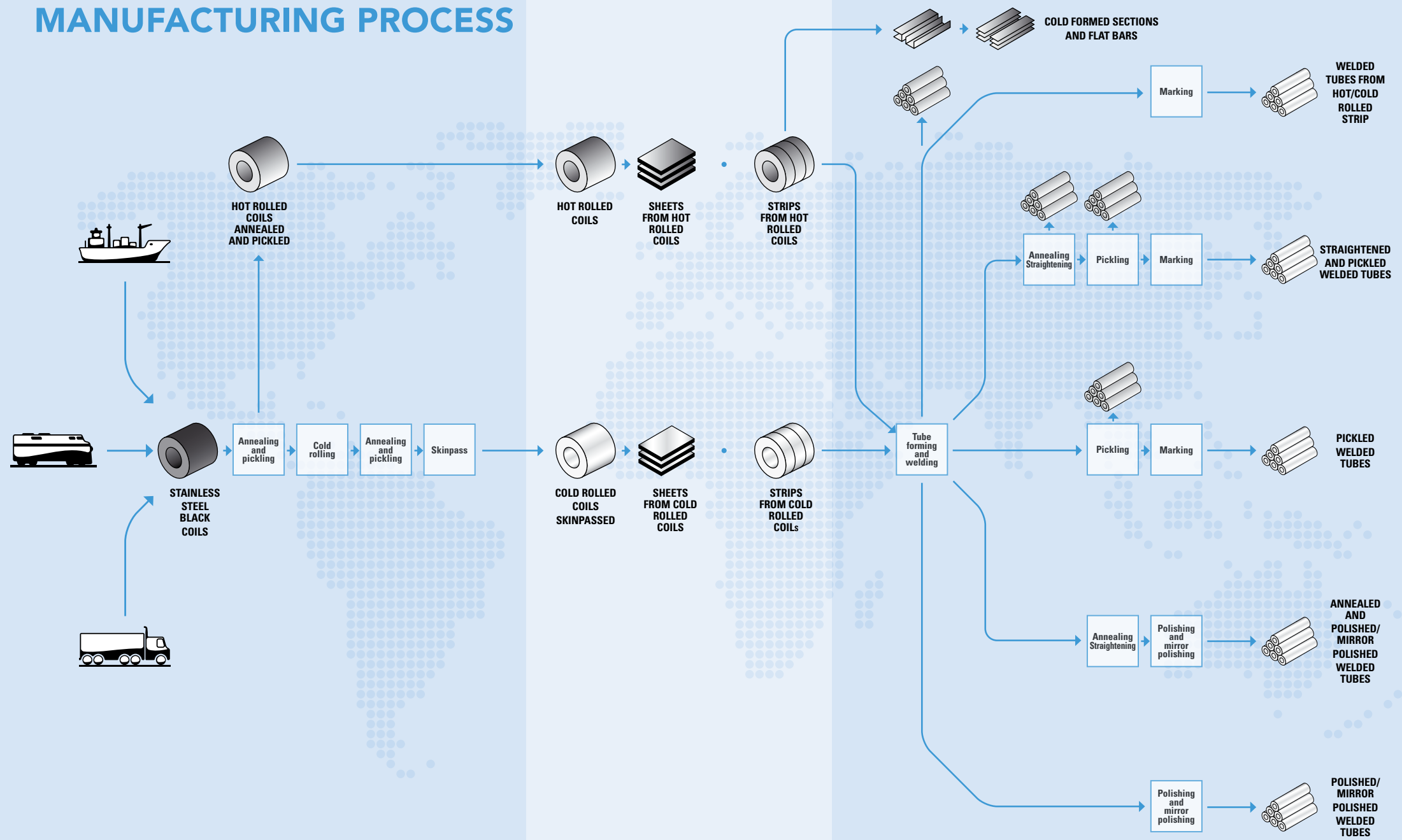




Marcegaglia RU
Vladimir plant

MANUFACTURING PROCESS



A UNIQUE GLOBAL PLAYER IN STAINLESS STEEL WELDED TUBES



Marcegaglia RU

70 000 sqm total area

14 000 sqm first phase covered area

42 000 sqm for development (covered)

