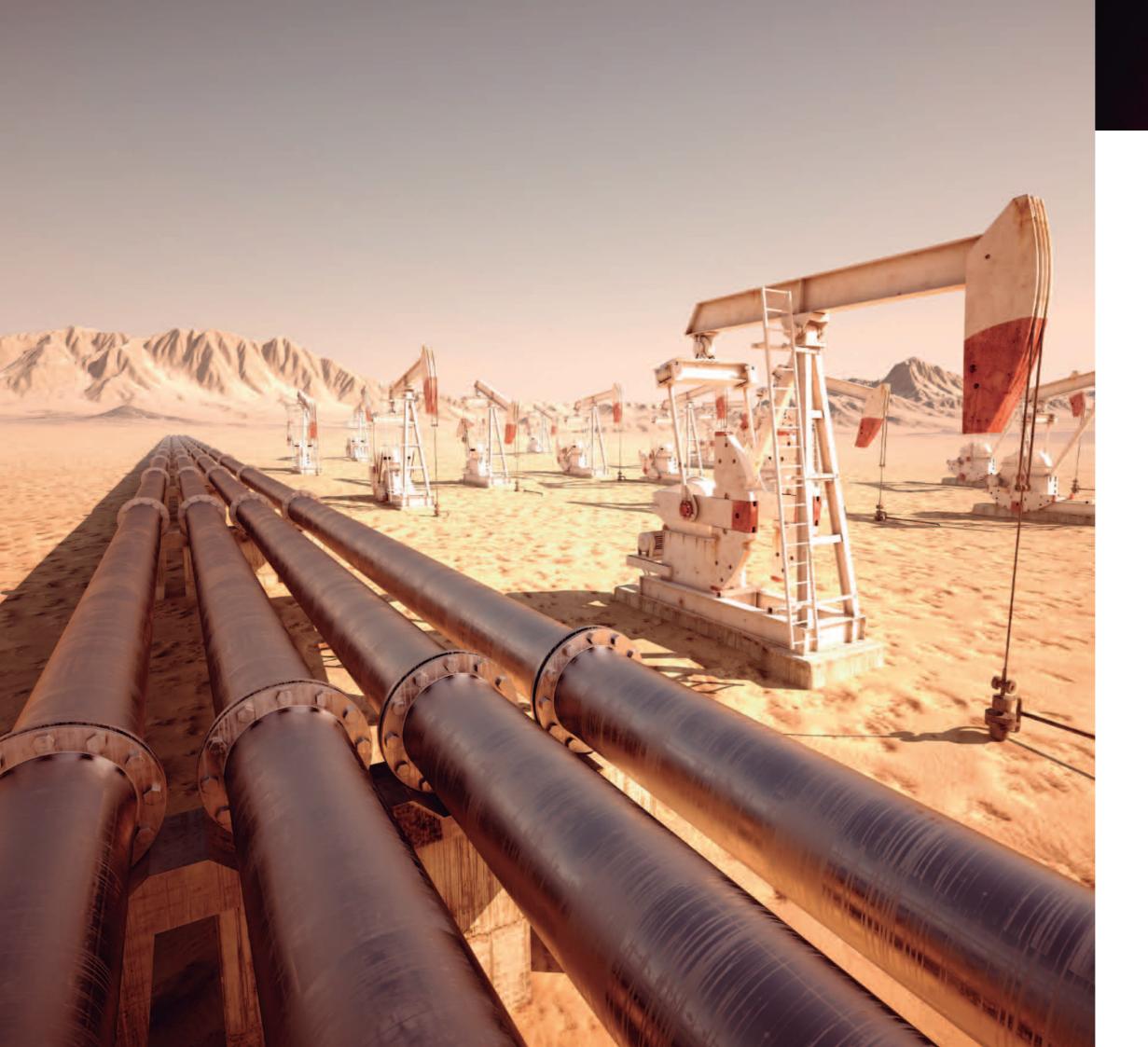


Stainless Steel & High Nickel Alloys Tubular Solutions



TUBACEX: GLOBAL SOLUTIONS PROVIDER

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Tubacex: A Global Leader in Seamless Stainless and High Nickel Alloys Pipes & Tubes

The Tubacex Group has become one of the world's main seamless stainless steel and nickel alloy tubular solutions provider.

Founded in 1963, Tubacex brings the experience of a world leader combined with a strong R&D effort which is needed to fulfill the future needs of the industry.

Nowadays the Tubacex Group, exporting into more than 100 countries worldwide, has a share of around 15% of the world market of seamless stainless steel tubular solutions , with a total workforce of around 2.400 employees. The headquarters are located in Llodio, 25 Km (15 miles) from the seaport city of Bilbao, in northern Spain.

Tubacex Group's integrated production process includes a steel making plant, several extrusion and cold finishing mills, trepanning facilities, fitting and special components producers and wide network of service centers which provide a wide range of added value operations to group's portfolio.





STAINLESS STEEL & HIGH NICKEL ALLOYS INGOTS. **BARS AND BILLETS**

Stainless steel and high nickel alloy long products are produced by the group's subsidiary Aceralava, either rolled or forged up to 20":

- Round bar
- Round billet
- Square billet
- Ingot



SEAMLESS PIPES & TUBES EXTRUDED/COLD DRAWN

Seamless pipes up to 8" are the bulk of Tubacex portfolio, with focus in Stainless steel and high nickel alloy materials. This includes:

- Mechanical tubing
- Pipes and tubes for several applications
- Straight / U-bended tubes
- Welded and coiled seamless tubes (for umbilical application)



SEAMLESS PIPES & TUBES TREPANED

Tubacex groups completes its seamless portfolio with trepaning/ boring technology that expands manufacturing range to 42" OD, in all materials from carbon steel to titanium – with main focus in stainless Steel and High nickel alloys.



FITTINGS AND SPECIAL COMPONENTS

Tubacex range includes the design and manufacturing of butt welding fittings, tube bends, elbows, tees, reducers and caps (both seamless and welded), complementing the wide offer of tubular solutions, in a complete manufacturing range that goes up to 72" in any thickness.

INNOVATION (WITH FOCUS IN NEW SOLUTIONS AND VALUE ADDED OPERATIONS) AND SERVICE AS MAIN GROWTH DRIVERS







Competitiveness	
Thanks to our lean manufacturing process	

Service Cooperation with our customers

Flexibility In materials chemical composition & deliveries

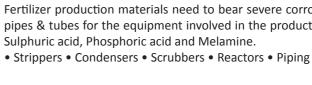
Reliability Of a fully integrated company



OIL & GAS EXPLORATION & PRODUCTION

New challenging corrosive environments and applications are driving Tubacex product portfolio of corrosion resistant alloys in both on-shore and off-shore E&P, with a particular focus in: • Oil Country Tubular Goods (OCTG) • Umbilical tubes along with a wide range of seamless stainless and high nickel alloys for subsea application (risers, flowlines, manifolds...) • Tubes for platforms (piping systems, separators...).





POWER GENERATION

boiler equipments, in both:

• Nuclear power plants.

STOCK FOR DISTRIBUTION

Tubacex's manufacturing range covers the main seamless stainless steel portfolio for distributors worlwide:



Our Customers are the main driver of Tubacex Group's activity and efforts. Our organization and investments are continuously being adapted to fulfil the increasing requirements that companies are facing everyday in high demanding activities in the oil & gas, petrochemical, chemical and power generation industries among others. These new challenging needs are driving us to implement in our mills the most advanced verification equipment and inspection procedures to assure product quality and a high service, guaranteed by a fully integrated company with worlwide presence.

REFINING, PETROCHEMICAL & CHEMICAL

Tubacex offers extensive grade and size portfolio to achieve designers expectations regarding several areas & equipments in the petrochemical and Chemical industry, particularly: Regas Facilities
 Refineries
 Heat exchangers
 Reactors
 Furnaces, heaters and re-heaters • Other process industries.

FERTILIZER PRODUCTION

Fertilizer production materials need to bear severe corrosion conditions. Tubacex provides pipes & tubes for the equipment involved in the production of Urea, Ammonia, Nitric acid,

Tubacex's manufacturing range covers the main stainless steel heat ressistant grades used in

• Critical equipment • Ultra Super Critical (USC) equipment • Industrial power plants

• Pipes and Tubes according to all relevant standards • Hollow Bars for metal-mechanic industry through our master distributor COTUBES • Instrumentation & hydraulic tubing for a wide range of high added value industries, including aerospace. •Round Bars.

