

Welded Stainless Steel Tubes





Aerial view of the factory in Robecco d'Oglio (Cremona)



High quality welded stainless steel tubes

Ilta Inox was founded in 1963 and is considered today as one of the most important European producers in the market of welded stainless steel tubes.

Over the past forty years, Ilta Inox has acquired a firm market position, targeting its main production in the most demanding **industrial sectors such as power generation, chemical, pharmaceutical and food industry.**

The company, located in Robecco d'Oglio, is considered as one of the world leaders in its field.

Their large number of welding lines equipped with the **most qualified welding technology** (TIG, Laser), their modern system of heat treatment and their numerous finishing lines, allow Ilta Inox to satisfy even the most stringent market demands, thanks to the high quality of its products which are recognized and certified by the most important international testing organizations.

As proof of its high production standards and in anticipation of European norms, **Ilta Inox has recently obtained the ISO 14001 environmental certification.**



Table of steel grades

Steel Name	Steel Number	Chemical composition									
		C %	Ni %	Cr %	Mo %	Mn %	Si %	P %	S %	N %	Ti %
4301	X5 CrNi 18-10	≤ 0,07	8,00 - 10,50	17,00 - 19,50	-	≤ 2	≤ 1	≤ 0,045	≤ 0,015	≤ 0,11	-
4306	X2 CrNi 19-11	≤ 0,03	10,00 - 12,00	18,00 - 20,00	-	≤ 2	≤ 1	≤ 0,045	≤ 0,015	≤ 0,11	-
4307	X2 CrNi 18-9	≤ 0,03	8,00 - 10,00	17,50 - 19,50	-	≤ 2	≤ 1	≤ 0,045	≤ 0,015	≤ 0,11	-
4541	X6 CrNiTi 18-10	≤ 0,08	9,00 - 12,00	17,00 - 19,00	-	≤ 2	≤ 1	≤ 0,045	≤ 0,015	-	5xCmin to 0,70
4401	X5 CrNiMo 17-12-2	≤ 0,07	10,00 - 13,00	16,50 - 18,50	2,00 to 2,50	≤ 2	≤ 1	≤ 0,045	≤ 0,015	≤ 0,11	-
4404	X2 CrNiMo 17-12-2	≤ 0,03	10,00 - 13,00	16,50 - 18,50	2,00 to 2,50	≤ 2	≤ 1	≤ 0,045	≤ 0,015	≤ 0,11	-
4571	X6 CrNiMoTi 17-12-2	≤ 0,08	10,50 - 13,50	16,50 - 18,50	2,00 to 2,50	≤ 2	≤ 1	≤ 0,045	≤ 0,015	-	5xCmin to 0,70
4435	X2 CrNiMo 18-14-3	≤ 0,03	12,50 - 15,00	17,00 - 19,00	2,50 to 3,00	≤ 2	≤ 1	≤ 0,045	≤ 0,015	≤ 0,11	-
4432	X2 CrNiMo 17-12-3	≤ 0,03	10,50 - 13,00	16,50 - 18,50	2,50 to 3,00	≤ 2	≤ 1	≤ 0,045	≤ 0,015	≤ 0,11	-
4845	X8 CrNi 25-21	≤ 0,10	19,00 - 22,00	24,00 - 26,00	-	≤ 2	≤ 1,5	≤ 0,045	≤ 0,030	≤ 0,11	-
4462	X2 CrNiMoN 22-5-3	≤ 0,030	4,50 - 6,50	21,00 - 23,00	2,50 to 3,50	≤ 2	≤ 1,0	≤ 0,035	≤ 0,015	≥ 0,10 to 0,22	-
4828	X15 CrNiSi 20-12	≤ 0,20	11,00 - 13,00	19,00 - 21,00	-	≤ 2	1,5 - 2,5	≤ 0,045	≤ 0,030	≤ 0,11	-

(According to Euronorm EN 10088-2)

Production norms
ASTM A249 - A269 - A270 - A312 - A554 - A778 - A789 - A790
DIN 17455 - 17457 - 11850
NFA 49147 - 49247 - 49249 - 49647
EN 10217/7 - 10312 - 10296/2
Executions
Welded
Brushed
Pickled
Bright Annealed up to O.d. 114,3 mm
Annealed and Pickled up to O.d. 219,1 mm
Polished Grit 180-Grit 400
Inside Polished
Mirror Polished