25 000 t/y tube manufacturing capacity

25 000 t/y sheets manufacturing capacity





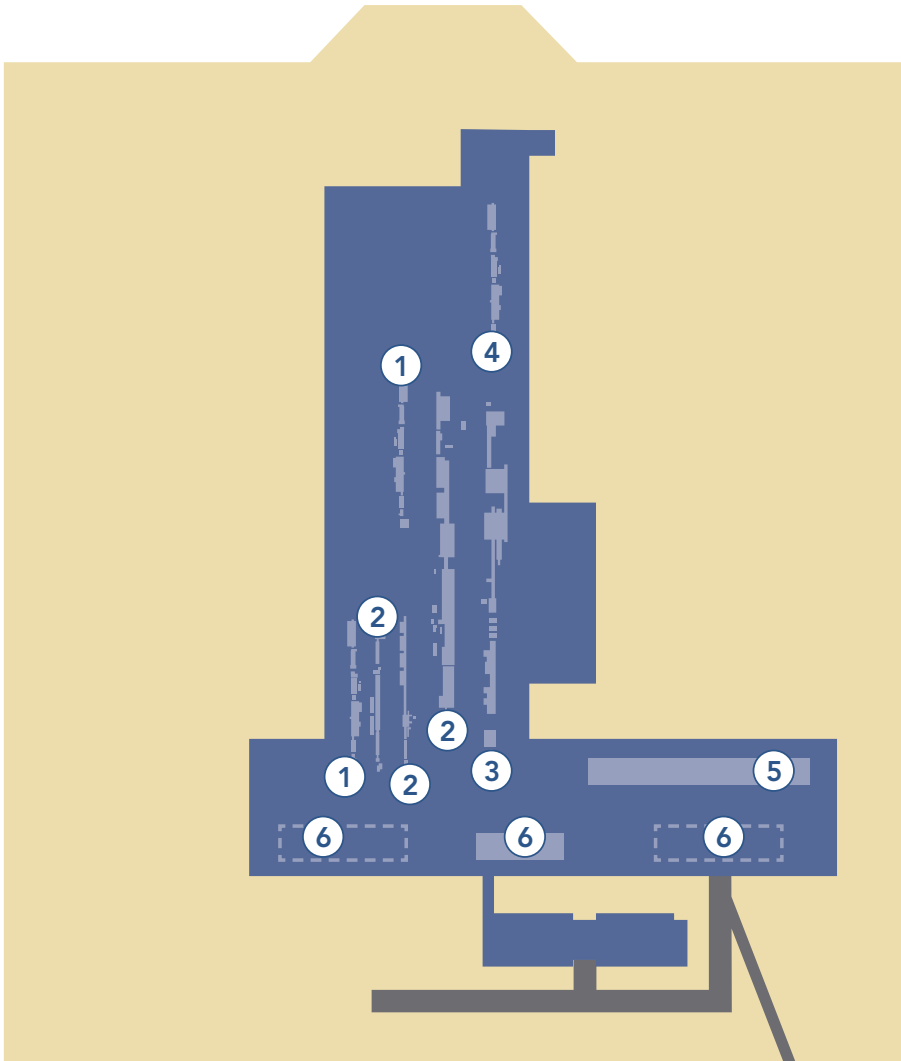
Marcegaglia has established its Russian plant for the manufacturing of **stainless steel products** in the city of Vladimir, 180 km East of Moscow, on a global area of 70,000 sqm of which 14,000 are covered.

The first phase of the plant development includes 6 tube welding lines completed by polishing and mirror polishing machines, as well as one slitting line and one flattening line for decoiled sheets.

Now Marcegaglia RU has a sales office in Moscow as well.

