

TUBI PER SCAMBIATORI DI CALORE
HEAT EXCHANGER TUBES



PIPING PRODUCTS

Commercio Prodotti Siderurgici

C.P.S. S.r.l. nasce nel 1991 per fornire alle industrie operanti nel settore della chimica, petrolchimica e raffinazione del petrolio, tubi, raccordi, curve, flange, valvole e lamiere in acciaio al carbonio, legato, inossidabile, titanio, leghe di rame e nickel. Attualmente l'azienda ha consolidato il suo portafoglio clienti, ampliato notevolmente nel corso degli anni, e focalizzato il "core business" nella fornitura di tubi per scambiatori di calore lisci, curvati e/o alettati.

La flessibilità di una piccola azienda, l'attenzione alle esigenze dei singoli clienti e le ottime e continue relazioni con i più importanti produttori e commercianti mondiali permettono a C.P.S. di dare sempre ed in breve tempo una risposta adeguata per ogni richiesta di materiali ed un'offerta competitiva sia per consegne a breve che a medio/lungo termine.

C.P.S. è l'unica società in Italia a disporre di uno stock di tubi per scambiatori in acciaio al carbonio, legato e leghe di rame di circa 300 tonnellate con lunghezze sino a 15 mt. Particolare attenzione è posta alla qualità dei materiali commercializzati: tutti i prodotti sono regolarmente certificati in accordo alla norma EN 10204 3.1.

C.P.S. s.r.l. was established in 1991 to provide chemical and petrochemical industry with steel tubes, pipes, fittings, elbows, flanges, valves and sheets in carbon steel, stainless and alloy steel, titanium, copper and nickel alloys. Currently the company has consolidated its customers' base, that has been considerably widened over the years, and has focused its "core business" in supplying heat exchanger straight, bent and/or finned tubes.

The flexibility of a small company, the care to the specific needs of customers along with the excellent relations with the major manufacturers and traders allow CPS to provide always an adequate answer in quick time to any request of materials as well as for short term deliveries, even for medium to long term deliveries.

C.P.S. S.r.l. is the only company operating in the Italian market that hold a stock of carbon steel, alloy steel and copper alloys heat exchanger tubes in excess of 300 tons with lengths up to 15 meters. A special attention is paid to the quality of supplied materials: all our products are regularly certified in accordance with EN 10204 3.1.