The Widest Portfolio in Stainless Steel Tubacex: A truly global solutions provider at your service

	SOLUTIONS	BUSINESS UNIT	RANGE
	Stainless Steel & High Nickel alloys bars & billets	ACERALAVA TUBÂCEX	Round and Square Stainless and nickel alloy billets Rolled from 120 to 280mm (4 ¾ " − 11 ") Forged from 230 to 508 mm (9" − 20") Aceralava is the main steel supplier of the Tubacex Group's companies. It also manufacturing range covers the main stainless steel grades requested by the i with exceptions possible on request.
		TTI TUBÂCEX GROUP	Seamless stainless steel and nickel alloy tubes and pipes The size manufactured through the extrusion press and the 11 cold rolling mad or 19 – 250 mm OD, at manufacturing facilities located at Llodio and Amurrio (A specific line is fully devoted to OCTG (oil country tubular goods) manufactur
	Seamless Pipe and Tubes to 8" (extrusion, piercing,	SCHOELLER BLECKMANN TUBÂCEX	 Seamless stainless steel pipes and tubes Schoeller Bleckmann Edelstahlrohr, located in Ternitz, Austria, manufactures S or 6 – 250 mm OD. A specific plant is devoted to special tube manufacturing, with focus in straig demanding applications (Nuclear, Fertilizer).
	cold finishing)	SALEM TUBE TUBÂCEX GROUP	Welded and seamless stainless steel and nickel alloy tubes. Located in Greenville, PA (USA) Salem tube's manufacturing range goes from 1 The company is highly specialized in precision tubing for the most demanding of high nickel alloy in their product portfolio.
		TUBACEX PRAKASH TUBACEX	Seamless Stainless Steel tubes and pipes Located in Umbergaon (Gujarat- India), Tubacex Prakash manufactures cold fin The company is able to deliver tubes up to 28 m lenght, straight and U-Shape, 14000 certified
	Seamless Pipe and tubes to 42" (mechanical boring)	IBF	Mechanically bored tubes Located in Vittuone, italy, IBF pipes division manfactures mechanically bored t Fittings
			Located in San Niccolo, Italy, IBF fittings and special parts division manufacture components in a manufacturing range that goes from ½ "to 72" NPS.
	Fittings and special conections from ½ " to 72"	TTA TUBÂCEX GROUP	Stainless steel (also carbon and alloy) butt welding fittings Size range goes from ½" up to 14" NPS, in short and long radius as well as in sp Located in Artziniega, Spain, Tubacex Taylor Accesorios (TTA) manufactures fit mainly for the Petrochemical industry, perfectly complementing the portfolio
	Stock, Service and trading Value added operations	TUBACEX SERVICE SOLUTIONS TUBACEX GROUP	Global Network of Service Centers (Cotubes, MIS, Tubacex America and T Service centers located in Spain, France, Brazil, China and the United States. Special added value operations in Tubacex Services.



also supplies its products to the Stainless Steel Market. Aceralava's he industry,

machines, goes from ½" up to 8" NPS, rrio (Spain).

cturing, in a range that goes to 9 5/8" (currently in trial).

es Seamless Stainless steel in dimensions between 1/8" and 8" NPS,

raight and welded tubes for umbilical application and other high

om 1/8" to 2" OD.

ling industries as military and aerospace, with a heavy concentration

old finished tubes and pipes from 6 mm OD to 273.1 mm OD

ape, to a wide range of customers. The company is ISO 9000 and ISO

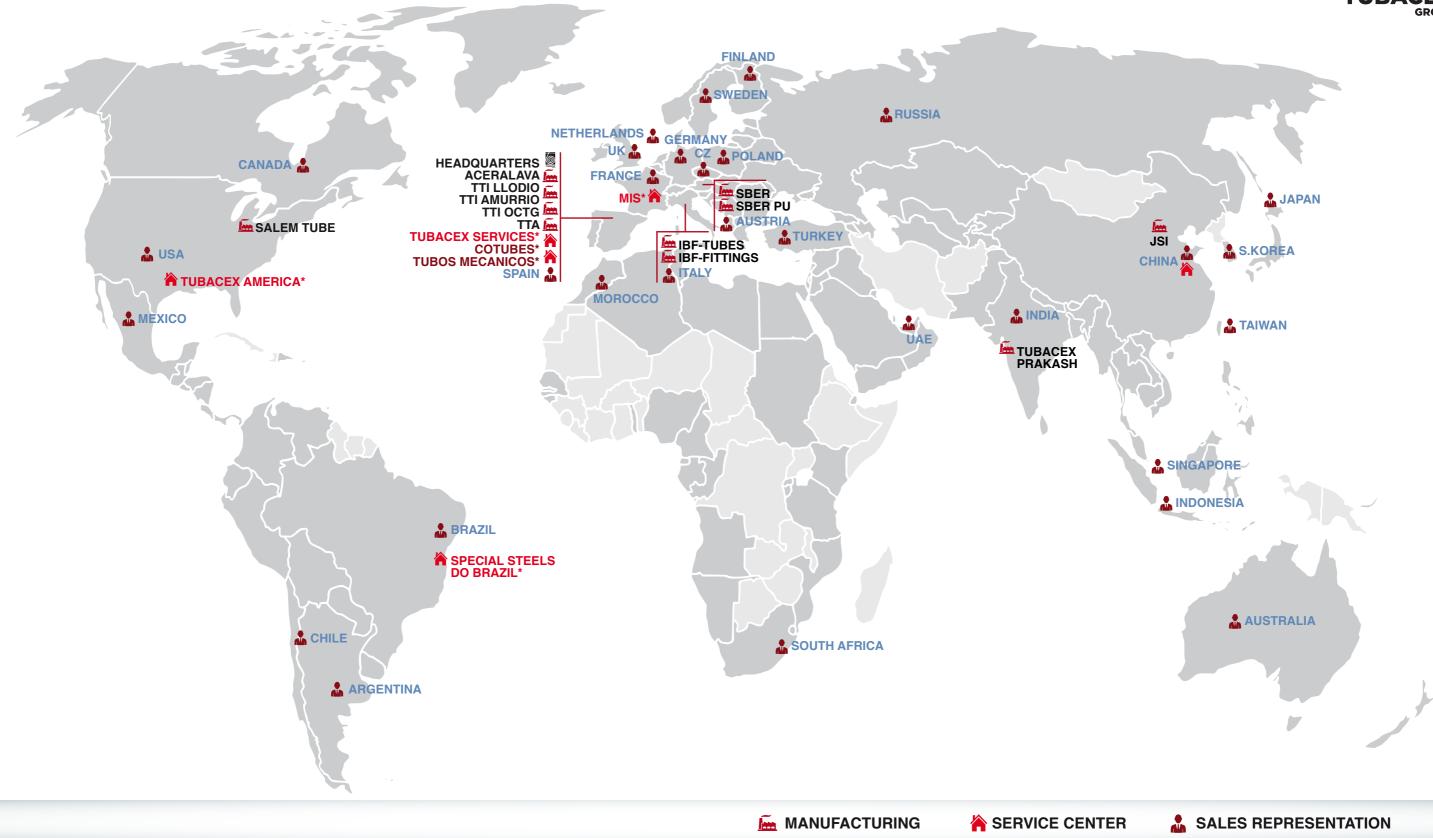
ed tubes up to 42" in any wall thickness.

ctures fittings, elbows, and special

in special radii.

s fittings (elbows and return bends) olio of the rest of The Group.

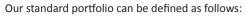
nd Tubos Mecánicos)





Stainless Steel Bars & Billet

Acerálava's product range includes stainless steel long products such as square and round bars, billets and ingots, rolled and forged.





ROUNDS BARS & BILLETS									
Products	Size range	Condition	Grades						
•	165 mm. up to 230 mm. (6 1/2" - 9")	Rolled	Martenstics Austenitics						
	230 mm. up to 500 mm. (9" - 19 3/4")	Forged	Ferritic - Austenitics High Nickel Alloys						

SQUARE BILLETS									
Products	Size range	Condition	Grades						
	120 mm. up to 280 mm. (4 3/4" - 11")	Rolled	Martenstics Austenitics						
	280 mm. up to 508 mm. (11" - 20")	Forged	Ferritic - Austenitics High Nickel Alloys						







Tubacex manufacturing range covers the main stainless steel grades requested by the industry. From our steel plant Aceralava (Spain) we offer a tailor made list of steels. Our metalurgical engineers are devoted to the developement of sophisticated steels capable of operating in the demanding environments of the future. Exceptions over the standard steel grades are satisfied through Aceralava.