Production lines

- ① TIG Line
- ② Laser line
- ③ HF
- ④ Polishing line
- ⑤ Slitter
- ⑥ Blanking (sheet) line





Typical applications

A new product range of stainless steel flats make Marcegaglia the partner of choice for manufacturers who engineer solutions in the sectors of building and construction, food and beverage, automotive and mechanical applications.





Typical applications

Process pipes for fluids

Construction
and ornamental tubes

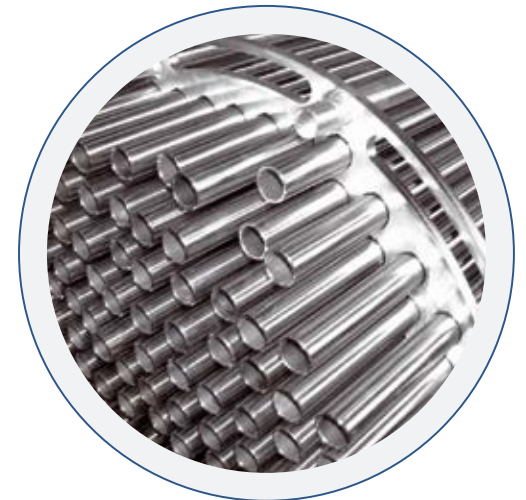
Feedwater heater tubes
for power plants

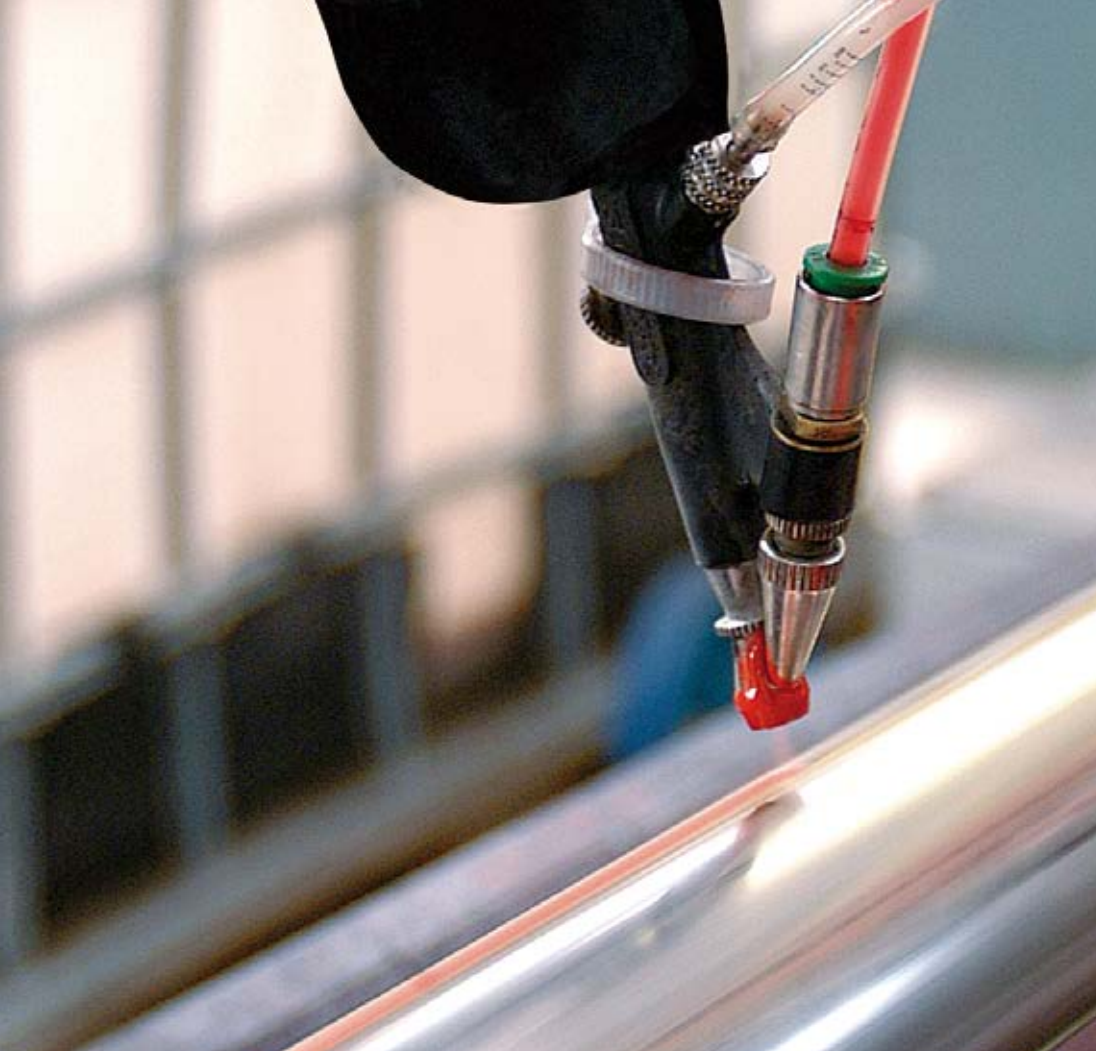




Typical applications

Marcegaglia process pipe range include certified products for applications in the food and dairy industry, drinkable water, chemical and pharmaceutical, oil and gas, heat exchangers, electrical resistances and other mechanical applications.





Stainless steel welded tubes

Min. thickness (mm)	0,40
Max. thickness (mm)	6,00
Min. diameter (mm)	5,00
Max. diameter (mm)	508

SUPPLY CONDITIONS

- Dimensional tolerances according to manufacturing standard
- Special tolerances upon request
- Control documents 2.2, 3.1, 3.2 according to EN 10204 and specific norm requirements



Main steel grades

METAL STRUCTURE	GRADE		TYPICAL CHEMICAL COMPOSITION												
	EN	AISI	C	Ni	Cr	Mo	Ti	Nb	Mn	Si	P	S	N	Cu	Другое
Austenitic	1.4301	304	≤ 0,07	8,00-10,50	17,00-19,50	-	-	-	≤ 2,00	≤ 1,00	≤ 0,045	≤ 0,015	≤ 0,10	-	-
Austenitic	1.4307	304L	≤ 0,03	8,00-10,00	17,50-19,50	-	-	-	≤ 2,00	≤ 1,00	≤ 0,045	≤ 0,015	≤ 0,10	-	-
Austenitic	1.4541	321	≤ 0,08	9,00-12,00	17,00-19,00	-	5xC-0,70	-	≤ 2,00	≤ 1,00	≤ 0,045	≤ 0,015	-	-	-
Austenitic	1.4404	316L	≤ 0,03	10,00-13,00	16,50-18,50	2,00-2,50	-	-	≤ 2,00	≤ 1,00	≤ 0,045	≤ 0,015	≤ 0,10	-	-