Tolerances on length
Commercial length: 6000 mm +/- 30mm
Fix length: from 500 mm up to 18000mm with a tolerance up to -0/+1mm
Tolerance on straightness: 2mm/mt
Tolerance on perpendicularity of the cut: +/- 1°
Tolerance on quantity: +/- 10%

Equivalent steel grades

AISI	DIN	AFNOR	GHOST
304	1.4301	Z7 CN 18 - 9	08 Kh 18N 10
304L	1.4306	Z3 CN 18 - 10	03 Kn 18N 11
304L	1.4307	Z3 CN 19 - 9	-
321	1.4541	Z6 CNT 18 - 10	08 Kh 18N 10 T
316	1.4401	Z7 CND 17 - 11 - 02	08 Kh 18N 10T
316L	1.4404	Z3 CND 17 - 12 - 02	03 Kn 17N 14 M2
316TI	1.4571	Z6 CNDT 17 - 12	08 Kn 17N 13 M2T
316SL	1.4435	Z3 CND 18 - 14 - 03	03 Kn 16N 15 M3
316L	1.4432	Z3 CND 17 - 13 - 03	-
310S	1.4845	Z8 CN 25 - 20	10 Kn 23N 18
31803	1.4462	Z3 CND 22 - 05Az	-
309	1.4828	Z17 CNS 20 - 12	20 Kn 23N 13

Tolerances on dimension EN ISO 1127				
Outside Diameter mm	Tolerance on O.D.		Tolerance on thickness	
	Tolerance class	Allowed Deviation	Tolerance class	Allowed Deviation
D ≤ 168,3	D3	+/- 0,75% min +/- 0,30 mm	T3	+/- 10% min +/- 0,20 mm
	D4 ^a	+/- 0,5% min +/- 0,10 mm		
D > 168,3	D2	+/- 1,0% min +/- 0,50 mm		

a: By request D4 tolerance

Metric dimensions Theoretical weight in kg/mtr.

