

tk accelis

tk accelis Materials Poland

Stainless steel Aluminium Materials and services



About the company

tk accelis Materials Poland has been providing customers with metallurgical products since 1994. As the leader of steel distribution in Poland, we have the broadest product offer, which includes: carbon steel, stainless steel, aluminium, plastics, welding materials and others. Driven by the needs of our customers, we have created one of the largest distribution networks in the country, which together with warehouses and numerous branches enables us to always be close to our customers.

We are a leading service centre for stainless steel and aluminium materials in Poland. Our wide range of products combined with the comprehensive offer of our service centre allows us to meet the expectations of the most demanding customers. As a solid and reliable partner focusing on the special needs of our customers, we continuously develop our stock by adding new grades and products. Access to the thyssenkrupp service centres is our additional advantage.

Over 30,000 customers representing various industries have trusted us, among others, the food industry, chemical, household appliances, manufacturers of metal products, machinery and vehicles, the construction sector and many others.



We adjust our product and service offer to customer requirements, while maintaining the highest standards of service.

The effectiveness of our quality management is confirmed by quality certificates of DNV GL

Business Assurance Zertifizierung und Umweltgutachter GmbH – an internationally recognised certification body, as well as by the satisfaction of customers who purchase our goods and services.

Why choose cooperation with tk accelis Materials Poland?

- more than 10,000 tonnes of stainless steel and non-ferrous materials in stock,
- prompt availability of materials in 4 modern warehouses and service centres,
- a wide range of services,
- the highest quality of materials,
- professional product consultancy in over a dozen branches in Poland and abroad.

We invite you to familiarise yourself with our offer. For more information about the company and our current product range, please visit **www.thyssenkrupp-materials.pl**



**Over 10.000 t products
from stainless steel
and aluminium
available from stock**

Table of contents

- 02 About the company
- 03 Special offer
- 04 Service centre
- 06 Stainless steel
- 09 Aluminium
- 10 Welding materials
- 11 Grades of stainless steel



Special offer – Aerospace, Automotive



Aerospace

We belong to the thyssenkrupp Aerospace group, a global provider of materials and services for the aviation and aerospace industries. We provide high quality products used for the production of aircraft components, such as: engines, fuel systems, hulls, chassis, bodies, avionics, etc. Our offer also features services of cutting to size plates made of aluminium alloys with a thickness up to 200 mm and cutting rods, flat bars and tubes from metals used in the aerospace industry with a thickness up to 300 mm.



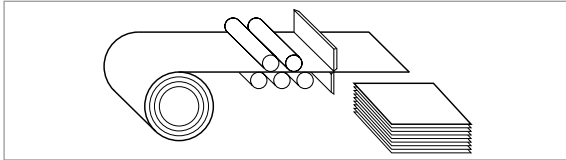
Automotive

We offer a wide range of special steel products dedicated to the automotive sector. Many years of experience in this industry have allowed us to build a solid product and service base. In order to meet the high technical and quality requirements of our customers, we provide services of cutting coils into sheets, strips and blanks, as well as laser cutting and sawing of stainless steel and non-ferrous metal products. The materials processed by us are used, among others, in the production of: exhaust systems, engine parts, bus body frames, bus flap doors, components, railbus parts.

- ⊗ A wide range of grades according to the European and US specifications such as AMS, ABS, AIMS, ASTM, MSRR, BS, LN and many others
- ⊗ Service centre – flat and long products, Sosnowiec
- ⊗ ISO EN 9120 certificate

- ⊗ Service centre – tube cutting, Rybnik
- ⊗ Service Centre – flat products; Dąbrowa Górnicza
- ⊗ DNV GL Business Assurance Zertifizierung und Umweltgutachter GmbH quality certificates

Service centre Stainless steel, aluminium

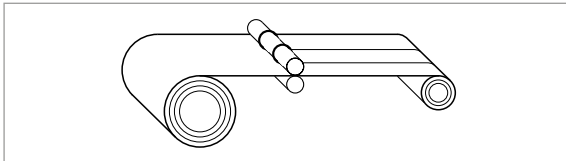


Cutting sheets from the coils (CTL)