Austenitic	1.4571	316Ti	≤ 0,08	10,50-13,50	16,50-18,50	2,00-2,50	5xC-0,70	-	≤ 2,00	≤ 1,00	≤ 0,045	≤ 0,015	-	-	-
Austenitic	1.4828	309S	≤ 0,20	11,00-13,00	19,00-21,00	-	-	-	≤ 2,00	1,50-2,50	≤ 0,045	≤ 0,030	-	-	-
Austenitic	1.4371	201LN	≤ 0,030	3,50-5,50	16,00-17,00	-	-	-	6,00-8,00	≤ 1,00	≤ 0,045	≤ 0,015	0,15-0,20	-	-
Ni Alloy	2.4816	Inconel 600	≤ 0,15	≥ 72,00	14,70-17,00	-	-	-	≤ 1,00	≤ 0,50	-	≤ 0,015	-	≤ 0,50	-
Ni Alloy	2.4851	Inconel 601	≤ 0,10	58,00-63,00	21,00-25,00	-	-	-	≤ 1,00	≤ 0,50	-	≤ 0,015	-	≤ 1,00	-
Super Austenitic	1.4876	Incoloy 800	≤ 0,10	30,00-35,00	19,00-23,00	-	0,15-0,60	-	≤ 1,50	≤ 1,00	-	≤ 0,015	-	≤ 0,75	Al 0,15-0,60
Ni Alloy	2.4858	Incoloy 825	≤ 0,05	38,00-46,00	19,50-23,50	2,50-3,50	0,60-1,20	-	≤ 1,00	≤ 0,50	-	≤ 0,030	-	1,50-3,00	Al ≤ 0,20
Ferritic	1.4512	409Li	≤ 0,03	-	10,50-12,50	-	-	-	≤ 1,00	≤ 1,00	≤ 0,040	≤ 0,015	-	-	-
Ferritic	1.4526	436	≤ 0,080	-	16,00-18,00	0,80-1,40	-	[7X(C+N)+0,10]-1,00	≤ 1,00	≤ 1,00	≤ 0,040	≤ 0,015	≤ 0,040	-	-
Ferritic	1.4510	439L	≤ 0,050	-	16,00-18,00	-	[4x(C+N)+0,15]-0,80	-	≤ 1,00	≤ 1,00	≤ 0,040	≤ 0,015	-	-	-
Ferritic	1.4509	441	≤ 0,03	-	17,50-18,50	-	0,10-0,60	[3xC+0,30]-1,00	≤ 1,00	≤ 1,00	≤ 0,040	≤ 0,015	-	-	-
Ferritic	1.4521	444	≤ 0,025	-	17,00-20,00	1,80-2,50	[4x(C+N)+0,15]-0,80	-	≤ 1,00	≤ 1,00	≤ 0,040	≤ 0,015	≤ 0,030	-	-
Lean Duplex*	1.4162	S32101	≤ 0,04	1,35-1,70	21,00-22,00	0,10-0,80	-	-	4,00-6,00	≤ 1,00	≤ 0,040	≤ 0,030	0,20-0,25	-	-
Duplex	1.4362	2304	≤ 0,030	3,50-5,50	22,00-24,00	0,10-0,60	-	-	≤ 2,00	≤ 1,00	≤ 0,035	≤ 0,015	0,05-0,20	0,10-0,60	-
Duplex	1.4462	2205	≤ 0,030	4,50-6,50	21,00-23,00	2,50-3,50	-	-	≤ 2,00	≤ 1,00	≤ 0,035	≤ 0,015	0,10-0,22	-	-