Tubi per scambiatori di calore

Heat exchanger tubes

Peso metrico tubi per scambiatori in acciaio al carbonio e legato

Metric weight for seamless carbon and low alloy tubes

INCH	MM	BWG		18		16		14		13		12		11		10		4,00		5,00									
		1	1,25	1,5	1,65	2	2,11	2,41	2,5	2,77	3	3,05	3,40	4,00	5,00														
		AW	MW	AW	MW	AW	MW	AW	MW	AW	MW	AW	MW	AW	MW	AW	MW	AW	MW	AW	MW								
	12	0,271	0,296	0,331	0,360	0,388	0,421	0,421	0,456	0,493	0,532	0,515	0,554	0,570	0,611	0,586	0,627	0,630	0,673	0,666	0,708	0,673	0,715	0,721	0,762	0,789	0,825	0,863	0,882
1/2"	12,7	0,289	0,315	0,353	0,384	0,414	0,450	0,450	0,487	0,528	0,570	0,551	0,594	0,612	0,657	0,629	0,675	0,678	0,725	0,718	0,765	0,726	0,773	0,780	0,826	0,858	0,901	0,949	0,977
	14	0,321	0,350	0,393	0,428	0,462	0,503	0,503	0,545	0,592	0,640	0,619	0,668	0,689	0,742	0,709	0,763	0,767	0,823	0,814	0,871	0,824	0,881	0,889	0,946	0,986	1,042	1,110	1,153
	15	0,345	0,377	0,424	0,462	0,499	0,543	0,543	0,590	0,641	0,694	0,671	0,726	0,748	0,807	0,771	0,831	0,835	0,898	0,888	0,952	0,899	0,963	0,973	1,038	1,085	1,150	1,233	1,288
5/8"	15,88	0,367	0,401	0,451	0,492	0,532	0,579	0,579	0,630	0,685	0,742	0,716	0,776	0,801	0,865	0,825	0,890	0,896	0,964	0,953	1,024	0,965	1,036	1,046	1,120	1,172	1,246	1,342	1,408
	16	0,370	0,404	0,455	0,496	0,536	0,584	0,584	0,635	0,690	0,749	0,723	0,783	0,808	0,873	0,832	0,899	0,904	0,973	0,962	1,034	0,974	1,046	1,056	1,131	1,184	1,259	1,356	1,424
	18	0,419	0,458	0,516	0,564	0,610	0,665	0,665	0,724	0,789	0,857	0,827	0,897	0,927	1,003	0,956	1,034	1,040	1,124	1,110	1,196	1,124	1,212	1,224	1,315	1,381	1,476	1,603	1,695
3/4"	19,05	0,445	0,487	0,549	0,599	0,649	0,708	0,708	0,771	0,841	0,914	0,881	0,957	0,989	1,072	1,020	1,105	1,112	1,202	1,187	1,282	1,203	1,299	1,312	1,412	1,485	1,590	1,732	1,838
	20	0,469	0,513	0,578	0,632	0,684	0,747	0,747	0,814	0,888	0,966	0,931	1,012	1,045	1,134	1,079	1,170	1,177	1,274	1,258	1,359	1,275	1,377	1,392	1,500	1,578	1,693	1,850	1,967
	22	0,518	0,567	0,640	0,699	0,758	0,828	0,828	0,903	0,986	1,074	1,035	1,126	1,164	1,265	1,202	1,305	1,314	1,424	1,406	1,522	1,425	1,543	1,559	1,684	1,776	1,910	2,096	2,238
	25	0,592	0,648	0,732	0,801	0,869	0,950	0,950	1,038	1,134	1,237	1,191	1,298	1,343	1,461	1,387	1,509	1,518	1,650	1,628	1,766	1,651	1,791	1,811	1,961	2,071	2,235	2,466	2,645
1"	25,4	0,602	0,659	0,744	0,815	0,884	0,966	0,966	1,056	1,154	1,259	1,212	1,321	1,366	1,487	1,412	1,536	1,546	1,680	1,657	1,798	1,681	1,824	1,845	1,998	2,111	2,279	2,515	2,699
	28	0,666	0,730	0,825	0,903	0,980	1,072	1,072	1,172	1,282	1,400	1,347	1,470	1,521	1,657	1,572	1,712	1,723	1,875	1,850	2,010	1,877	2,039	2,063	2,237	2,367	2,561	2,836	3,052
	30	0,715	0,784	0,886	0,971	1,054	1,154	1,154	1,262	1,381	1,508	1,451	1,584	1,640	1,788	1,695	1,848	1,860	2,025	1,997	2,173	2,027	2,204	2,230	2,422	2,565	2,778	3,083	3,323
1 1/4"	31,8	0,760	0,833	0,942	1,032	1,121	1,227	1,227	1,342	1,470	1,606	1,545	1,687	1,747	1,906	1,806	1,970	1,983	2,160	2,131	2,319	2,162	2,353	2,381	2,588	2,742	2,973	3,304	3,567
	35	0,838	0,920	1,040	1,140	1,239	1,357	1,357	1,485	1,628	1,779	1,711	1,870	1,937	2,115	2,004	2,187	2,202	2,401	2,367	2,580	2,403	2,618	2,649	2,883	3,058	3,320	3,699	4,001
1 1/2"	38,1	0,915	1,004	1,136	1,245	1,354	1,483	1,483	1,624	1,780	1,948	1,873	2,048	2,121	2,317	2,195	2,397	2,413	2,634	2,597	2,832	2,636	2,875	2,909	3,169	3,364	3,657	4,081	4,422
	40	0,962	1,055	1,194	1,310	1,424	1,560	1,560	1,709	1,874	2,051	1,972	2,157	2,234	2,442	2,312	2,526	2,543	2,777	2,737	2,987	2,779	3,032	3,069	3,344	3,551	3,863	4,316	4,679
	45	1,085	1,191	1,349	1,479	1,609	1,764	1,764	1,933	2,121	2,322	2,232	2,443	2,531	2,769	2,620	2,865	2,885	3,147	3,107	3,393	3,155	3,445	3,488	3,805	4,044	4,405	4,932	5,357
	50	1,208	1,326	1,503	1,649	1,794	1,967	1,967	2,157	2,367	2,593	2,492	2,729	2,828	3,095	2,928	3,204	3,226	3,540	3,477	3,800	3,531	3,859	3,907	4,266	4,537	4,948	5,549	6,036
2"	50,8	1,228	1,348	1,527	1,676	1,824	2,000	2,000	2,192	2,407	2,637	2,533	2,775	2,876	3,148	2,978	3,259	3,281	3,588	3,536	3,865	3,591	3,925	3,974	4,340	4,616	5,035	5,647	6,144