STAINLESS STEEL GRADES									
	ASTM	WNr	AFNOR	C max*	Cr	Ni	Мо	Other	
	304	1.4301	TU Z 6 CN 18-09	0,08	17/20	8/11			
	304 L	1.4306	TU Z 2 CN 18-10	0,03	18/20	10/12			
	304 L 1.4307 TU Z 3 CN 19-09		TU Z 3 CN 19-09	0,03	17,5/19,5	8/10,5			
	304 H		TU Z 6 CN 19-10	0,04/0,10	18/20	8/11			
	TX304HB**	1.4907		0,07	17/19	7,5/10,5		Nb 0,3/0,6 Cu 2,5/3,5	
	321	1.4541	TU Z 6 CNT 18-10	0,08	17/19	9/12		5 C < Ti < 0,60	
	321 H		TU Z 6 CNT 18-12 B	0,04/0,10	17/20	9/13		4 C < Ti < 0,60	
	347	1.4550	TU Z 6 CNNb 18-10	0,08	17/19	9/12		10 C < Nb < 1,0	
	347 H		TU Z 6 CNNb 18-12 B	0,04/0,08	17/20	9/13		8 C < Nb < 1,0	
	347 H FG	1.4908		0,07	17/19	9/13		8 C ≤ Nb ≤ 1,1	
	316	1.4401	TU Z 6 CND 17-11	0,08	16/18	11/14	2/3		
<u>2</u>	316 L	1.4404	TU Z 2 CND 17-12	0,03	16/18	11/14	2/3		
Ę	316 Ti	1.4571	TU Z 6 CNDT 17-12	0,08	16,5/18,5	10,5/13,5	2/2,5	5 C < Ti < 0,80	
AUSTENITIC	(316 L)	1.4435	TU Z 2 CND 17-13	0,03	17/18,5	12,5/15	2,5/3		
US1	(316) 1.4436		TU Z 6 CND 17-12	0,07	16,5/18,5	11/14	2,5/3		
A	316 Nb 1.4580			0,08	16/18	11/13	2/2,5	10 C < Nb < 1,0	
	316 N/316 LN			0,03	16/18	11/14	2/3	N 0,10/0,16	
	316 L urea			0,03	17/18	13/15	2/3		
	317		TU Z 2 CND 19-15	0,08	18/20	11/15	3/4		
	317 L	1.4438	TU Z 2 CND 19-15	0,03	18/20	11/15	3/4		
	309 S/309 H	1.4833	TU Z 12 CN 24-12	0,08	22/24	22/24 12/15			
	310 S/310 H	1.4845	TU Z 12 CN 25-20	0,08	24/26	19/22	<0,75		
	310 HCbN	1.4952		0,07	24/26	19/22		0,2 ≤ Nb ≤ 0,6	
	310 MoLN	1.4466		0,02	24/26	21/23	2/2,5	N=0,1/0,15 Si<0,4 P<0,02	
		1.4828	TU Z 17 CNS 20-12	0,20	19/21	11/13		Si 1,5/2,5	
	314	1.4841	TU Z 15 CNS 25-20	0,15	24/26	19/21		Si 1,5/2,5	
	UNS S31254	1.4547		0,02	19,5/20,5	17,5/18,5	6,0/6,5	Cu 0,50/1,00 N 0,18/0,22	
TIC	UNS \$31803	1.4462	TU Z 2 CND 22-05-03	0,03	21/23	4,5/6,5	2,5/3,5	N 0,12/0,20	
	UNS \$32750	1.4410			24,0/26,0	6,0/8,0	3,0/5,0		
FERRITIC AUSTENITIC	UNS S32760	1.4501	TU Z 3 CND 25-06-Az	0,03	24/26	6/8	3/5	N 0,2/0,3 Cu & W 0,5/1,0	
	904 L	1.4539	TU Z 1 CNDU 25-20	0,02	19/21	24/26	4/5	Cu 1,20/2,00 N 0,04/0,10	
	800-H-HT	1.4876	(TU Z10 NC 32-21)	0,6/0,10	19/23	30/35		Al & Ti 0,15/0,60	
GH KEL	UNS N08020	2.4660		0,07	19/21	32/38	2/3	Cu 3/4 Nb 8xC-1,0 Fe Balance	
HIGH	UNS N08825	2.4858		0,05	19,5/23,5	38/46	2,5/3,5	Cu 1,5/3,0 Al 0,2 max Ti 0,6/1,2 Fe Balance	
	UNS N08028	1.4563	TU Z2 CNDU 31-27	0,03	26/28	30/32	3/4	Cu=0,8/1,4 N=0,04/0,1 Fe Balance	
	G-3 N06985				21,0/23,5	44,0/52,0	6,5/8,0	Fe: 18,0/21,0	

* Maximum unless otherwise indicated. ** Tubacex name.

In addition to these standards, Tubacex's capabilities include a wide range of stainless steel and high nickel alloy grades depending on the requirements of our customers.

Stainless Steel Bars & Billet





Seamless Pipes & Tubes Extruded / Cold drawn

The Tubacex Group has an extensive manufacturing programme for stainless steel and nickel alloys seamless pipes & tubes covering most dimensions and grades required by the industry. Seamless Stainless Steel Tubing can be hot or cold finished, covering the following range:

MANUFACTURING RANGE

	HOT MANUFACTURING DIMENSIONS																
	E R				N	ALL TI	HICKN	ESS									
ASTM A 312 ASME B.36.10	Inch	0,120 0,126 0,133 0,134 0,140 0,14															
ASIVIE B.30.10	mm	3,05 3,20 3,38 3,40 3,56 3,68	8 3,76 3,91 4,55 4,85	5,08 5,16 5,49 5,54	0	6,55 7,01	7,11 7,14	7,62 8,08	8,18 8,56 8	,74 9,52	10,3110,97	()	1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	27 15,88	318,2623,		(
NPS Inch mm		3,2 3,6	4,0 4,5	5,0	5,6 6,3		7,1	8,0		8,8	10,0 11,0	12,5	5			25,0	DIN mm
1,496																	38,0
1,575	40,0																40,0
1 1/4 1,660 42,16		40	80		160									_		_	42,4
1,752	44,5															_	44,5
1 1/2 1,900 48,26		40		80			160							_		_	48,3
2,008	51,0													_		_	51,0
2,126																	54,0
2,244	57,0															_	57,0
2,0 2,375 60,33	60,3		40	80						160						_	60,3
2,500	63,5															_	63,5
2,756	70,0															_	70,0
2 1/2 2,875 73,03	76,1			40		80				160							76,1
3,0 3,500 88,9 3 1/2 4,000 101,60	88,9			40	40			80 80				160				-	88,9
4,252	101,6 108.0				40			80									101,6 108.0
4,2 32	114,3				40				80			120	160				108,0
5,236	133,0				40				80			120	100				133.0
5,500	139,7																133,0
5,0 5,563 141,3	141,3	10				40				80		120		160			141,3
6.260	159,0									00		120		100			159,0
6,0 6,625 168,28	168,3	10					40				80		12	20	160		168.3
7,626	193,7																193,7
8,0 8,625 219,08			10						40		60	80			120 16	0	219,1
9,000	228,6																228,6
9,626																	244,5

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Name	ASTM A 312	Inch	0,020 0,035	0,049	0,065	0,083 0	0,091	0,102 0,1	09 0,11	3 0,120	0,126	0,133 0),134 0),140	0,145	0,148	0,154	0,179	0,191	0,200	0,203	0,216	0,219	0,226	0,237	0,250	0,258	0,276	0,280	0,300	0,318	3 0,322	0,337	0,375	5 0,43	2 0,50	0 0,55	9 1	nch
0.12 3.17	ASME B.36.10	mm	0,50 0,89	1,24	1,65	2,11	2,31	2,59 2,7	77 2,8	7 3,05	3,20	3,38	3,40 3	3,56	3,68	3,76	3,91	4,55	4,85	5,08	5,16	5,49	5,56	5,74	6,02	6,35	6,55	7,01	7,11	7,62	8,08	8,18	8,56	9,53	10,9	7 12,7	014,2	0 r	nm
 	NPS Inch mm	DIN mm	0,5 0,9	1,2	1,6	2,0	2,3	2,6	2,9	•	3,2			3,6			4,0	4,5		5,0			5,6			6,3			7,1		8,0				11,	0 12,	5 14,2	DIN	
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3.0 8.89 5 10 40 80 88,9					_	5																40								80	~~~						1	_	
<u>3 1/2 4,000 101,60</u> 101,6 4,252 108,0 100 100 100 100 100 100 100 100 100 1		-				_	-			10														40							80							_	
							_			10															40								00						
4,0 4,500 114,30 114,3 10 10 40 80 114,3 5,236 133,0 10 10 10 114,3 100,1 114,3 100,1 1										10															40								80						
													10														40							00		124	,		
5,0 5,53 141,3 10 40 80 120 141,3 6,0 6,625 168,28 168,3 10 40 80 168,3									-																		40		40					00	90		,		
0, 0, 52, 50, 200, 200, 200, 200, 200, 2									-			- 1	10																40						80				
8,0 8,625 219,0 20 40 80 219,1		_							-							10										20						40				20			

Production according to main manufacturing standards (ASTM/ASME, EN and other international manufacturing standards). Non standard articles available on request.