(*) Outokumpu LDX 2101, Allegheny AL 2003 (*)

Main manufacturing standards

PROCESS PIPES FOR FLUIDS

**EN 10217-7
(A 270) (DIN 11850)**

Process pipes for the food and dairy industry

**EN 10217-7
(DVGW GW541)**

Process pipes for drinkable water and press fitting

**EN 10217-7
EN 10312**

Process pipes for water treatment

EN 10217-7

Process pipes for the pulp and paper sector

**EN 10217-7
(AD 2000 W2/W10)
(PED 2014/68/EU)**

Process pipes for chemical applications

**EN 10217-7
(DIN 11866)**

Process pipes for pharmaceutical applications

**EN 10217-7
(A 312 / A 778)**

Process pipes for oil and gas applications

Main manufacturing standards

MECHANICAL APPLICATIONS

EN 10296
EN 10217-7

Round tubes for pumps and cylinders

EN 10217-7

Round tubes for elbows and fittings

EN 10217-7

Round tubes for heat resistances

CONSTRUCTION

EN 10296
(A 554)

Construction round tubes and box sections

Main manufacturing standards

HEAT TREATMENT	ASTM A 803 A 803M - 03	Ferritic feedwater heater tubes
	ASTM A688 A 688M - 04	Austenitic feedwater heater tubes
		
	EN 10217-7 (A 249) (AD 2000 W2/W10) (PED 2014/68/EU)	Round tubes for heat exchangers
		