- thickness range: 0,3 – 12,0 mm
- width range up to: 2 000 mm
- length range: 500 – 15 000 mm
- polycoating, paper interleaving, marking

cutting tolerance

- EN ISO 9445
- EN ISO 9444
- EN ISO 485-4

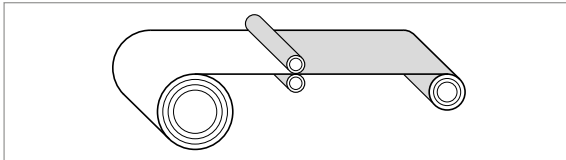


Coil slitting

- thickness range: 0,3 – 4,0 mm
- width range: 12,7 – 1 550 mm
- small coils
- polycoating on both sides

cutting tolerance

- EN ISO 9445
- EN ISO 9444

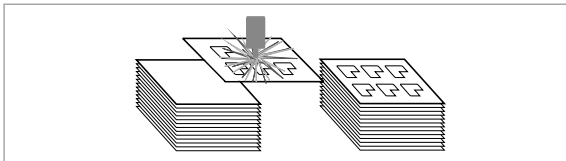


Grinding and brushing of coils and sheets

- thickness range: 0,6 – 8,0 mm
- width range: 500 – 2 000 mm
- width range: 1 500 – 6 000 mm

cutting tolerance

- grit: 36 – 400
- Scotch-Brite™
- 4TK
- TK MicroLine



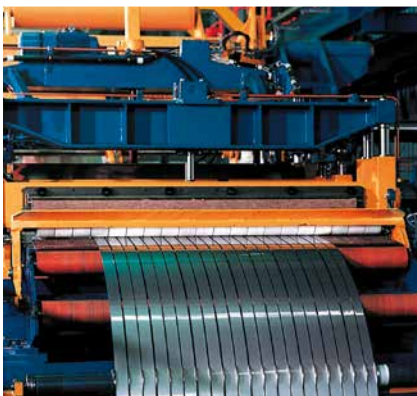
Laser cutting

- stainless steel sheets up to 25 mm thickness
- aluminium sheets up to 16 mm thickness
- square and rectangular tubes:
- welded tubes:

cutting tolerance

EN ISO 9013

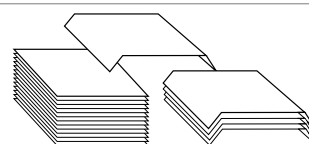
- max sheet size 6 000 x 2 000 mm
- 10 x 20 – 150 x 150 mm
- 15 x 1,0 – 204 x 8,0 mm





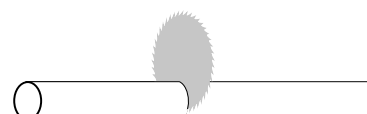
Bending CNC

- press force: 320 tons
- bending length: 4200 mm
- maximum thickness: 20 mm
- CNC controlled
- 6 axis
- angle measuring system OCB



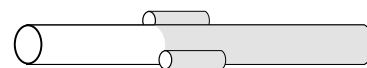
Saw cutting

- bars $\varnothing$ 10–360 mm
- tubes $\varnothing$ 320 mm
- cutting tolerance: 0,1 mm for 100 mm section
- automatic control



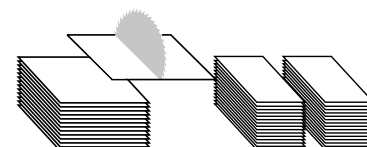
Grinding and mirror polishing

- tubes 12,0–114,3 mm
- square and rectangular tubes 10 x 10–150 x 150 mm
- bars 12–30 mm
- grit 180–1 200
- mirror polished



Aluminium plates cutting

- thickness range: 3–200 mm
- maximum dimensions: 4200 x 4200 mm
- cutting tolerance
- PN-EN 485-4
- length: $\pm 0,1$ mm on 3 m
- diagonal: $\pm 0,2$ mm on 1 m