Outside Diameter mm	Thickness mm														
	0,8	1	1,2	1,5	1,6	2	2,3	2,5	2,6	3	3,2	3,6	4	5	6
6	0,104	0,125	-	-	-	-	-	-	-	-	-	-	-	-	-
8	0,144	0,175	-	-	-	-	-	-	-	-	-	-	-	-	-
10	0,184	0,225	0,264	0,319	-	-	-	-	-	-	-	-	-	-	-
12	0,224	0,275	0,325	0,394	-	-	-	-	-	-	-	-	-	-	-
13	0,244	0,300	0,355	0,432	-	-	-	-	-	-	-	-	-	-	-
14	0,264	0,326	0,385	0,470	-	-	-	-	-	-	-	-	-	-	-
15	0,284	0,351	0,415	0,507	-	-	-	-	-	-	-	-	-	-	-
16	0,304	0,376	0,445	0,545	0,577	0,701	-	-	-	-	-	-	-	-	-
17	0,325	0,401	0,475	0,582	0,617	0,751	-	-	-	-	-	-	-	-	-
17,2	0,329	0,406	0,481	0,590	0,625	0,761	0,858	-	-	-	-	-	-	-	-
18	0,345	0,426	0,505	0,620	0,657	0,801	-	-	-	-	-	-	-	-	-
19	0,365	0,451	0,535	0,657	0,697	0,851	-	-	-	-	-	-	-	-	-
19,05	0,366	0,452	0,536	0,659	0,699	0,854	-	-	-	-	-	-	-	-	-
20	0,385	0,476	0,565	0,695	0,737	0,901	-	-	-	-	-	-	-	-	-
21,3	0,411	0,508	0,604	0,744	0,789	0,967	1,094	1,177	1,217	-	-	-	-	-	-
22	0,425	0,526	0,625	0,770	0,817	1,002	-	-	-	-	-	-	-	-	-
23	0,445	0,551	0,655	0,808	0,857	1,052	-	-	-	-	-	-	-	-	-
24	0,465	0,576	0,685	0,845	0,897	1,102	-	-	-	-	-	-	-	-	-
25	0,485	0,601	0,715	0,883	0,937	1,152	1,307	1,409	1,458	-	-	-	-	-	-
25,4	0,493	0,611	0,727	0,898	0,954	1,172	1,330	1,434	1,484	-	-	-	-	-	-
26,9	0,523	0,649	0,772	0,954	1,014	1,247	1,417	1,527	1,582	1,795	-	-	-	-	-
28	0,545	0,676	0,805	0,995	1,058	1,302	1,480	1,596	1,654	-	-	-	-	-	-
29	0,565	0,701	0,835	1,033	1,098	1,352	1,538	1,659	1,719	-	-	-	-	-	-
30	0,585	0,726	0,865	1,070	1,138	1,402	1,595	1,722	1,784	2,028	-	-	-	-	-
31,8	0,621	0,771	0,919	1,138	1,210	1,492	1,699	1,834	1,901	2,163	-	-	-	-	-
32	0,625	0,776	0,925	1,146	1,218	1,502	1,710	1,847	1,914	2,178	-	-	-	-	-
33	0,645	0,801	0,956	1,183	1,258	1,552	1,768	1,909	1,979	2,254	2,388	-	-	-	-
33,7	0,659	0,819	0,977	1,209	1,286	1,588	1,808	1,953	2,025	2,306	2,444	-	-	-	-
34	0,665	0,826	0,986	1,221	1,298	1,603	1,826	1,972	2,044	2,329	2,468	-	-	-	-
35	0,685	0,851	1,016	1,258	1,338	1,653	1,883	2,035	2,109	2,404	2,548	-	-	-	-
38	0,745	0,926	1,106	1,371	1,458	1,803	2,056	2,222	2,305	2,629	2,788	-	-	-	-
40	0,785	0,977	1,166	1,446	1,538	1,903	2,171	2,348	2,435	2,779	2,949	-	-	-	-
41	0,805	1,002	1,196	1,484	1,579	1,953	2,229	2,410	2,500	2,855	3,029	-	-	-	-
42	0,825	1,027	1,226	1,521	1,619	2,003	2,286	2,473	2,565	2,930	3,109	-	-	-	-
42,4	0,833	1,037	1,238	1,536	1,635	2,023	2,309	2,498	2,591	2,960	3,141	3,498	-	-	-
43	0,845	1,052	1,256	1,559	1,659	2,053	2,344	2,535	2,630	3,005	3,189	3,552	-	-	-
44,5	0,875	1,089	1,301	1,615	1,719	2,128	2,430	2,629	2,728	3,117	3,309	3,687	-	-	-
45	0,885	1,102	1,316	1,634	1,739	2,153	2,459	2,661	2,760	3,155	3,349	3,732	-	-	-
48,3	0,952	1,184	1,415	1,758	1,871	2,319	2,649	2,867	2,975	3,403	3,614	4,029	-	-	-
50	0,986	1,227	1,466	1,822	1,939	2,404	2,747	2,974	3,086	3,531	3,750	4,183	-	-	-
50,8	1,002	1,247	1,490	1,852	1,971	2,444	2,793	3,024	3,138	3,591	3,814	4,255	-	-	-
51	-	1,252	1,496	1,859	1,979	2,454	2,805	3,036	3,151	3,606	3,830	4,273	-	-	-
52	-	1,277	1,526	1,897	2,019	2,504	2,862	3,099	3,216	3,681	3,910	4,363	-	-	-
53	-	1,302	1,556	1,934	2,059	2,554	2,920	3,161	3,281	3,756	3,990	4,453	-	-	-
	0,8	1	1,2	1,5	1,6	2	2,3	2,5	2,6	3	3,2	3,6	4	5	6



Standard gauge dimensions
ASTM A 249 / A 269 / A 789 / A 790 / A 270

Theoretical weight in kg/mtr.
Tubes can be heat treated up to diameter 219,1 mm.