■ DIMENSIONI NORMALMENTE A STOCK IN ACCIAIO AL CARBONIO - SIZES AVAILABLE EX STOCK IN CARBON STEEL

MATERIAL materiale	NORMA standard	QUALITÀ quality
acciaio al carbonio carbon steel	ASTM A179 ASTM A210 ASTM A192 ASTM A334 – ASTM A333 EN10216-1 EN10216-2 EN10216-3	GR. A1/GR. C Gr. 1/Gr. 3/Gr. 6 P235TR1 P235GH /P265GH P275NL1
acciai legati low alloy steel	ASTM A209 ASTM A213 EN 10216-2	T1 / T1A T5/T11/T12/T22/T9/T91 16Mo3/13CrMo4-5/10CrMo9-10
acciaio inox stainless steel	ASTM A213 / ASTM A249 ASTM A268 EN10216-5 / EN10217-7	TP304(L/H)/TP310(S/H),TP316(L/H/TI) TP317(L) /TP321(H) /TP347(H) /TP904L TP405/TP410(S)/TP430 1.4301/1.4306/1.4307/1.4401/1.4404 1.4539/1.4541/1.4550/1.4571/1.4845
duplex - superduplex	ASTM A789 - A790 EN 10216-5/ EN 10217-7	UNS S31803/S32205/S32750/S32760 1.4462/1.4410/1.4501
nickel and nickel alloys titanio titanium	ASTM B163 ASTM B338	UNS N02200/N04400/N06600/N08800 Gr.1/Gr.2/Gr.3/Gr.4 /Gr.7/Gr.9/Gr.11/Gr.12
rame e leghe di rame copper and copper alloys	ASTM B43 ASTM B75 ASTM B111	C70600/C71000/C71500/C68700/C44300



Tubi alettati e curvati

Finned tubes and U-tubes

TIPO ALETTATURA <i>fin type</i>	MATERIALE TUBO <i>core tube material</i>	MATERIALE ALETTE <i>fin material</i>
"G" embedded	acciaio al carbonio, Cr-Mo, inox, rame, leghe di rame <i>carbon , alloy and stainless steel, copper and copper alloy</i>	alluminio, rame, acciaio al carbonio <i>aluminium, copper, carbon steel</i>
"L" "LL" "KL"	qualsiasi <i>any</i>	alluminio o rame <i>aluminium or copper</i>
ad estrusione <i>extruded fin tubes</i>	qualsiasi <i>any</i>	alluminio <i>aluminium</i>
tubi basso alettati <i>integral low fin tubes</i>	acciaio al carbonio, inox, rame <i>carbon steel, stainless, copper</i>	-
aletta riportata <i>applied fin / tension wound</i>	acciaio al carbonio, inox, rame <i>carbon steel, stainless, copper</i>	acciaio inox, acciaio al carbonio, rame <i>stainless, carbon steel, copper</i>
tubi ad aletta saldata <i>welded finned tubes</i>	acciaio al carbonio, Cr-Mo, inox, carbon , alloy and stainless steel,	acciaio inox, acciaio al carbonio <i>stainless, carbon steel</i>

I tubi sono curvati in accordo alla normativa di riferimento TEMA R.

Dopo la curvatura i tubi possono essere trattati termicamente.

Tutti i tubi curvati sono sottoposti a prova idraulica ed inoltre sono possibili su richiesta altri test come PMI, liquidi penetranti, ball test ecc.