Stainless steel – flat products



Cold rolled sheets acc to EN10088-2, EN ISO 9445

Surface	Thickness (mm)	Sizes (mm)	Grades
Cold rolled (2B, IIIC)	0,4–0,6	1000 x 2000; 1250 x 2500	1.4301/1.4307; 1.4404; 1.4541; 1.4571
	0,8–1,2	1000 x 2000; 1250 x 2500; 1500 x 3000	
	1,5–6,0	1000 x 2000; 1250 x 2500; 1500 x 3000; 2000 x 4000; 2000 x 6000	
	0,5–0,6	1000 x 2000; 1250 x 2500	1.4016; 1.4509;
	0,8–3,0	1000 x 2000; 1250 x 2500; 1500 x 3000	1.4003; 1.4512; 1.4521
Bright annealed (BA, 2R, IIID)	0,5–0,6	1000 x 2000; 1250 x 2500	1.4301/1.4307
	0,8–3,0	1000 x 2000; 1250 x 2500; 1500 x 3000	1.4016; 1.4509
Grinded grit 240; 4TK; SB;	0,5–0,6	1000 x 2000; 1250 x 2500	1.4301/1.4307
	0,8–3,0	1000 x 2000; 1250 x 2500; 1500 x 3000	1.4016
Pattern (leather, linen)	0,8–1,5	1000 x 2000; 1250 x 2500	1.4301/1.4307 1.4016; 1.4509

We offer other formats and grades based on customer's specification



Hot rolled sheets acc to EN10088-2, EN10029, EN10051

Surface	Thickness (mm)	Sizes (mm)	Grades
Hot rolled (1, IIa)	3,0–12,0	1000 x 2000; 1250 x 2500; 1500 x 3000; 1500 x 6000; 2000 x 6000	1.4301/1.4307; 1.4404; 1.4541; 1.4571
		1000 x 2000; 1250 x 2500; 1500 x 3000	1.4016; 1.4003
Quarto (1, IIa)	15,0–50,0	1000 x 2000; 1250 x 2500; 1500 x 3000; 1500 x 6000; 2000 x 6000	1.4301/1.4307; 1.4404; 1.4541
Tear plates	3,0–4,0	1000 x 2000; 1250 x 2500; 1500 x 3000	1.4301/1.4307

We offer other formats and grades based on customer's specification



Heat resistant sheets acc to EN10095

Surface	Thickness (mm)	Sizes (mm)	Grades
Heat resistant	0,8–10,0	1000 x 2000; 1250 x 2500, 1500 x 3000	1.4828; 1.4841; 1.4724

We offer other formats and grades based on customer's specification



Surface finishes

Surface finishes	Symbol	Type of process route	Surface finish	Roughness (µm)
Hot rolled	1E, IIa	hot rolling, heat treatment, mechanical descaling	rough without scale	2–8
	1D, IIa	hot rolling, heat treatment, pickling	rough without scale	2–8
Cold rolled	2E	cold rolling and heat treatment, mechanical descaling	rough and dull	0,2–1
	2D, IIIB	cold rolling and heat treatment, pickling	smooth	0,2–1
	2B, IIIC	cold rolling and heat treatment, pickling, skin pass	smoother than 2D	0,1–0,5
	BA, 2R, IIID	cold rolling, bright annealing	smooth, bright, reflective	0,03–0,1
Special surface	3N	grinding with grit 80–120	grinded	according to grit
	4TK, 4N	grinding with grit 150–400	grinded	according to grit
	SB	brushing	brushed	0,2–0,4
	2M	pattern sheets	linen, leather	-

Stainless steel – round tubes, square and rectangular tubes, fittings



Square and rectangular tubes			
Products	Range		Grades
	from (mm)	to (mm)	
Square	10 x 10 x 1,0	150 x 150 x 5,0	1.4301, 1.4509, 1.4003
Rectangular	20 x 10 x 1,5	200 x 100 x 5,0	

We offer other dimensions and grades based on customer's specification (1.4404 i 1.4571)



Welded tubes			
Products	Range		Grades
	from (mm)	to (mm)	
Construction according to EN 10296-2	10 x 1,5	114,3 x 3,0	1.4301, 1.4509, 1.4512
Corrosion according to EN 10217-7	6 x 1,0	508,0 x 4,0	1.4301/1.4307, 1.4404
Dairy according to EN 10357	18 x 1,5	254,0 x 2,0	1.4301/1.4307

We offer other dimensions and grades based on customer's specification (1.4541, 1.4571, 1.4539)



Seamless tubes and hollow bars according to EN 10216-5			
Products	Range		Grades
	from (mm)	to (mm)	
Seamless tubes	6,0 x 1,0	273 x 12,70	1.4306, 1.4541
Hollow bars	36 x 16	250 x 200	1.4301, 1.4404, 1.4571