	SEAMLESS PIPE Wall thickness: Average APPROXIMATE WEIGHTS ACC. TO. ANSI / ASME B36.19 AND ASME B36.10 DIMENSIONS														
		AP	PROXIM	IATE WE	IGHTS A	сс. то.	ANSI / A	SME B3	6.19 ANI	D ASME	B36.10 [DIMENS	IONS		
NPS	OD	Sch Wall	າ 5S Wt	Sch Wall	10S Wt	Sch Wall	40S Wt	Sch Wall	80S Wt	Sch 1 Wall	120S Wt	Sch Wall	160S Wt	X) Wall	KS Wt
inch	mm inches	mm inch.	kg/m lb/ft	mm inch.	kg/m lb/ft	mm inch.	kg/m Ib/ft	mm inch.	kg/m lb/ft	mm inch.	kg/m Ib/ft	mm inch.	kg/m lb/ft	mm inch.	kg/m Ib/ft
1/8"	10.29 0.405	0.89 0.035	0.21 0.14	1.24 0.049	0.28 0.19	1.73 0.068	0.37 0.25	2.41 0.095	0.48 0.32						
1/4"	13.72 0.540	1.24 0.049	0.39 0.26	1.65 0.065	0.50 0.34	2.24 0.088	0.64 0.43	3.02 0.119	0.81 0.54						
3/8"	17.15 0.675	1.24 0.049	0.49 0.33	1.65 0.065	0.64 0.43	2.31 0.091	0.86 0.58	3.20 0.126	1.12 0.75						
1/2"	21.34 0.840	1.65 0.065	0.81 0.54	2.11 0.083	1.02 0.68	2.77 0.109	1.29 0.87	3.73 0.147	1.64 1.10			4.78 0.188	1.98 1.33		
3/4"	26.67 1.050	1.65 0.065	1.03 0.69	2.11 0.083	1.30 0.87	2.87 0.113	1.71 1.15	3.91 0.154	2.23 1.50			5.56 0.219	2.94 1.97		
1″	33.40 1.315	1.65 0.065	1.31 0.88	2.77 0.109	2.12 1.43	3.38 0.133	2.54 1.71	4.55 0.179	3.29 2.21			6.35 0.250	4.30 2.89	9.09 0.358	5.53 3.71
1 1/4″	42.16 1.660	1.65 0.065	1.67 1.12	2.77 0.109	2.73 1.83	3.56 0.140	3.44 2.31	4.85 0.191	4.53 3.04			6.35 0.250	5.69 3.82	9.70 0.382	7.88 5.29
1 1/2″	48.26 1.900	1.65 0.065	1.93 1.30	2.77 0.109	3.15 2.12	3.68 0.145	4.11 2.76	5.08 0.200	5.49 3.69			7.14 0.281	7.35 4.93	10.16 0.400	9.69 6.51
2″	60.32 2.375	1.65 0.065	2.42 1.62	2.77 0.109	3.99 2.68	3.91 0.154	5.52 3.71	5.54 0.218	7.60 5.10			8.74 0.344	11.29 7.58	11.07 0.436	13.65 9.16
2 1/2″	73.02 2.875	2.11 0.083	3.75 2.52	3.05 0.120	5.34 3.59	5.16 0.203	8.77 5.89	7.01 0.276	11.58 7.78			9.52 0.375	15.14 10.16	14.02 0.552	20.71 13.90
3″	88.90 3.500	2.11 0.083	4.59 3.08	3.05 0.120	6.56 4.40	5.49 0.216	11.46 7.70	7.62 0.300	15.50 10.41			11.13 0.438	21.67 14.55	15.24 0.600	28.10 18.87
3 1/2″	101.60 4.000			3.05 0.120	7.52 5.05	5.74 0.226	13.77 9.25	8.08 0.318	18.92 12.70			12.70 0.500	28.26 18.97	16.15 0.636	34.55 23.19
4″	114.30 4.500			3.05 0.120	8.49 5.70	6.02 0.237	16.32 10.96	8.56 0.337	22.66 15.21	11.13 0.438	28.74 19.30	13.49 0.531	34.04 22.85	17.12 0.674	41.66 27.97
5″	141.30 5.563			3.40 0.134	11.74 7.88	6.55 0.258	22.09 14.83	9.52 0.375	31.41 21.09	12.70 0.500	40.88 27.45	15.88 0.625	49.87 33.48	19.05 0.750	58.32 39.15
6″	168.28 6.625			3.40 0.134	14.03 9.42	7.11 0.280	28.69 19.26	10.97 0.432	43.20 29.00	14.27 0.562	55.02 36.94	18.26 0.719	68.59 46.05	21.95 0.864	80.43 54.00
8″	219.08 8.625			3.76 0.148	20.27 13.61	8.18 0.322	43.19 28.99	12.70 0.500	65.61 44.05	18.26 0.719	91.79 61.63	23.04 0.906	112.94 75.82	22.22 0.875	109.53 73.53

For minimun wall according to ASTM A 213 add 10%

SEAMLESS TUBE Wall thickness: Average																		
APPROXIMATE WEIGHTS ACC. TO. BIRMINGHAM WIRE GAUGE - BWG																		
				20	18	16	15	14	13	12	11	10	9	8	7	6	5	4
inch	ו ו	mm	mm inch	0,890 0,035	1,245 0,049	1,650 0,065	1,830 0,072	2,110 0,083	2,410 0,095	2,770 0,109	3,050 0,120	3,400 0,134	3,760 0,148	4,190 0,165	4,570 0,180	5,160 0,203	5,590 0,220	6,040 0,238
1/4" 0,	250	6,35	kg/m lb/ft	0,12 0,08	0,16 0,11	0,19 0,13												
3/8″ 0,	375	9,53	kg/m lb/ft	0,19 0,13	0,26 0,17	0,33 0,22	0,35 0,24	0,39 0,26										
1/2" 0,	500 1	12,70	kg/m Ib/ft	0,26 0,18	0,36 0,24	0,46 0,31	0,50 0,33	0,56 0,38	0,62 0,42	0,69 0,46	0,74 0,50							
5/8″ 0,	6 2 5	15,88	kg/m lb/ft	0,33 0,22	0,46 0,31	0,59 0,40	0,64 0,43	0,73 0,49	0,81 0,55	0,91 0,61	0,98 0,66	1,05 0,70	1,13 0,76					
3/4" 0,	750 1	19,05	kg/m lb/ft	0,40 0,27	0,55 0,37	0,72 0,48	0,79 0,53	0,89 0,60	1,01 0,68	1,13 0,76	1,22 0,82	1,33 0,90	1,40 0,94	1,52 1,02	1,61 1,08	1,73 1,16		
1″ 1,	000 2	25,40	kg/m lb/ft		0,75 0,51	0,98 0,66	1,08 0,73	1,23 0,83	1,39 0,93	1,57 1,05	1,71 1,15	1,87 1,26	2,00 1,35	2,18 1,45	2,33 1,56	2,56 1,73		
1 1/4" ¹ ,	250	31,75	kg/m lb/ft		0,95 0,64	1,24 0,84	1,37 0,92	1,56 1,05	1,77 1,19	2,01 1,35	2,19 1,47	2,42 1,62	2,60 1,75	2,85 1,91	3,05 2,05	3,37 2,26	3,58 2,41	3,80 2,55
1 1/2″ ¹ ,	500	38,10	kg/m lb/ft		1,15 0,77	1,51 1,01	1,66 1,12	1,90 1,28	2,16 1,45	2,45 1,65	2,68 1,80	2,96 1,99	3,20 2,15	3,51 2,35	3,78 2,55	4,19 2,82	4,47 3,01	4,75 3,19
1 3/4″ ¹ ,	750 4	44,45	kg/m lb/ft		1,35 0,90	1,77 1,19	1,95 1,31	2,24 1,50	2,54 1,71	2,89 1,94	3,16 2,12	3,50 2,35	3,83 2,57	4,21 2,83	4,55 3,05	5,05 3,39	5,40 3,63	5,76 3,87
2″2,	000 5	50,80	kg/m lb/ft			2,03 1,37	2,24 1,51	2,57 1,73	2,92 1,96	3,33 2,24	3,64 2,45	4,04 2,71	4,43 2,97	4,88 3,28	5,28 3,55	5,87 3,95	6,30 4,24	6,73 4,52
2 1/4" ² ,	250 5	57,15	kg/m lb/ft				2,53 1,70	2,91 1,95	3,31 2,22	3,77 2,53	4,13 2,77	4,58 3,08	5,04 3,38	5,55 3,74	6,01 4,04	6,70 4,50	7,20 4,84	7,70 5,17
2 1/2″ ² ,	500 (63,50	kg/m lb/ft				2,82 1,90	3,24 2,18	3,69 2,48	4,23 2,84	4,61 3,12	5,13 3,44	5,64 3,79	6,23 4,18	6,74 4,54	7,54 5,06	8,09 5,44	8,66 5,82
3″ 3,	000	76,20	kg/m lb/ft					3,91 2,63	4,46 3,00	5,14 3,42	5,58 3,75	6,20 4,17	6,82 4,58	7,57 5,08	8,25 5,54	9,19 6,18	9,91 6,66	10,62 7,14
3 1/2″ ^{3,}	500 8	88,90	kg/m lb/ft					4,58 3,08	5,23 3,51	5,97 4,01	6,55 4,40	7,29 4,90	8,02 5,38	8,91 5,97	9,70 6,52	10,85 7,28	11,71 7,85	12,55 8,44

For minimun wall according to ASTM A 213 add 10%

Seamless Pipes & Tubes Extruded / Cold drawn

WEIGHT PER METER CONVERSION

Main applicable standards

The more efficiency is requested, the more challenging is the environment for the steel. Stainless steel use is growing in seamless pipes & tubes manufacturing as the industry moves towards new applications, more efficient technologies are developed and new equipments are built.