Outside Diameter		Thickness mm											
		BWG 20	BWG 19	BWG 18	BWG 16	BWG 14	BWG 12	BWG 11	BWG 10	BWG 9	BWG 8	BWG 7	BWG 6
Inches	mm	0,88 mm	1,06 mm	1,24 mm	1,65 mm	2,11 mm	2,77 mm	3,05 mm	3,40 mm	3,76 mm	4,19 mm	4,57 mm	5,16 mm
		Kg/meter	Kg/meter	Kg/meter	Kg/meter	Kg/meter	Kg/meter	Kg/meter	Kg/meter	Kg/meter	Kg/meter	Kg/meter	Kg/meter
1/2"	12,7	0,260	0,309	0,356	0,457	-	-	-	-	-	-	-	-
5/8"	15,88	0,331	0,393	0,455	0,588	-	-	-	-	-	-	-	-
3/4"	19,05	0,400	0,477	0,553	0,719	0,895	-	-	-	-	-	-	-
1"	25,4	0,540	0,646	0,750	0,981	1,231	-	-	-	-	-	-	-
1 1/4"	31,8	-	0,816	0,949	1,246	1,569	2,014	2,196	-	-	-	-	-
1 3/8"	34,9	-	0,898	1,045	1,374	1,732	2,229	2,432	-	-	-	-	-
1 1/2"	38,1	-	0,983	1,144	1,506	1,902	2,451	2,677	-	-	-	-	-
1 3/4"	44,5	-	1,153	1,343	1,770	2,240	2,894	3,166	-	-	-	-	-
2"	50,8	-	1,320	1,539	2,031	2,573	3,331	3,647	4,035	-	-	-	-
2 1/8"	53,9	-	-	1,635	2,159	2,736	3,546	3,884	4,299	-	-	-	-
2 3/8"	60,3	-	-	1,834	2,423	3,074	3,990	4,372	4,844	-	-	-	-
2 1/2"	63,5	-	-	1,933	2,555	3,244	4,212	4,617	5,117	-	-	-	-
2 3/4"	69,9	-	-	2,132	2,820	3,582	4,656	5,105	5,662	-	-	-	-
2 7/8"	73	-	-	2,228	2,948	3,745	4,871	5,342	5,925	-	-	-	-
3"	76,2	-	-	2,327	3,080	3,915	5,093	5,587	6,198	6,820	-	-	-
3 1/2"	88,9	-	-	-	3,605	4,585	5,974	6,557	7,279	8,016	-	-	-
4"	101,6	-	-	-	4,130	5,256	6,855	7,526	8,360	9,212	10,220	-	-
4 1/2"	114,3	-	-	-	4,654	5,927	7,736	8,496	9,442	10,407	11,552	-	-
5"	127	-	-	-	5,179	6,598	8,617	9,466	10,523	11,603	12,885	14,010	15,743
6"	152,4	-	-	-	6,228	7,940	10,378	11,406	12,685	13,995	15,550	16,917	19,024
8"	203,2	-	-	-	-	10,624	13,902	15,286	17,010	18,777	20,880	22,730	25,588
10"	254	-	-	-	-	13,308	17,426	19,166	21,335	23,560	26,209	28,543	32,152
12"	304,8	-	-	-	-	15,992	20,949	23,045	25,660	28,343	31,539	34,356	38,715
14"	355,6	-	-	-	-	18,676	24,473	26,925	29,985	33,126	36,869	40,169	45,279
16"	406,4	-	-	-	-	21,360	27,996	30,805	34,310	37,909	42,199	45,983	51,843

BWG 20	BWG 19	BWG 18	BWG 16	BWG 14	BWG 12	BWG 11	BWG 10	BWG 9	BWG 8	BWG 7	BWG 6
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ANSI standard dimensions Theoretical weight kg/mtr.
ASTM A 312 / ASTM A 778 / ASTM A 554