We offer other dimensions and grades based on customer's specification (1.4404 i 1.4571)



Fittings			
Products	Range corresponding to range of tubes		Grades
	from (mm)	to (mm)	
Elbows, tees, reduces			
Collars	18 x 1,5	406,4 x 3	1.4301/1.4307, 1.4404
Threaded fittings			

We offer other dimensions and grades based on customer's specification, also different types of fittings (e.g. cups)



Table of tolerances round tubes according to EN ISO 1127			
Outside diameter		Wall thickness	
ISO class of tolerance	Tolerance	ISO	Tolerance
D0	+/- 2%	T0	+/- 20%
D1	+/- 1,5% Min. +/- 0,75 mm	T1	+/- 15% Min. +/- 0,60 mm
D2	+/- 1% Min. +/- 0,50 mm	T2	+/- 12,5% Min. +/- 0,40 mm
D3	+/- 0,75% Min. +/- 0,30 mm	T3	+/- 10% Min. +/- 0,20 mm
D4	+/- 0,50% Min. +/- 0,10 mm	T4	+/- 7,5% Min. +/- 0,15 mm

Stainless steel – long products

Bars

Products	Diameter / Dimensions (mm)	Grades
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Round bars

Cold drawn acc. to EN 10278, tol. h9	3–80	1.4301/1.4307, 1.4305, 1.4404, 1.4016, 1.4021QT, 1.4104
Hot rolled acc. to EN 10060, tol. k12-k13	25–300	1.4301/1.4307, 1.4305, 1.4404, 1.4021A, 1.4057QT, 1.4021QT



Hexagonal bars

Cold drawn acc. to EN 10278, tol. h11	12–41	1.4301/1.4307, 1.4305, 1.4404
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Square bars

Cold drawn acc. to EN 10278, tol. h11	10–80	1.4301/1.4307, 1.4305, 1.4404
Hot rolled acc. to EN 10059		

We offer other dimensions, grades and surfaces based on customer's specification (np. 1.4541, 1.4571, 1.4122, 1.4462)



Flat bars acc. to EN 10058

Products	Dimensions (mm)	Grades
Cut from plate	from 10 x 3 to 120 x 10	1.4301/1.4307, 1.4404, 1.4016
Hot rolled	from 10 x 5 to 150 x 50	1.4301/1.4307

We offer other dimensions, grades and surfaces based on customer's specification (np. 1.4571, 1.4541)



Angle bars acc. to EN 10056

Products	Dimensions (mm)	Grades
Hot rolled	from 20 x 20 x 3 to 100 x 100 x 10	1.4301/1.4307, 1.4404

We offer other dimensions, grades and surfaces of sections based on customer's specification (e.g. U-channels, I-beams, T-sections)



Tolerances of cold drawn dimensions acc. to EN 10278 h9

Range of sizes (mm)		Standard deviation (mm)	
above	to	from	to
1	3	0	-0,025
3	6	0	-0,03
6	10	0	-0,036
10	18	0	-0,043
18	30	0	-0,052
30	50	0	-0,062
50	80	0	-0,074
80	120	0	-0,087
120	180	0	-0,1

Tolerance of hot rolled dimensions acc. to EN 10060

Range of sizes (mm)		Standard deviation (mm)
above	to	±
10	15	0,4
16	25	0,5
26	35	0,6
36	50	0,8
52	80	1
85	100	1,3
105	120	1,5
125	160	2
165	200	2,5

Aluminium – flat products, long products

Sheets			
Products	Thickness (mm)	Dimensions (mm)	Grades
Sheets, plates, treadplates and coils according to EN: 573-3, 485-2, 485-3, 485-4			
Sheets	0,5 – 0,6	1000 x 2000, 1250 x 2500	1050A, 5754
	0,8 – 6,0	1000 x 2000, 1250 x 2500, 1500 x 3000, 1500 x 6000, 2000 x 4000*	1050A, 5754, 5083, 6082
Sheets for deep drawing	1,0 – 2,0	1000 x 2000, 1250 x 2500, 1500 x 3000	1050A H111
Plates	7,0 – 200	1020 x 2020, 1270 x 2520, 1520 x 3020	1050A, 2017A, 5754, 5083, 6082, 7075
Coils	0,5 – 4,0	1000, 1250, 1500	1050A, 5754
Treadplates	1,5 – 8,0	1000 x 2000, 1250 x 2500, 1500 x 3000	1050A, 5754