The manufacturing methods employed at Tubacex Group's main production units reflect the most advanced technologies. Production of seamless stainless steel pipes and tubes is carried out according to all common international delivery and tolerance standards. Main standards applicable to seamless stainless steel pipes & tubes

	MAIN AMERICAN STANDARDS FOR SEAMLESS STAINLESS STEEL TUBES AND PIPES
SPECIFICATION	DESCRIPTION
ASTM A213	Standard specification for seamless, ferritic and austenitic alloy-steel boiler, superheater and heat exchanger tubes.
ASTM A269	Standard specification for seamless and welded austenitic stainless steel tubing for general service.
ASTM A312	Standard specification for seamless welded and heavily cold worked austenitic stainless steel pipes.
ASTM A450	Standard specification for general requirements for carbon and low alloy steel tubes.
ASTM A530	Standard specification for general requirements for specialized carbon and alloy steel pipe.
ASTM A789	Standard specification for seamless and welded ferritic/austenitic stainless steel tubing for general service.
ASTM A790	Standard specification for seamless and welded ferritic/austenitic stainless steel pipe.
ASTM A999	Standard specification for general requirements for alloy and stainless steel pipe.
ASTM A1016	Standard specification for general requirements for ferritic alloy steel, austenitic alloy steel and stainless steel tubes.

	MAIN EUROPEAN STANDARDS FOR SEAMLESS STAINLESS STEEL TUBES AND PIPES
SPECIFICATION	DESCRIPTION
EN ISO 1127	Stainless steel tubes – dimensions, tolerances and conventional masses per lenght unit.
EN ISO 9692-1	Welding and allied processes recomendations for joint preparation - Part 1: Manual metalarc welding, gasshielded metalarc welding, gas welding, TIG welding and beam welding of steels.
EN 10204	Metallic products – types of inspection documents.
EN 10216-5	Seamless tubes for pressure purposes – Technical delivery conditions – Part 5: Stainless Steel Tubes.
EN 10297-2	Seamless Tubes for mechanical and general engineering purposes – technical delivery conditions – Part 2: Stainless Steel.
EN 10305-1. PT.	Steel tubes for precision applications – Technical delivery conditions – Part 1: Seamless Cold Drawn tubes.

Quality valued around the world

Tubacex brings the experience of a world leader in the manufacturing of seamless stainless steel pipes & tubes, constantly increasing quality standard. Our organization and investments are continuously being adapted to the high demanding conditions that our customers face everyday.



The Tubacex Group offers a wide

range of pipes & tubes accord-

ing to European and American



Strong stock availability is provided by **COTUBES** and the other Tubacex Group's stocks through the world.

Billets used in the manufacturing process of pipes & tubes are mainly produced in house, in the Group's own steelworks, through a totally integrated process.



Precision tubing (instrumentation & hydraulic) with outside diameters from 6 mm O.D. is manufactured in Schoeller Bleckmann Edelstahlrohr, while Salem Tube manufacturing portfolio starts from 3 mm O.D.

New challenging corrosive environments and applications are increasing the use of high nickel alloys in the seamless tubes production, particularly in the oil & gas industry. Tubacex Group's manufacturing range covers the main high nickel alloy grades requested by the industry. Exceptions over the standard steel grades are satisfied through our Steel Melting Shop Aceralava.

MAIN STANDARDS APPLICABLE TO SEAMLESS HIGH NICKEL ALLOYS PIPES & TUBES

ALLOY	BASIC CHARACTERISTICS	USUAL APPLICATIONS
UNS N08904	Good resistance to severe corrosion conditions	Pipelines and different equipment for the chemical industry and desalinization plants
UNS N08800	Good strength and resistance to oxidation and carburization in high temperature atmosphere	Process piping, heat exchangers
UNS N08810	Similar to UNS N8800 with higher creep-rupture strength	Heater tubing in power plants, industrial and heat-treatment equip ment, chemical and petrochemical processing
JNS N08811	Similar to UNS N8810 with even higher creep-rupture strength	Same as for UNS N08810 but for higher temperatures
UNS N08020	Good resistance to general corrosion in a variety of acids	Piping, heat exchangers and other process equipment
UNS N08825	Good resistance to acids (specifically sulphuric and phosphoric) and corrosion cracking	Chemical processing, acid production, pickling equipment, process piping, heat exchanger tubing
UNS N08028	High resistance to corrosive conditions, e.g. oxidizing acids and salts. Resistant to pitting corrosion, and to stress corrosion cracking	Acid (sulphuric, phosphosric or nitric) production and processing, pickling plants, Oil production for wells within a corrosive enviroment or, Gas production in sour gas wells

	APPLICABLE ASTMI SPECIFICATIONS	
SPECIFICATION	DESCRIPTION	ASTM
ASTM B677-99	Specification for UNS N08904, UNS N08925, and UNS N08926 Seamless Pipe and Tube	UNS N08904
ASTM B163-98a ASTM B407-96	Specification for Seamless Nickel and Nickel Alloy Condenser and Heat-Exchanger Tubes Specification for Nickel-Iron-Chromium Alloy Seamless Pipe and Tube	UNS N08800
ASTM B163-98a ASTM B407-96	Specification for Seamless Nickel and Nickel Alloy Condenser and Heat-Exchanger Tubes Specification for Nickel-Iron-Chromium Alloy Seamless Pipe and Tube	UNS N08810
ASTM B163-98a ASTM B407-96	Specification for Seamless Nickel and Nickel Alloy Condenser and Heat-Exchanger Tubes Specification for Nickel-Iron-Chromium Alloy Seamless Pipe and Tube	UNS N08811
ASTM B729-00 ASTM B829-99	Specification for Seamless UNS N08020, UNS N08026, and UNS N08024 Nickel Alloy Pipe and Tube Specification for General Requirements for Nickel and Nickel Alloys Seamless Pipe and Tube	UNS N08020
ASTM B163-98a ASTM B423-99 ASTM B829-99	Specification for Seamless Nickel and Nickel Alloy Condenser and Heat-Exchanger Tubes Specification for Nickel-Iron-Chromium-Molybdenum-Copper Alloys (UNS N08825 and N08221) Seamless Pipe and Tube Specification for General Requirements for Nickel and Nickel Alloys Seamless Pipe and Tube	UNS N08825
ASTM B668 ASTM B829	Standard Specification for UNS N08028 Seamless Pipe and Tube Specification for General Requirements for Nickel and Nickel Alloys Seamless Pipe and Tube	UNS N08028

In addition to the most widely used high nickel alloys mentioned above, the Tubacex group is constantly adding new grades to its product portfolio. 600 series, although still not produced in our steel melting shop Acería de Álava, are commonly used by Salem Tube and are starting to be introduced in Tubacex Tubos Inoxidables and Schoeller Bleckmann Edelstahlrorh portfolio - particularly UNS N06025 which is growing strongly in the oil & gas isdustry.



Tubacex is the world leader in the manufacturing of tu-bes for furnaces, heaters and Reheaters for the pe-trochemical industry, along with a wide range of piping for downstream applications.

itic grades) is the fastest growing area in Tubacex product protfolio.

standards.

12

Main applicable standards



Heat exchanger, reactor and condenser tubes are a supplied by Tubacex to the petrochemical, chemical and fertilizer industries.



Tubacex's manufacturing range covers the main stainless steel heat resistant grades used in boiler equipment, in both critical and ultra super critical equipment, including shotpeening.