	EN 10296 EN 10217-7	Round tubes for evaporators for the sugar industry
		
	EN 10217-7 (AD 2000 W2/W10)	Round tubes for pressure vessels
		
	EN 10217-7	Tubes for boilers

Main manufacturing standards

ORNAMENTAL

**EN 10296
(A 554)**

Ornamental round tubes and box sections

AUTOMOTIVE

**EN 10296
(A 554)**

Round tubes for automotive, exhaust systems

**EN 10296
(A 554)**

Round tubes for automotive, hydroforming appliance

**EN 10296
(A 554)**

Round tubes and box sections for automotive frame construction



**2 annealing
and pickling lines**

**manufacturing capacity:
500.000 t/y**

**product:
hot rolled coils 1D finish**

thickness: 2,00/6,00 mm

width: up to 1.500 mm

max weight: 30 t

Stainless steel hot rolled coils

.....
Min. thickness (mm) **2,00**

Max. thickness (mm) **6,00**
.....

Min. width (mm) **1.000**

Max. width (mm) **1.500**
.....

SUPPLY CONDITIONS

- Dimensional tolerances according to EN 10051
(and other equivalent international norms)
- Special tolerances upon request
- Control documents 2.2, 3.1, 3.2 according to EN 10204

Main steel grades

MANUFACTURING STANDARD	FINISH	PRODUCT DESIGNATION	GRADE			
EN 10088-2 (ASTM A 240)	1D Annealed and pickled	<i>Stainless steel flat products for general purposes</i>	<i>Austenitic</i>		<i>Ferritic</i>	
			EN	AISI	EN	AISI
			1.4301	304	1.4016	430
			1.4307	304L	1.4512	409Li
			1.4541	321	1.4510	439L
			1.4404	316L	1.4509	441
			1.4571	316Ti	1.4526	436
EN 10028-7 (ASTM A 240)	1D Annealed and pickled	<i>Stainless steel flat products for pressure purposes</i>	<i>Austenitic</i>			
			EN	AISI		
			1.4301	304		
			1.4307	304L		
			1.4541	321		
			1.4404	316L		
			1.4571	316Ti		



2 cold rolling lines

2 skinpass lines

manufacturing capacity:
250.000 t/y

product:
cold rolled coils 2B finish

thickness: 0,6/3,0 mm

width: up to 1.500 mm

max weight: 30 t

Stainless steel cold rolled coils

Min. thickness (mm) 0,40

Max. thickness (mm) 4,00

Min. width (mm) 1.000

Max. width (mm) 1.500

SUPPLY CONDITIONS

- Dimensional tolerances according to EN 10051, EN ISO 9445 (and other equivalent international norms)
- Special tolerances upon request
- Control documents 2.2, 3.1, 3.2 according to EN 10204

Main steel grades

MANUFACTURING STANDARD	FINISH	PRODUCT DESIGNATION	GRADE			
EN 10088-2 (ASTM A 240)	2B Cold rolled and skinpassed	<i>Stainless steel flat products for general purposes</i>	<i>Austenitic</i>		<i>Ferritic</i>	
			EN	AISI	EN	AISI
			1.4301	304	1.4016	430
			1.4307	304L	1.4512	409Li
			1.4541	321	1.4510	439L
			1.4404	316L	1.4509	441
			1.4571	316Ti	1.4526	436
EN 10028-7 (ASTM A 240)	2B Cold rolled and skinpassed	<i>Stainless steel flat products for pressure purposes</i>	<i>Austenitic</i>			
			EN	AISI		
			1.4301	304		
			1.4307	304L		
			1.4541	321		
			1.4404	316L		
			1.4571	316Ti		



2 flattening line

manufacturing capacity:
150.000 t/y

product:
hot rolled sheets
1D finish

Stainless steel hot rolled sheets

Min. thickness (mm)	3,00
Max. thickness (mm)	12,00
Min. commercial sizes (mm)	1.000 x 2.000
Max. commercial sizes (mm)	1.500 x 6.000

SUPPLY CONDITIONS

- Dimensional tolerances according to EN 10051
(and other equivalent international norms)
- Special tolerances upon request
- Control documents 2.2, 3.1, 3.2 according to EN 10204