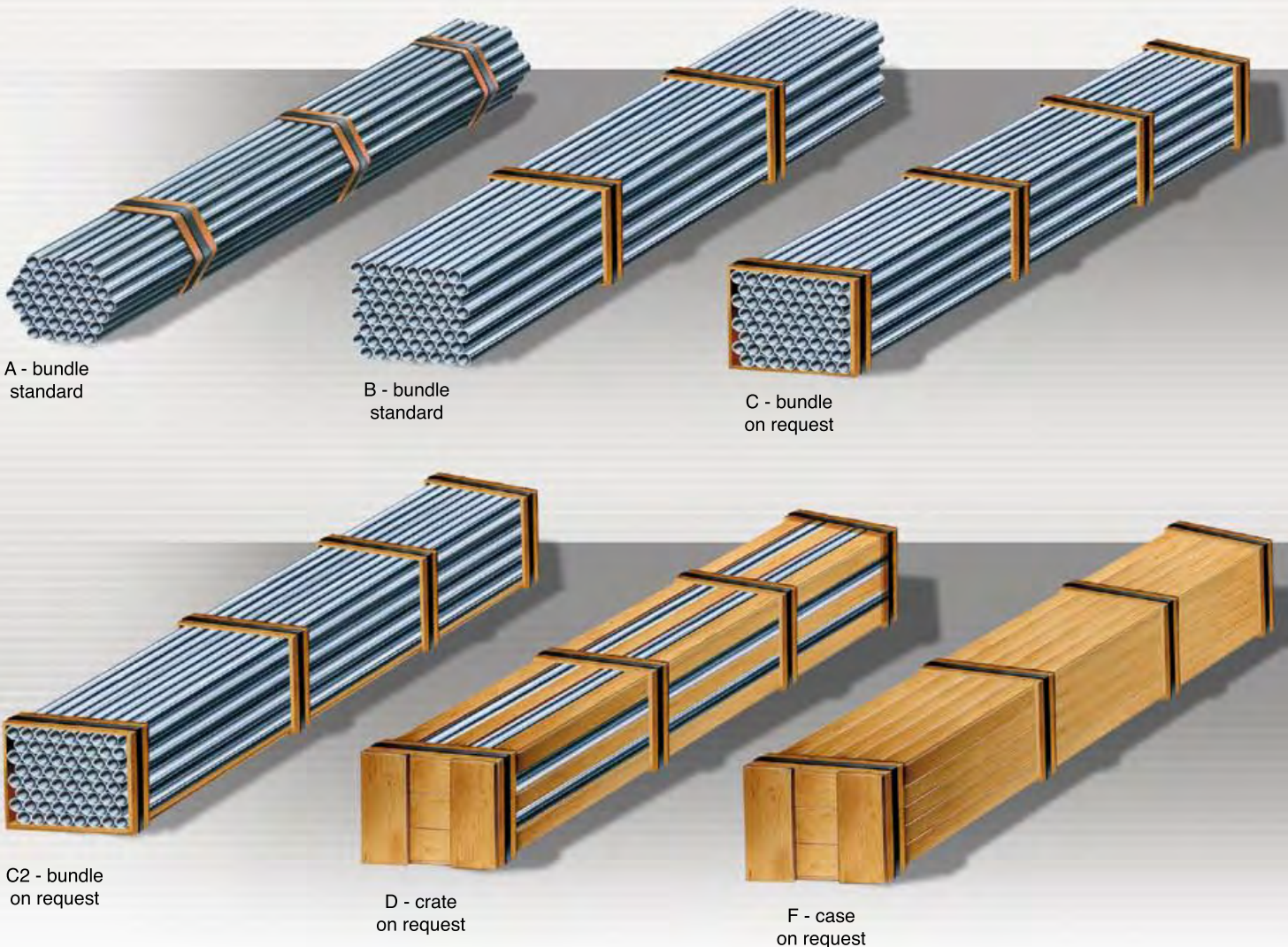
Outside Diameter		Sch.5 S		Sch.10 S		Sch.10		Sch.20		Sch.40 S	
Inches	mm	Thick.	Kg/meter	Thick.	Kg/meter	Thick.	Kg/meter	Thick.	Kg/meter	Thick.	Kg/meter
3/8"	17,2	-	-	1,65	0,642	-	-	-	-	2,31	0,861
1/2"	21,34	1,65	0,814	2,11	1,016	-	-	-	-	2,77	1,288
3/4"	26,67	1,65	1,034	2,11	1,298	-	-	-	-	2,87	1,710
1"	33,4	1,65	1,312	2,77	2,125	-	-	-	-	3,38	2,541
1 1/4"	42,16	1,65	1,674	2,77	2,732	-	-	-	-	3,56	3,441
1 1/2"	48,26	1,65	1,926	2,77	3,155	-	-	-	-	3,68	4,108
2"	60,33	1,65	2,424	2,77	3,990	-	-	-	-	3,91	5,524
2 1/2"	73,05	2,11	3,748	3,05	5,346	-	-	-	-	-	-
3"	88,9	2,11	4,585	3,05	6,557	-	-	-	-	5,49	11,466
3 1/2"	101,6	2,11	5,256	3,05	7,526	-	-	-	-	-	-
4"	114,3	2,11	5,927	3,05	8,496	-	-	-	-	6,02	16,322
5"	141,3	2,77	9,609	3,40	11,740	-	-	-	-	-	-
6"	168,3	2,77	11,481	3,40	14,039	-	-	-	-	-	-
8"	219,1	2,77	15,005	3,76	20,274	-	-	6,35	33,828	-	-
10"	273	3,40	22,953	4,19	28,203	-	-	6,35	42,414	-	-
12"	323,9	3,96	31,725	4,57	36,542	-	-	6,35	50,492	-	-
14"	355,6	3,96	34,868	4,78	41,990	6,35	55,532	-	-	-	-
16"	406,4	3,96	39,905	4,78	48,070	6,35	63,610	-	-	-	-
18"	457,2	4,19	47,529	4,78	54,151	6,35	71,687	-	-	-	-
20"	508	4,78	60,231	5,54	69,702	6,35	79,764	-	-	-	-
22"	558,8	-	-	-	-	6,35	87,842	-	-	-	-
24"	609,6	5,54	83,796	6,35	95,919	6,35	95,919	-	-	-	-
26"	660,4	-	-	-	-	7,92	129,398	-	-	-	-
28"	711,2	-	-	-	-	7,92	139,472	-	-	-	-