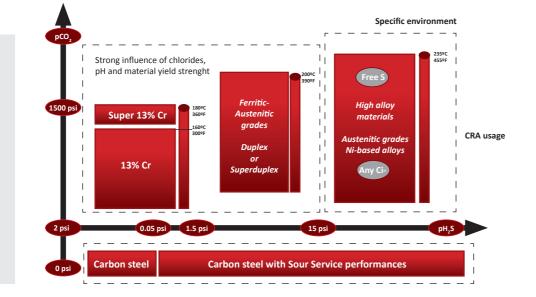
Oil Country Tubular Goods

Tubacex Tubos Inoxidables - TTI has been designated to develop and lead the production of this high quality product in the facilities located in the north of Spain. A key point in our OCTG strategy was the signing of an agreement with Vallourec&Mannesmann for common marketing and development of this product. This partnership with a world leader contributes to consolidate our world presence and to satisfy the future growing Customer expectations.

Umbilicals are manufactured in Schoeller Bleckmann Edelstahlrorh in a State of the art new mill to assure the high quality of the product. In addition, big outside diameter umbilical tubes are manufactured in Tubacex Tubos Inoxidables.

CRA tubings are used in designs with long life, high yield strength requirements and in wells with the most severe corrosive environments • High temperature

- High pressure of CO2 and/or H2S
- High chlorides content, low pH, presence of free S...



6 5/8"-7"

R3

R3

R3

R3

R3

R3

R3

UNDER RESEARCH & DEVELOPMENT

OCTG: TUBACEX MANUFACTURING RANGE

5"-5 1/2

R3

R3

R3

R3

UNDER RESEARCH & DEVELOPMENT

R3

R3

R3

3 1/2"-4 1/2"

R3

R3

R3

R3

R3

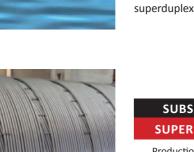
R3

R3

R3

R3

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SUPER Production Steel gra Tubes fin

ter.

Traceability

Traceability is important to us. Each product that leaves our tube factory in Ternitz is provided with a works certificate (company certificate), which is presented to the customer upon delivery. This ensures that the quality-controlled production at SBER is traceable for each customer.

Quality

Schoeller Bleckmann Edelstahlrohr manufacturing processes are designed to ensure maximum quality within the production of its seamless grades of umbilical tubes, with particular focus in the heat treatment process. Non Destructive Testing is used along the total length of all produced tubes. The company holds several approvals as a manufacturer of seamless tube and pipe, and can deliver tubular products in accordance with most international standards. Below are some examples.

2 3/8"-2 7/8"

R3

Downhole casing and production tubing in CRA such as duplex stainless steels and nickel alloys are ideal to cope with the aggressive corrosion found in sour wells due to hydrogen sulphide, carbon dioxide and other chemicals. Predominantly, Tubacex's downhole casing and production tubing is supplied in cold-worked condition to ensure high strength despite its low weight.

7 5/8"-7 3/4"

R2

R2

R2

R2

R2

R2

R2

8 5/8"-9 5/8'

UNDER

RESEARCH &

DEVELOPMENT

Tubacex tubes cover a wide range of applications:

- HP/HT
- Sour or wet gas
- Enhanced Oil Recovery
- Chlorides, Hydrogen sulphide, free sulphur ...
- Sandscreens
- High corrosion resistance

Umbilicals make up part of Tubacex SURF (Subsea Umbilicals, Risers jumpers, manifolds, loops and Flowlines) package of tubular products for offshore resistant to sea water environments and fluids transmitted through the tubes and with high corrosion resistance to sea water. Tubacex group manufactures Umbilicals in a state of the art new mill.

This new production unit integrates the best available technologies and know-how for the production of the best quality product. Highly automatic facilities and a fully integrated traceability system contributes to a very costly efficient product.





Subsea Umbilicals

Subsea umbilicals are control lines used in offshore wells where Christmas trees (an assembly of control valves, gauges and chokes that control oil and gas flow in a completed well) are installed on the ocean floor. Umbilicals make up part of Tubacex SURF (Subsea Umbilicals, Risers jumpers, manifolds, loops and Flowlines) package of tubular products for offshore resistant to sea water environments and fluids transmitted through the tubes and with high corrosion ressitance to sea wa-

For the past years almost any Subsea oil production system in the world utilized Super duplex steel within their umbilical tubes, due to high corro-sion resistance in sea water, excellent mechanical properties and resis-tance and durability. Two superduplex grades are available.

EA UMBILICALS: TUBACEX MANUFACTURING RANGE										
DUPLEX	STAINLESS STEEL - ID F	ROM 1/2 TO 3 1/2 INCH								
n Unit	Tubacex, Spain	SBER, Austria								
rade	UNS S32750, UNS S32760	UNS S32750, UNS S32760								
inish	Straight	Straight or Coiled								

Note: Parameters may vary over time. Please verify your specific requirements

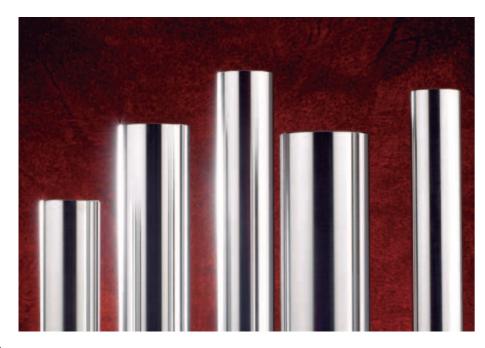
Stainless Steel Mechanical Tubes

COTUBES, the master distributor of the Tubacex Group, is specialized in the commercialization of Hollow Bar manufactured in both T.T.I. Tubacex Tubos Inoxidables and Schoeller Bleckmann Edelstahlrohr. Cotubes offers excellent availability supported by a global distribution network. In addition, the company operates one of the worlwide's more relevant seamless stainless steel tubes & pipes stocks.

The Tubacex Group supplies mechanically bored tubes through IBF. Located in Vittuone, italy, IBF pipes division manufactures mechanically bored tubes up to 42" in any wall thickness.

SEAMLESS STAINLESS MECHANICAL TUBES MANUFACTURING RANGE

OD																		INS	ID	D	A	ΛЕТ	ER																	
	16	20	25	28	32	36	40	45	50	55	56	60	61	63	67	69	71	75	80	85	90	95	98	100	106	110	112	118	122	125	130	132	140	150	160	170	180	186	190	2
32	8	6																																						Γ
36	10	8	5,5																																					Γ
40		10	7,5	6																																				Γ
45		12,5		8,5	6,5																																			Ĩ
50			12,5		9	7																																		Ī
56				14		10	8																																	Γ
63					15,5	13,5	11,5	9	6,5																															Ĩ
71						17,5	15,5	13	10,5	5	7,5																													Ī
75							17,5	15	12,5	5	9,5	7,5																	WA		~~									Ī
80							20	17,5	15		12			8,5														TH	ІСК	NE:	55									ĺ
85								20	17,5	5 15			12		9																									Ï
90									20		17			13,5	11,5		9,5																							Î
95									22,5	5	19,5			16		13		10																						Ĩ
100											22			18,5			14,5	12,5	10																					Ī
106											25			21,5			17,5		13	10,5																				Ï
112														24,5			20,5		16	13,5	11																			Ī
118														27,5			23,5		19		14	11,5																		Ĩ
125																	27		22,5		17,5	15		12,5																Ī
132																	30,5		26		21		17		13															Ī
140																				30		25		20	17		14													Î
150																				35			27,5		22			16		12,5										Ĩ
160																						35		30			24		19			14								Ī
170																								35		30		26			20		15							Γ
180																								40			34			27,5			20	15						Ĩ
190																									42			36	Ì			29		20	15					Ĩ
200																											44				35		30	25	20					ĺ
212																													Ì	43,5	41			31		21				Î
224																													Ì			46	42		32	27,5	22			Ĩ
236																																	48	43		33			23	Î
240																																				35			25	Î
250		1		1	1							1																		- i	Ť							32		Ť



The Tubacex Group offers the main dimensions of mechanical tubes according to EN 10294-2, in a wide range of combinations of OD/ID.

In the manufacture of cylindrical tools or hollow stainless steel parts, the cost of machining the bore is greatly reduced when hollow bar is used as basic material. Chip loss is substantially lower than if solid bar is used. A wide range of hollow parts can be processed from hollow bar, as liners, feed bushes, shearing cylinders, cutting rings, fittings, pumps, flange rings and hollow axles.