Shates for shipbuilding and transport according to EN: 573-3, 485-2, 485-3, 485-4, 10204			
Shipbuilding shates	3,0 – 30	2000 x 6000	5083 H111 i H321 (cert. DNV/LR)
Transport shates	3,0–10,0	based on customer's specification	5083, 5026, 5456, 5182



* for thicknesses from 1,5 to 3,0 mm

We offer other formats and grades based on customer's specification

Sheets and coils with special surface acc. to EN: 573-3, 485-2, 485-3, 485-4		
Products	Thickness (mm)	Grades
Stucco embossed	0,5–1,0	1050A, 3005, 5251, 5754
Rice grain, diamond	1,5–3,2	5754, 5086, 5052
Anodized, anodizing quality	1,0–4,0	5005, 55HX
Coated (powder and liquid)	0,3–3,0	3003, 3005, 3105, 5010



We offer other formats, grades and surfaces based on customer's specification

Long products according to EN: 573-3, 755-2 to 755-9		
Products	Dimensions (mm)	Grades
Round bars	8,0–80	6060, 6063, 6005, 6082
Square bars	8,0–70	
Flat bars	from 15 x 2,0 to 300 x 10	
Round tubes	from 10 x 2,0 to 220 x 5,0	
Square and rectangular tubes	from 15 x 15 x 1,0 to 220 x 140 x 4	
Angle bars, U-channels, T-bars	from 10 x 10 x 1,5 to 200 x 100 x 10	
Special profiles	based on customer's drawing	
Profiles for mounting of polycarbonate plates and composite panels	complete mounting system	



We offer other dimensions, grades and surfaces based on customer's specification

Round bars in hard alloys according to EN: 573-3, 754-2, 754-3, 755-2, 755-3		
	Diameter (mm)	Grades
Drawn	5,0–80	2007, 2011, 2017A, 2024,
Extruded	30–250	2030, 6026, 6061, 6082, 7075



We offer other dimensions and grades based on customer's specification

We offer also copper, brass, bronze and titanium products.

Aluminium – Welding consumables, aluminium grades designation

Numerical designation		
Numerical designation acc. to PN EN 573-3	Chemical designation acc. to PN EN 573-3	Previous designation (former norm)
pure aluminium		
1050A	Al 99,5	A1
1070A	Al 99,7	A0
1080A	Al 99,8 (A)	A00
1350A	EAl 99,5(A)	-
Al-Cu alloys (2000 series)		
2007	AlCu4PbMgMn	-
2011	AlCu6BiPb	-
2017A	AlCu4MgSi (A)	PA6
2024	AlCu4Mg1	PA7
2030	AlCu4PbMg	-
Al-Mn alloys (3000 series)		
3003	AlMn1Cu	-
3004	AlMn1Mg1	PA5
3005	AlMn1Mg0,5	-
3103	AlMn1	PA1
3105	AlMn0,5Mg0,5	PA16
Al-Mg alloys (5000 series)		
5005A	AlMg1 (C)	PA43
5049	AlMg2Mn0,8	-
5083	AlMg4,5Mn0,7	PA13
5251	AlMg2	PA2
5754	AlMg3	PA11
Al-Mg Si alloys (6000 series)		
6005	AlSiMg	-
6060	AlMgSi	PA38
6061	AlMgSiCu	PA45
6063	AlMg0,7Si	-
6082	AlSiMgMn	PA4
Al-Zn alloys (7000 series)		
7020	AlZn4,5Mg1	PA47
7022	AlZn5Mg3Cu	-
7050	AlZn6CuMgZr	-
7075	AlZn5,5MgCu	PA9
7475	AlZn5,5MgCu	-
other alloys (8000 series)		
8011A	AlFeSi (A)	PA0

