickness mm						
	3	4	5	6	8	10	12
10	0,24	0,32					
12	0,29	0,38	0,48	0,57			
15	0,36	0,48	0,60	0,72			
20	0,48	0,64	0,80	0,95	1,27	1,59	
25	0,60	0,80	0,99	1,19	1,59	1,99	
30	0,72	0,95	1,19	1,43	1,91	2,39	2,86
35	0,83	1,11	1,39	1,67	2,23	2,78	
40	0,95	1,27	1,59	1,91	2,54	3,18	3,82
45	1,07	1,43	1,79	2,15	2,86	3,58	
50	1,19	1,59	1,99	2,39	3,18	3,98	4,77
60	1,43	1,91	2,39	2,86	3,82	4,77	5,72
65	1,55	2,07	2,58	3,10	4,13	5,17	6,20
70	1,67	2,23	2,78	3,34	4,45	5,57	6,68
75	1,79	2,39	2,98	3,58	4,77	5,96	7,16
80	1,91	2,54	3,18	3,32	5,09	6,36	7,63
90		2,86	3,58	4,29	5,72	7,16	
100	2,39	3,18	3,98	4,77	6,36	7,95	9,54
120		3,82	4,77	5,72	7,63	9,54	11,45
125				5,96	7,95	9,94	11,93
140			5,57	6,68	8,90	11,13	13,36
150			5,96	7,16	9,54	11,93	14,31
160					10,18	12,72	15,26
180				8,59	11,45	14,31	17,17
200			7,95	9,54	12,72	15,90	19,08

Polished bars standard availability -

#### Supply conditions -

- Dimensional tolerances according to EN 10051 - EN 10051
- Special tolerances upon request
- Control documents 2.2, 3.1, 3.2 according to EN 10204 EN 10204 2.2, 3.1, 3.2
- On request: certification according to AD 2000 W2/W10 AD 2000 W2/W10

# Stainless Steel Angle Bars



FINISH CONDITUION	MAIN GRADE
a) Polished, HairLine	304 304L
b) Sandblast	316 316L
c) Mill, Pickled	Other grades are available, such as 310s, 904L...

DELIVERY STATE	SIZE RANGE
a) Hot Rolled (HR)	20 x 20 x 3 ~ 100 x 100 x 12mm
b) Hot Rolled & Pickled (HRP)	Width: 20mm, 25mm, 30mm, 35mm 40mm, 45mm, 50mm, 60mm, 65mm, 70mm, 75mm, 80mm, 90mm, 100mm  Thickness: 3mm, 4mm, 5mm, 6mm, 7mm, 8mm, 9mm, 10mm, 12mm
c) Made by Bending Plates	As your request
d) Made by Welding Flat Bars	As your request

### TOLERANCE IN WIDTH AND THICKNESS FOR ANGLE BARS

width mm	tolerance in width mm	3	4	5	6	7	8	9	10
20	±1.0	±0.4	±0.4						
25	±1.0	±0.5	±0.5	±0.5	±0.5				
30	±1.0	±0.5	±0.5	±0.5	±0.5				
35	±1.0	±0.6	±0.6	±0.6	±0.6				
40	±1.0	±0.6	±0.6	±0.6	±0.6	±0.6			
45	±2.0	±0.6	±0.6	±0.6	±0.6	±0.6			
50	±2.0	±0.6	±0.6	±0.6	±0.6	±0.6	±0.6	±0.6	
60	±3.0			±0.6	±0.6	±0.7	±0.7	±0.7	
65	±3.0			±0.6	±0.6	±0.7	±0.7	±0.7	
70	±3.0				±0.6	±0.7	±0.7		
75	±3.0				±0.6	±0.7	±0.7	±0.7	
80	±3.0				±0.6	±0.7	±0.7	±0.7	
90	±3.0				±0.6	±0.7	±0.7	±0.7	±0.7
100	±3.0				±0.6	±0.7	±0.7	±0.7	±0.7

\*Available for both equal and unequal angle bar and inc



# Steel Grade

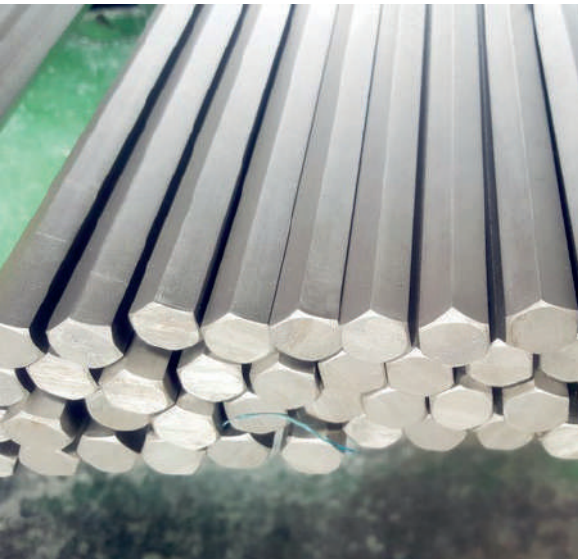
☑ Offer a wide range of stainless steel products in different steel grades. Besides stainless steel, nickel alloys are also available. Main grades are as the below:

No	China GB		Japan JIS	USA		EU BS EN
	Old	New (07.10)		ASTM	UN S	
Austenitic Stainless Steel						
1	1Cr17Mn6Ni5N	12Cr17Mn6Ni5N	SUS201	201	S20100	1.4372
2	1Cr18Mn8Ni5N	12Cr18Mn9Ni5N	SUS202	202	S20200	1.4373
3	1Cr17Ni7	12Cr17Ni7	SUS301	301	S30100	1.4319
4	0Cr18Ni9	06Cr19Ni10	SUS304	304	S30400	1.4301
5	00Cr19Ni10	022Cr19Ni10	SUS304L	304L	S30403	1.4306
6	0Cr19Ni9N	06Cr19Ni10N	SUS304N1	304N	S30451	1.4315
7	0Cr19Ni10NbN	06Cr19Ni9NbN	SUS304N2	XM21	S30452	-
8	00Cr18Ni10N	022Cr19Ni10N	SUS304LN	304LN	S30453	-
9	1Cr18Ni12	10Cr18Ni12	SUS305	305	S30500	1.4303
10	0Cr23Ni13	06Cr23Ni13	SUS309S	309S	S30908	1.4833
11	0Cr25Ni20	06Cr25Ni20	SUS310S	310S	S31008	1.4845
12	0Cr17Ni12Mo2	06Cr17Ni12Mo2	SUS316	316	S31600	1.4401
13	0Cr18Ni12Mo3Ti	06Cr17Ni12Mo2Ti	SUS316Ti	316Ti	S31635	1.4571
14	00Cr17Ni14Mo2	022Cr17Ni12Mo2	SUS316L	316L	S31603	1.4404
15	0Cr17Ni12Mo2N	06Cr17Ni12Mo2N	SUS316N	316N	S31651	-
16	00Cr17Ni13Mo2N	022Cr17Ni13Mo2N	SUS316LN	316LN	S31653	1.4429
17	0Cr18Ni12Mo2Cu2	06Cr18Ni12Mo2Cu2	SUS316J1	-	-	-
18	00Cr18Ni14Mo2Cu2	022Cr18Ni14Mo2Cu2	SUS316J1L	-	-	-
19	0Cr19Ni13Mo3	06Cr19Ni13Mo3	SUS317	317	S31700	-
20	00Cr19Ni13Mo3	022Cr19Ni13Mo3	SUS317L	317L	S31703	1.4438
21	0Cr18Ni10Ti	06Cr18Ni11Ti	SUS321	321	S32100	1.4541
22	0Cr18Ni11Nb	06Cr18Ni11Nb	SUS347	347	S34700	1.455
Austenitic - Ferrite stainless steel (duplex stainless steel)						
23	0Cr26Ni5Mo2	-	SUS329J1	329	S32900	1.4477
24	00Cr18Ni5Mo3Si2	022Cr19Ni5Mo3Si2N	SUS329J3L	-	S31803	1.4462
Ferrite stainless steel						
25	0Cr13Al	06Cr13Al	SUS405	405	S40500	1.4002
26	-	022Cr11Ti	SUH409	409	S40900	1.4512
27	00Cr12	022Cr12	SUS410L	-	-	-
28	1Cr17	10Cr17	SUS430	430	S43000	1.4016
29	1Cr17Mo	10Cr17Mo	SUS434	434	S43400	1.4113
30	-	022Cr18NbTi	-	-	S43940	1.4509
31	00Cr18Mo2	019Cr19Mo2NbTi	SUS444	444	S44400	1.4521
Martensite stainless steel						
32	1Cr12	12Cr12	SUS403	403	S40300	-
33	1Cr13	12Cr13	SUS410	410	S41000	1.4006
34	2Cr13	20Cr13	SUS420J1	420	S42000	1.4021
35	3Cr13	30Cr13	SUS420J2	-	-	1.4028
36	7Cr17	68Cr17	SUS440A	440A	S44002	-



# Packing

All products are packed in accordance with standard packing specifications, unless otherwise specified by the customer in order to minimize damage during storage and transportation.





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