Standard packing

Outside Diameter	Metres	Type
from 10 to 20 mm	1014	exhagonal bundle A
from 21,3 to 26,9 mm	762	exhagonal bundle A
from 28 to 35 mm	546	exhagonal bundle A
from 38 to 54 mm	366	exhagonal bundle A
from 60,3 to 76,1 mm	222	exhagonal bundle A
from 83 to 114,3 mm	114	exhagonal bundle A
from 127 to 141,3 mm	108	bundle with wooden frames B
from 152 to 219,1 mm	84	bundle with wooden frames B
from 252 to 273 mm	42	bundle with wooden frames B
from 304 to 406,4 mm	30	bundle with wooden frames B
from 457 to 609,6 mm	12	bundle with wooden frames B
from 660,4 to 711 mm	6	bundle with wooden frames B

Packing

Our tubes are normally supplied with an "A" or "B" packing (≥ 127 O.D.). On request other kinds of packing are available





Quality. Since 1963 our key-concept

Ilta Inox has been certified according to the **ISO 9002:1994** standard since 1994 and according to **ISO 9001:2000** since 2000, and maintains a developing and constantly updated system of quality management.

This continuous evolution and the respect for the demands of our clients, has stimulated us in the achievement of important goals such as gaining the European product certification **AD 2000-Merkblatt-TRD 100 97/23/EC (PED)**.

The satisfaction of our clients through the continuous improvement of processes, product and service is our target.

Certifications, approvals and licences for specific types of products have been awarded by the most important international institutions.

ISO 14001 Certification confirms that the care for the environment is one of the ultimate goals for ILTA.

Quality System Certifications

Type of certification	Date of first issue	Agency
ISO 9001: 2000	25/03/1994	DNV
TÜV AD 2000 Merkblatt WO/TRD 100	11/04/1979	TÜV

Licences, approvals and product certifications

Type of approval	Application field
DIN-DVGW (since 1999)	Welded stainless steel tubes for gas and potable water transportation
RINA (since 1979)	Tubes for naval use
Lloyds Register (since 2002)	Tubes for naval use
TÜV directive for Pressure vessels	Tubes for pressure vessels
TÜV AD 2000 W2/W10 (since 1979)	Tubes for pressure vessels and boilers; cryogenic equipment



Member of Centro Inox



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