Main steel grades

MANUFACTURING STANDARD	FINISH	PRODUCT DESIGNATION	GRADE			
EN 10088-2 (ASTM A 240)	1D Annealed and pickled	<i>Stainless steel flat products for general purposes</i>	<i>Austenitic</i>		<i>Ferritic</i>	
			EN	AISI	EN	AISI
			1.4301	304	1.4016	430
			1.4307	304L	1.4512	409Li
			1.4541	321	1.4510	439L
			1.4404	316L	1.4509	441
			1.4571	316Ti	1.4526	436
EN 10028-7 (ASTM A 240)	1D Annealed and pickled	<i>Stainless steel flat products for pressure purposes</i>	<i>Austenitic</i>			
			EN	AISI		
			1.4301	304		
			1.4307	304L		
			1.4541	321		
			1.4404	316L		
			1.4571	316Ti		



Stainless steel cold rolled sheets

Min. thickness (mm)	0,40
Max. thickness (mm)	6,00
Min. commercial sizes (mm)	1.000 x 2.000
Max. commercial sizes (mm)	1.500 x 6.000

2 flattening line

manufacturing capacity:
150.000 t/y

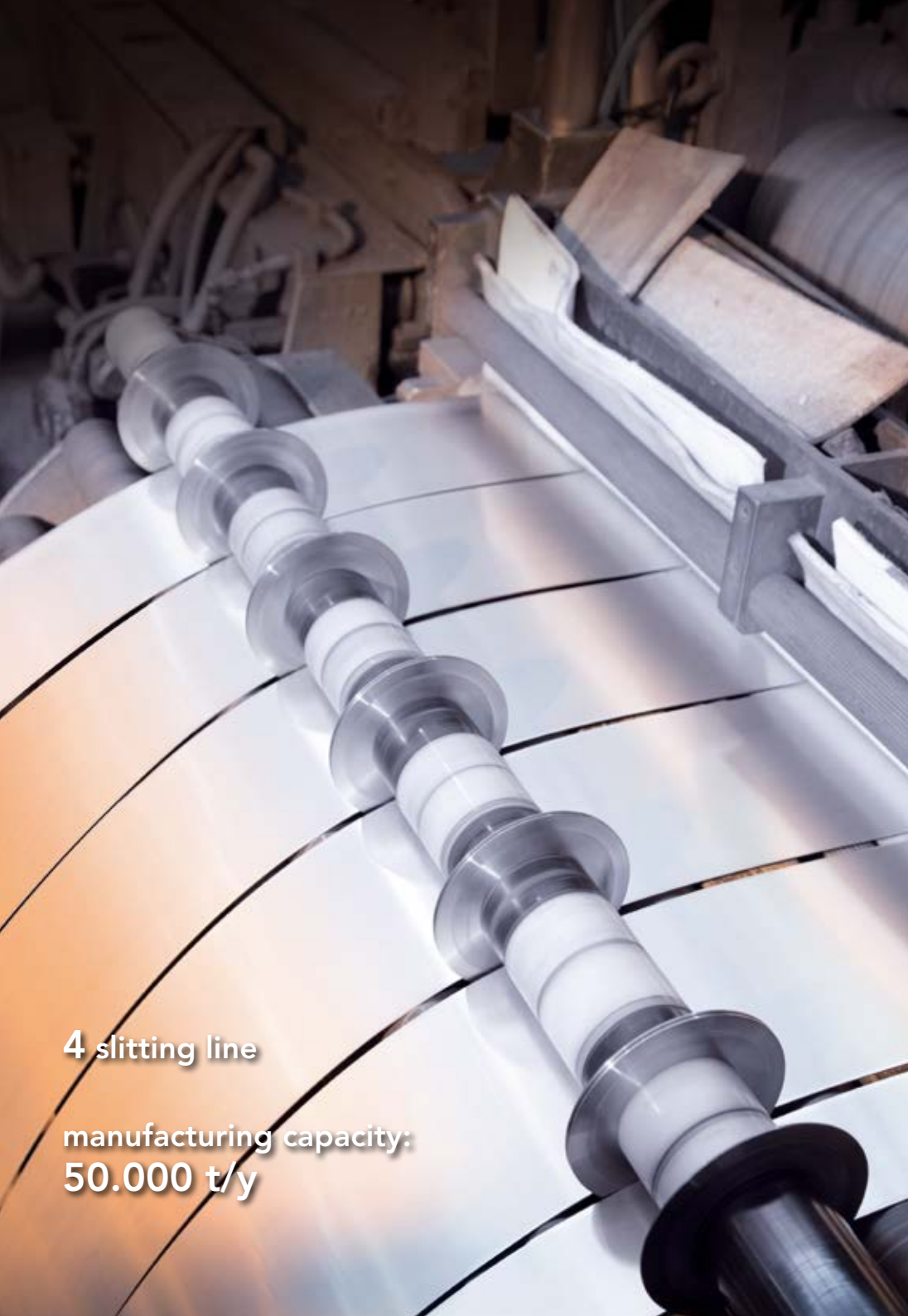
product:
**cold rolled sheets
2B finish**