Growing sizes in both outside diamter and wall thickness are a clear trend in almost all seamless pipe demanding industries (oil & gas, refining & petrochemical, power generation). Starting either from forged round bars (rough or machined) or from hollow forging (heat treated or as forged) Tubacex offers a wide manufacturing range through trepanning technology:

MANUFACTURING RANGE - TREPA	NNED PIPES OUTSIDE DIAMETI
From round bar	1/2" - 26"
From hollow bar	22" - 42"
Seamless heavy wall pipes	
Any thickness	
Lenghts up to 20 meter	

	GRADE RANGE - TREF
Carbon steels	ASTM A105, A106, A333
Carbon steels with high yield limit	X52-X60-X65 in conformity with
Low alloy steels	ASTM A182, A234, A335 grade F/
Austenitic stainless steels	Standardaustenitic (304,316,321,
Martensitic and ferritic stainless steels	400 Series: 410
Ferritic-austenitic stainless steels	22% Cr Duplex (UNS S31803, S32
Nickel and nickel alloys	Inconel (N06625, N06600); Inco
Titanium alloys	



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Seamless Pipes Boring/Trepanning



Materials covered include a wide range of grades, from carbon steel to titanium, with focus in stainless steel and high nickel alloys:

PANNED PIPES

the standards A864, A860, MSS-SP-75, API 5L... /WP/P1, 5, 11,12, 22, 91, 92, 122... 347 series...) and superaustenitic steels (UNS S31254, UNS S34565...)

2205); 25% Cr Super Duplex (UNS S32760, S32750, S32550) oloy (N08825, N0800H)

Fittings & Special Components



Tubacex range includes the design and manufacturing of butt welding fittings, tube bends, elbows, tees, reducers and caps (both seamless and welded), complementing the wide offer of tubular solutions, by IBF and TTA companies. In addition IBF offers a wide range of special parts (manifolds, laterals, special reducers...)

- TTA size range goes from 1/2" uo to 14" NPS, in short and long radius as well as special radii. Located in Artziniega, Spain, Tubacex Taylor Accesorios (TTA) manufactures fittings (elbows and return bends) mainly for the petrochemical industry, perfectly complementing the portfolio of the rest of the Group and particularly the seamless tubes for furnace applications, heaters and re-heaters.
- Located in San Niccolo, Italy, IBF fittings and special parts division manufactures fittings, elbows, and special components in a manufacturing range that goes from $\frac{1}{2}$ "to 72" NPS for a wide range of end users (Oil & gas, Power Gen, Nuclear...). Specialized in special and big size pieces, cold drawn dimensions are mainly sourced from its participated company CFF.

Flexible production processes allow Tubacex Group's products to be manufactured by a variety of production methods, to reach a wide range in a specialized market, where particularized designs are growingly demanded – designs defined and calculated by our engineering departments.

Product portfolio - some examples







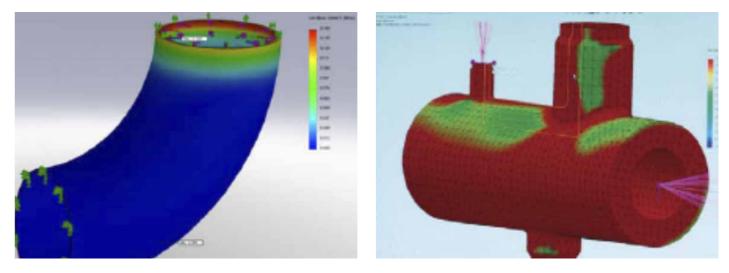
Caps

Reducers

• The Tubacex group Fittings programme covers all kind of fittings (Butt welding ffitings & elbows, tees, reducers, caps) from standard to special products, manufactured by hot drawing, bending or cold drawing.

FITTINGS	SPECIAL PARTS
Butt Welding fittings & elbows	Special comp
Tees	Manifolds
Reducers	Laterals
Caps	Special Redu

in compliance with all applicable standards and specifications and in conjunction with the client's specific requirements. In addition, the department offers support to the development of all necessary production equipment, machinery and technical process.



Tubacex Group's fitting and special components extensive production program is suitable for all kind of Projects. The range offered is one of the widest in the industry:

MANUFACTURING RANGE - FITTINGS AND SPECIAL PARTS	
Seamless	1/2" ton 44"
Welded	1/2" ton 72"
Hot drawing, bending and cold drawing processes	

Any thickness Lenghts from 0,5 to 20 meter

Materials covered include a wide range of grades, from carbon steel to titanium, with focus in stainless steel and high nickel alloys – same as described regarding trepanned pipes. The Tubacex Group maintains a very high stock level in finished and semifinished products, as well as base materials, to provide full flexibility an a extremely competitive lead time.





Fittings & Special Components

Special Components Manifold

SPECIAL COMPONENTS

Lateral

Special Reducer

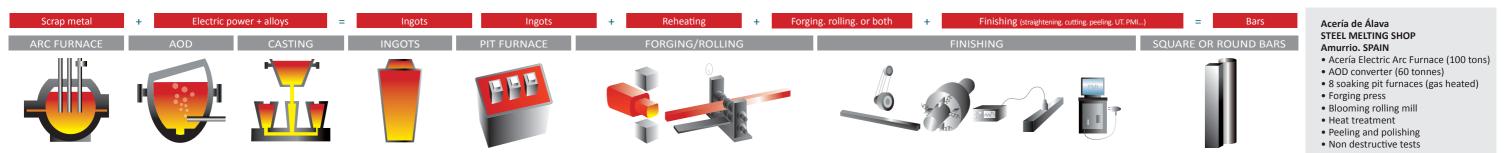
• Additionally to fittings, special components as laterals, manifolds, tees, Stress joints, weldolets are manufactured at IBF fittings and special parts division, with a clear trend to more particularized design.

• IBF has a technical department equipped with CAD systems for design and calculation. This department designs fittings and special ítems

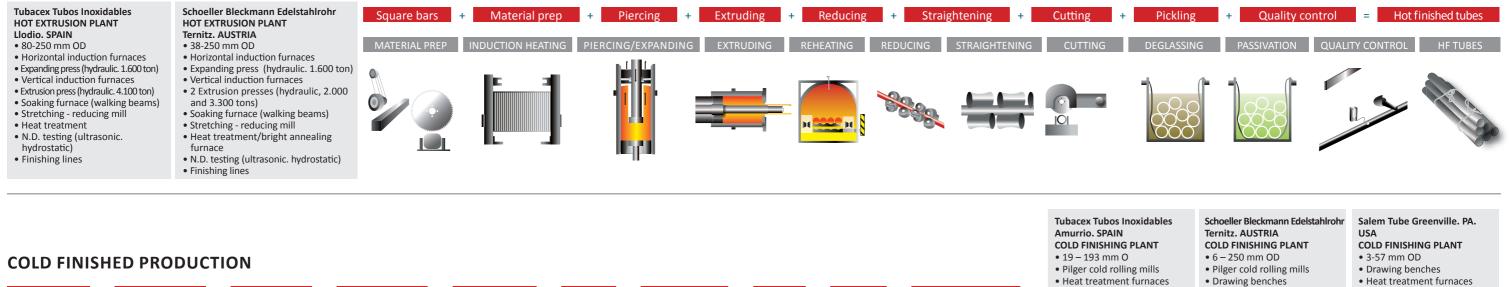
Integrated process

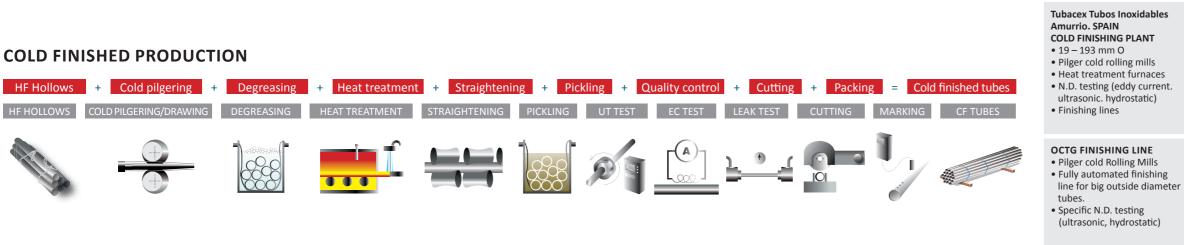
Tubacex is a fully integrated company with one melting shop (in Spain), two extrusion facilities (in Spain and Austria) and three cold finishing facilities (in Spain, Austria and the USA). The Group is capable of producing seamless steel tubes in hot and cold finishing.