Aluminium tempers		
PN-EN 515	Previous PN	Temper condition
F	pg, pz, pw, pp, pc, pt, ps, pm, pk, pe, pi	fabricated - no control over thermal processes and strain hardening
0	r	annealed - designated properties in the process of hot forming
H11	-	lightly tempered
H12	z2	1/4 hard
H14	z4	1/2 hard
H16	-	strain hardened (rolled, extruded, drawn)
H18	z6	3/4 hard
H19	z9	4/4 hard
H22	z2r	ekstra hard
H24	z4r	1/4 hard
H26	-	strain hardened and partially annealed
H28	-	1/2 hard
H32	z2s	3/4 hard
H34	z4s	4/4 hard
H36	-	strain hardened and stabilized
H38	z6s	1/4 hard
T1	tc	3/4 hard
T2	-	4/4 hard
T3	tk	cooled from elevated temperature of shaping process and naturally aged to reach stabilized temper
T4	ta	cooled from elevated temperature of shaping process, cold worked and naturally aged to reach stabilized temper
T5	td	solution heat treated, cold worked and naturally aged to reach stabilized temper
T6	tb	solution heat treated and naturally aged to reach stabilized temper
T7	-	solution heat treated and artificially aged
T8	tl	solution heat treated and stabilized
T9	tj	solution heat treated, cold worked and artificially aged
T10	-	solution heat treated, artificially aged and cold worked
		cooled from elevated temperature of shaping process, cold worked and artificially aged

Welding consumables

Welding consumables - stainless steel			
Products	Range		Grades
	from (mm)	to (mm)	
Welding wires MIG/MAG	0,8	1,2	308LSi, 307Si, 309LSi, 310LSi,
Welding rods TIG	1,0 x 1000	3,2 x 1000	316LSi

Welding consumables – aluminium			
Products	Range		Grades
	from (mm)	to (mm)	
Welding wires MIG/MAG	0,8	1,6	A5356 (AlMg5), A5183 (AlMg4,5),
Welding rods TIG	1,0 x 1000	3,2 x 1000	A4043 (AlSi5), A4047 (AlSi12)

Details of the products in the folder without guarantees about the total correctness. Selected tables based on a PN.

Stainless steel grades (chemical composition)