SUPPLY CONDITIONS

- Dimensional tolerances according to EN 10051, EN ISO 9445
(and other equivalent international norms)
- Special tolerances upon request
- Control documents 2.2, 3.1, 3.2 according to EN 10204
- On request: 320 grit polishing, scotch brite brushing
and protective film

Main steel grades

MANUFACTURING STANDARD	FINISH	PRODUCT DESIGNATION	GRADE			
EN 10088-2	2B Annealed pickled and skinpassed	<i>Stainless steel flat products for general purposes</i>	<i>Austenitic</i>		<i>Ferritic</i>	
			EN	AISI	EN	AISI
			1.4301	304	1.4016	430
			1.4307	304L	1.4512	409Li
			1.4541	321	1.4510	439L
			1.4404	316L	1.4509	441
			1.4571	316Ti	1.4526	436
EN 10028-7	2B Annealed pickled and skinpassed	<i>Stainless steel flat products for pressure purposes</i>	<i>Austenitic</i>			
			EN	AISI		
			1.4301	304		
			1.4307	304L		
			1.4541	321		
			1.4404	316L		
			1.4571	316Ti		



4 slitting line

manufacturing capacity:
50.000 t/y

Stainless steel hot and cold rolled strips

Hot rolled strips 1D

thickness (mm)

from 3,00 to 6,00

width (mm)

from 40 to 1.500

Cold rolled strips 2B

thickness (mm)

from 0,8 to 4,00

width (mm)

from 35 to 1.500

SUPPLY CONDITIONS

- Dimensional tolerances according to EN ISO 9445-2
(and other equivalent international norms)
- Special tolerances upon request

Main steel grades

ΠΡΟΜΑΝΟΥΦΑΚΤΟΥΡΑ STANDARD	FINISH	PRODUCT DESIGNATION	GRADE			
EN 10088-2 ASTM A240, A480	1D Annealed and pickled	<i>Stainless steel flat products for general purposes</i>	<i>Austenitic</i> EN 1.4307 1.4404	AISI 304L 316L		
	2B Annealed pickled and skinpassed					
					<i>Ferritic</i> EN 1.4512 1.4510 1.4509	AISI 409LI 439L 441
EN 10088-4 (CE marking)	1D Annealed and pickled	<i>Stainless steel flat products for construction purposes</i>	<i>Austenitic</i> EN 1.4307 1.4404	AISI 304L 316L		
	2B Annealed pickled and skinpassed					
					<i>Ferritic</i> EN 1.4512 1.4510 1.4509	AISI 409LI 439L 441
EN 10028-7 ASTM A240, A480 (AD 2000 W2/W10) (PED 2014/68/EU)	1D Annealed and pickled	<i>Stainless steel flat products for pressure purposes</i>	<i>Austenitic</i> EN 1.4307 1.4404	AISI 304L 316L		
	2B Annealed pickled and skinpassed					

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OUR STEEL BRINGS YOUR WORLD TO LIFE



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