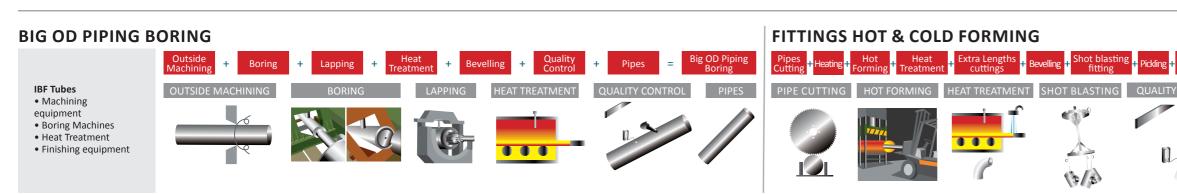
STEEL PRODUCTION



HOT FINISHED PRODUCTION







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• N.D. testing (eddy current. ultrasonic. hydrostatic)

SPECIAL TUBE PLANT • 4 Pilger mills LC 50 with integrated cleaning

• Heat treatment furnaces

• N.D. testing

• Finishing lines

- Bright annealing furnace (1t/h). Straightener
- Finishing line + US/Eddy Current/ PMI
- Welding units + X-ray radioscopes + coilers
- Hydropressure testing device

IBF Fittings

PRAKASH

• Piercing

Pilgering

• U-bending

• Drawing Benches

- Vertical presses
- Heat treatment
- Cold finishing equipment through CFF

TTA

- 5 Hydraulic draw presses
- 9 Vertical hydraulic presses
- 3 Heat Treatment furnaces
- Finishing equipment

Innovation





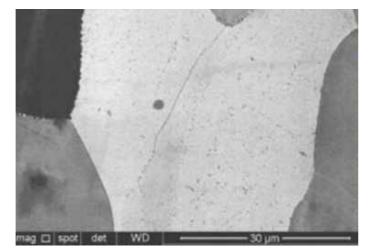
Tubacex Vision remarks the aspiration of becoming a global supplier, benchmark in the development of innovative tubular solutions in advanced materials. Creativity and Innovation, along with Customer Satisfacyion, are the values behind this visión.

> The Tubacex Group has made a significant effort in innovation in recent years, which is constantly being reflected in the results and in the sales figure.

The Group has a corporate innovation unit called Tubacex Innovación, with human and technical resources devoted exclusively to Innovation activities, consisting of product R&D projects and development projects for the different industrial plans of Group companies, in which technological development is required.

Tubacex Innovation

- •Steel Portfolio Management
- R&D Projects Management
- New Products Development
- •Known grades. Performance Improvement. New requirements
- Participationin Industrialization Projects
- Participationin Continuous Improvement Projects
- Investigation and analysis of Metallurgical claims
- •Heat treatments design
- Group Laboratories Standarization
- •Technical support to Sales and Engineering •Customers Assistance



Important approvals with potential customers have also been obtained, which will enable sales of high value-added products to increase in the future. Since 2008, and more notably in the past two years, we have entered all of the strategic sectors that were defined as targets, namely: OCTG, umbilical offshore tubes, ultra supercritical boilers and recently, fertilizers. This has been possible thanks not only to R&D activities, but also to significant investment in recent years, in excess of €150M, and the improved processes in all of the Group's plants.

A milestone in 2014 was the opening of a new laboratory specifically devoted to R&D, which is located on the Zamudio Scientific and Technology Park (Bizkaia). This new laboratory will accelerate the development of the R&D unit, in skills such as metallurgical and metallographic knowledge, which is key for the development of new materials and processes. The creation of the new laboratory will act as a base for the future growth of the R&D capacities of the Tubacex Group, enabling closer collaboration with customers in the development of new solutions for the energy sector

Service is the other main driver of Tubacex visión. This means excellent service in the existing portfolio, along with the development of new value added services that con complement and enrich Tubacex Group's product portfolio.



Excellent service in the existing portfolio - Tubacex Production System

TxPS, the acronym of Tubacex Production System, is the standard Management System for the entire Tubacex Group focused on:

- Implementing an continuous improvement system in all areas
- Involving all personnel from all areas
- Ensuring that the improvements are sustained over time

TxPS is based on action on three levels: yearly management plan, daily management and specific action for radical improvement.

New Services to develop and complete our offer - Tubacex Services

To further increase our service capabilities we are developing final added value operations for small niches:

- Final treatments
- Special packages
- Others

The Group has developed a new unit called Tubacex Services, with resources devoted exclusively to the developement of those added value operations to the Groups portfolio. This unit is already developing specialized process as Shot peening in a new mil in Santander (north of Spain).

Global Service Center Network - Tubacex Service Solutions

In addition, the group network of service centers in Europe, America and Asia offers availability and proximity service to our customers through companies as Cotubes, Tubos Mecánicos, MIS, SSB or Tubacex America.

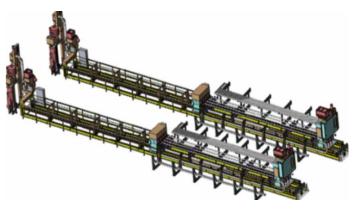
TUBACEX TUBOS INOXIDABLES

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Service







Quality & Approvals

Tubacex Group holds several approvals as a manufacturer of seamless tube and pipe, and can deliver tubular products in accordance with most international standards.

MANUFACTURING STANDARDS

Apart from standards mentioned in the catalogue we also manufacture according to UNE, BS, SIS, GOST, JIS and other international standards and Steel grades.

MANAGEMENT SYSTEM CERTIFICATES ISO 9001.

ENVIRONMENTAL RESPONSABILITY

Tubacex Group is highly engaged with the environment and it is ISO 14001 certified.

SAFETY

Occupational health and Safety is also a key element of our culture. The company is OHSAS 18.001 certified.

APPROVALS

Tubacex is approved to manufacture according to TÜV, Lloyd's register, DNV, Germanischer Lloyd's, BV, Norsok etc. Complete list of approvals is available on request.

OTHER CERTIFICATIONS

Tüv Süddeutschland (Ad - Merkblatt Wo / Trd 100) Lloyd's Register of Shipping (rules for the manufacture, testing and certification of materials) Qualification as Manufacturer of Special Materials to Norsok M-650 ASME Quality System Certificate as Material Organization for Ferrous and Nonferrous Material Tüv Süddeutschland (Pressure Equipment Directive 97/23Ec) Det Norske Veritas (Dnv's Rules for Classification Pt.2) Germanischer Lloyd (Austenitic Stainless Steel Pipes and Tubes According to En 10216-5 or Equivalent Standards) PED 97/23/EC. AD2000, werkblatt W0. JIS Mark scheme

Complete list of approvals and certifications is available on request.









AENOR

6)

Nowadays the Tubacex Group is exporting into more than 100 countries worlwide from its manufacturing sites and warehouses. The company has 15 commercial offices and a wide network of agents in several countries that allow a global presence.

TX CANADA

SALEM TUBE

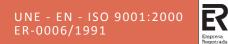
TX AMERICA

TX HOLLAND

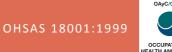
TTI-OCTG TX SERVICES

TX LATIN AMERICA

MIS



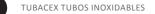
MANAGEMENT SYSTEM CERTIFICATES



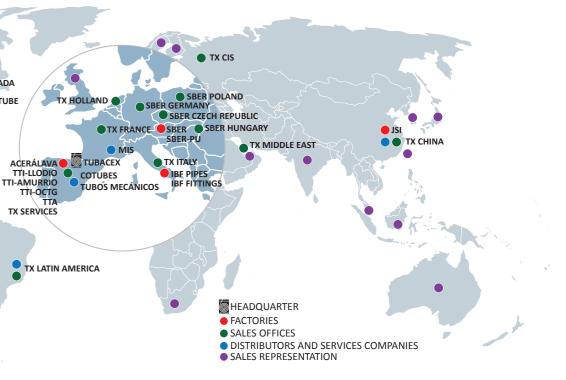


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Tubacex Around The World



MANUFACTURING COMPANIES

Acería de Álava, S.A. STEEL MELTING SHOP Amurrio. SPAIN

Tubacex Tubos Inoxidables, S.A. HOT EXTRUSION PLANT Llodio. SPAIN COLD FINISHING PLANT

OCTG FINISHING PLANT Amurrio. SPAIN

Schoeller Bleckmann Edelstahlrohr, GmbH

COLD FINISHING PLANT HOT EXTRUSION PLANT SPECIAL TUBE PLANT Ternitz. AUSTRIA

Salem Tube, Inc. COLD FINISHING PLANT Greenville. PA. USA

Tubacex Taylor Accesorios, S.A.

BUTT WELDING FITTINGS Artzeniega. SPAIN

Tubacex Services, S.L.

TUBE FINISHING SERVICES Santander. SPAIN

SERVICE & DISTRIBUTION **COMPANIES**

Comercial de Tubos y Accesorios, S.A. STAINLESS STEEL LONG PRODUCTS DISTRIBUTION Amurrio. SPAIN

Metaux Inox Services, S.A.S.

STAINLESS STEEL LONG PRODUCTS DISTRIBUTION Satolas & Bonce. FRANCE

Tubacex America, Inc.

STAINLESS STEEL LONG PRODUCTS DISTRIBUTION Houston. UNITED STATES

Tubos Mecánicos, S.A.

CARBON & ALLOYED MECHANICAL TUBING DISTRIBUTION Barcelona. SPAIN

Special Steels do Brazil

STAINLESS STEEL TRADING & DISTRIBUTION Sao Paulo. BRAZIL

TUBACEX TUBOS INOXIDABLES 25



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