Updated table

STEEL	Steel equivalent				Chemical composition %							Mechanical properties						
	EN	PN Poland	DIN Germany	AISI USA	C	Si	Mn	P	S	N	Cr	Mo	Ni	other	R _p (R _{e0.2}) N/mm ² min.	R _m N/mm ²	A ₅ % min.	Hb max. HRC
CORROSION-RESISTANT (ACID-RESISTING AND STAINLESS)	1.4000	OH13	X6Cr13	403 410 S	≤ 0.08	≤ 1.00	≤ 1.00	≤ 0.040	≤ 0.040		12.00-14.00				230	400-630	20	200
	1.4003		X2CrNi12		≤ 0.03	≤ 1.00	≤ 1.50	≤ 0.040	≤ 0.015	≤ 0.030	10.50-12.50		0.30-1.00		230		20	200
	1.4016	H17	X6Cr17	430	≤ 0.08	≤ 1.00	≤ 1.00	≤ 0.040	≤ 0.015		16.00-18.00				240	400-630	20	200
	1.4509		X2CrTiNb18	441	≤ 0.03	≤ 1.00	≤ 1.00	≤ 0.040	≤ 0.015		17.50-18.50			3xC+0.30-1.00	230	430-630	18	
	1.4510	OH17T	X5CrNi17 X6CrTi17	430 Ti 439	≤ 0.05	≤ 1.00	≤ 1.00	≤ 0.040		16.00-18.00				Ti4K(C+N)+0.15 ≤ 0.80	240	420-600	23	180
	1.4521/1.4720		X6CrTi12/X2CrTi12	409	≤ 0.08	≤ 1.00	≤ 1.00	≤ 0.045	≤ 0.030		10.50-11.75		0.50	Ti ≥ 6xC ≤ 0.75	210	380-560	25	
	1.4521		X2CrMoTi10-2	444	≤ 0.02	≤ 1.00	≤ 1.00	≤ 0.040	≤ 0.015		17.50-19.50	1.80-2.00		Ti 0.12-0.60 Mo 0.25-0.50	320	420-640	28	217
	1.4006	1H13	X12Cr13 X10Cr13		0.08-0.15	≤ 1.00	≤ 1.50	≤ 0.040	≤ 0.015		11.50-13.50		≤ 0.75		450	≤ 730 650-850	15	220 ≥ 24
	1.4021	2H13	X20Cr13	420	0.16-0.25	≤ 1.00	≤ 1.50	≤ 0.040	≤ 0.015		12.00-14.00				600	≤ 760 800-950	12	230 ≥ 28
	1.4028	3H13	X30Cr13	420 F	0.26-0.35	≤ 1.00	≤ 1.50	≤ 0.040	≤ 0.015		12.00-14.00				650	≤ 830 850-1000	10	245 ≥ 48
AUSTENITICS	1.4034	4H13	X46Cr13		0.43-0.50	≤ 1.00	≤ 1.00	≤ 0.040	≤ 0.015		12.50-14.50				700	≤ 890 900-1050	12	245 ≥ 52
	1.4057	4H17N 2H17M2	X17CrNi16-2	431	0.12-0.22	≤ 1.00	≤ 1.50	≤ 0.040	≤ 0.015		15.00-17.00		1.50-2.50		190	500-700	45	215
	1.4301	OH18N9	X5CrNi18-10	304	≤ 0.07	≤ 1.00	≤ 2.00	≤ 0.045	≤ 0.015	≤ 0.011	17.00-19.50		8.00-10.50		190	500-770	35	230
	1.4305		X8CrNiS18-9	303	≤ 0.10	≤ 1.00	≤ 2.00	≤ 0.045	0.15-0.35	≤ 0.011	17.00-19.00		Cu ≤ 1.00		190	500-770	35	230
	1.4306	OOH18N10	X2CrNi19-11	304 L	≤ 0.030	≤ 1.00	≤ 2.00	≤ 0.045	≤ 0.015	≤ 0.011	18.00-20.00		10.00-12.00		180	460-680	45	215
	1.4307		X2CrNi18-9 (304 L)		≤ 0.030	≤ 1.00	≤ 2.00	≤ 0.045	≤ 0.015	≤ 0.011	17.50-19.50		8.00-10.00		175	460-680	45	215
	1.4310	1H18N9	X10CrNi18-8	301	0.05-0.15	≤ 2.00	≤ 2.00	≤ 0.045	≤ 0.015	≤ 0.011	16.00-19.00	≤ 0.080	6.00-9.50		195	500-700	40	230
	1.4401	OH17N12M2T	X5CrNiMo17-12-2	316	≤ 0.07	≤ 1.00	≤ 2.00	≤ 0.045	≤ 0.015	≤ 0.011	16.50-18.50	2.00-2.50	10.00-13.00		200	500-700	40	215
	1.4404	OOH17M14M2	X2CrNiMo17-12-2	316 L	≤ 0.030	≤ 1.00	≤ 2.00	≤ 0.045	≤ 0.015	≤ 0.011	16.50-18.50	2.00-2.50	10.00-13.00		200	500-700	40	215
	1.4435		X2CrNiMo18143	316 L	≤ 0.030	≤ 1.00	≤ 2.00	≤ 0.045	≤ 0.015	≤ 0.011	17.00-19.00	2.50-3.00	12.50-15.00		200	500-700	35	215
DUPLEX & AUSTENITICS	1.4436		X3CrNiMo17-13-3	316	≤ 0.05	≤ 1.00	≤ 2.00	≤ 0.045	≤ 0.015	≤ 0.011	16.50-18.50	2.50-3.00	10.50-13.00		200	500-700	40	215
	1.4539	OH22N24M4TCU	X1NiCrMoCu25-20-5	UMS IM08904	<0.020	≤ 0.70	≤ 2.00	≤ 0.030	≤ 0.010	≤ 0.015	19.00-21.00	4.00-5.00	24.00-26.00	Cu 1.20-2.00	230	530-730	35	230
	1.4541	1H18N9T	X6CrNiTi18-10	321	≤ 0.08	≤ 1.00	≤ 2.00	≤ 0.045	≤ 0.015		17.00-19.00		9.00-12.00	Ti5xC ≤ 0.70	190	500-700	45	215
	1.4542/1.4548 (17-4PH)				0.07 max	1.00 max	1.00 max	0.04 max	0.03 max		15.00-17.50		3.00-5.00	Nb+Ta 0.15-0.45 Cu 3.00-5.00				
	1.4545 (35-5PH)				0.07 max	1.00 max	1.00 max	0.04 max	0.03 max		14.00-15.50		3.50-5.50	Nb+Ta 0.15-0.45 Cu 2.50-4.50				
	1.4571	H17N13M2T	X6CrNiMoTi17-12-2	316 Ti	≤ 0.08	≤ 1.00	≤ 2.00	≤ 0.045	≤ 0.015		16.50-18.50	2.00-2.50	10.50-13.50	Ti 5xC ≤ 0.70	200	500-700	40	215
	1.4460		X3CrNiMoN27-5-2	329	≤ 0.05	≤ 1.00	≤ 2.00	≤ 0.035	≤ 0.015	0.05-0.20	25.00-28.00	1.30-2.00	4.50-6.50		460	620-880	20	260
	1.4462		X2CrNiMoN22-5-3	UNSS31803	≤ 0.030	≤ 1.00	≤ 2.00	≤ 0.035	≤ 0.015	0.10-0.22	21.00-23.00	2.30-3.50	4.50-6.50		450	620-880	25	270
	1.4724	H13JS	X10CrAlSi13		≤ 0.12	0.70-1.40	≤ 1.00	≤ 0.040	≤ 0.015		12.00-14.00			Al 0.70-1.20	250	450-650	15	192
	1.4742	H18JS	X10CrAlSi18		≤ 0.12	0.70-1.40	≤ 1.00	≤ 0.040	≤ 0.015		17.00-19.00			Al 0.70-1.20	270	500-700	12	212
HEAT-RESISTING	1.4749	(H25T)	X18CrN28	(446)	0.15-0.20	≤ 1.00	≤ 1.00	≤ 0.045	≤ 0.015	0.15-0.25	26.00-29.00			Al 0.70-1.20	280	500-700	15	217
	1.4762	H24JS	X10CrAlSi25	(446)	≤ 0.12	0.70-1.40	≤ 1.00	≤ 0.040	≤ 0.015		23.00-26.00			Al 0.20-1.70	280	520-720	10	223
	1.4828	H20N12S2	X15CrNiSi20-12	309	≤ 0.20	1.50-2.00	≤ 2.00	≤ 0.045	≤ 0.030	≤ 0.011	19.00-21.00		11.00-13.00		230	500-750	30	223
	1.4833	(H23N13)	X12CrNi23-13	309 S	≤ 0.15	≤ 1.00	≤ 2.00	≤ 0.045	≤ 0.030	≤ 0.011	22.00-24.00		12.00-14.00		210	500-750	26	192
	1.4841	H25N20S2	X15CrNiSi25-21 310	314 310	≤ 0.20	1.50-2.50	≤ 2.00	≤ 0.045	≤ 0.030	≤ 0.011	24.00-26.00		19.00-22.00		230	550-800	30	223
	1.4845	(H23N18)	X8CrNi25-21	310S	≤ 0.10	≤ 1.50	≤ 2.00	≤ 0.045	≤ 0.030	≤ 0.011	24.00-26.00		19.00-22.00		210	500-750	35	192
	1.4878		X10CrNiTi18-10	321	≤ 0.10	≤ 1.00	≤ 2.00	≤ 0.045	≤ 0.030		17.00-19.00		9.00-12.00	Ti5xC ≤ 0.80	210	500-750	40	192
	1.4371			202	≤ 0.15	≤ 1.00	7.50-10.00	0.060	0.030	0.25	17.00-19.00		4.00-6.00		280	650-850		45
	1.4372		X12CrMnNiN17-7-5	201	≤ 0.15	≤ 1.00	5.5-7.5	≤ 0.045	≤ 0.015	0.05-0.25	16.00-18.00		3.50-5.50		350	750-950		
	J4*		X8CrMnCuNi16-9		≤ 0.1	≤ 0.75	8.5-10.00	≤ 0.08	≤ 0.01	≤ 0.20	15.00-16.00		1.00-2.00	Cu 1.50-2.00	325	≥ 650	40	≤ 100
SERIES 200				UNS S20A30/204 Cu	≤ 0.15	≤ 1.00	6.50-9.00	0.060	0.030	0.05-0.25	15.5-17.5		1.50-3.50	Cu 2.00-4.00				
				UNS S20500	0.12-0.25	≤ 1.00	14.0-15.50	0.060	0.030	0.32-0.40	16.0-18.0		1.00-1.75					

The data in the table are indicative.
*, marked own of producer

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