*Tubes are manufactured according to TEMA R specifications.
After bending the tubes can be stress relieved or solution annealed
All U-tubes are hydrotested and additional testing can be performed
on request as PMI, dye penetrant test, ball test etc.*



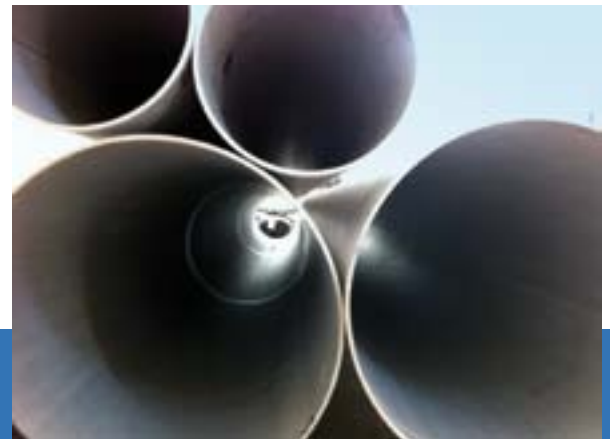
Tubi e piping

Pipes and piping

	PIPES					FITTINGS			FLANGED FORGED FITTINGS		
acciaio al carbonio <i>carbon steel</i>	API 5L		ASTM A106			ASTM A234			ASTM A105		
	GR. A / GR. B					WPB			-		
basse temperature <i>low temperature</i>	ASTM A333		ASTM A334			ASTM A420			ASTM A350		
	GR. 1 / GR. 3 / GR. 6					WPL3 / WPL6 / WPL8 / WPL9			LF1 / LF2 / LF3 / LF5 / LF6 / LF9		
acciai legati <i>alloy steels</i>	ASTM A335					ASTM A234			ASTM A182		
	P5 / P11 / P12 / P22 / P9 / P91					WP5 / WP11 / WP12 / WP22 / WP9 / WP91			F5 / F11 / F12 / F22 / F9 / F91		
acciaio inox <i>stainless steels grades</i>	A312	A240	A358			ASTM A403			ASTM A182		
	TP					WP			F		
	304 (H) (L) / 310 (H) (S) / 316 (L) (H) (Ti) / 317 (L) / 321 (H) / 347 (H)										
duplex - superduplex	A789					A815			A182		
	UNS S31803/ UNS S32750/ UNS S32760										
nickel and nickel alloys	B161	B165	B167	B423	B444	B677	B366	B462	B564		
	N02200 / N02201 / N04400/ N06600 / N06601 / N06690 / N08825 / N08904 / N08925 / N08926										
titanio <i>titanium</i>	B337	B338	B861	B862			B363			B381	B348
	Grade 1/ Grade 2										

C.P.S. è in grado di offrire un'ampia gamma di prodotti di piping come tubi lisci, piolinati o alettati, raccordi a saldare di testa, raccordi forgiati, flange, valvole, tiranti ecc., in accordo alle norme ASTM e alle specifiche ANSI, in acciaio al carbonio, legato, inossidabile e leghe speciali.

C.P.S. can supply a wide range of piping products as pipes, studded or finned tubes, butt welding fittings, forged fittings, flanges, valves, stud bolts etc.. according to ASTM standards and ANSI, in carbon steel, alloy and stainless steel and special alloys.



Dimensioni ANSI e peso metrico tubi

ANSI dimensions and pipe weight per mt

Nominal Size	O.D. mm	5s	10 S	10	20	30	STD and 40S	40	60	XS and 80 S	80	100	120	140	160	XXS
1/8"	10.3	-	1.24				1.73	-	-	2.41	-	-	-	-	-	-
		-	0.28				0.36	-	-	0.46	-	-	-	-	-	-
1/4"	13.71	-	1.65	-	-	-	2.24	-	-	3.02	-	-	-	-	-	-
		-	0.49	-	-	-	0.63	-	-	0.80	-	-	-	-	-	-
3/8"	17.14	-	1.65	-	-	-	2.31	-	-	3.20	-	-	-	-	-	-
		-	0.63	-	-	-	0.85	-	-	1.10	-	-	-	-	-	-
1/2"	21.34	1.65	2.11	-	-	-	2.77	-	-	3.73	-	-	-	-	4.78	7.47
		0.80	1.00	-	-	-	1.27	-	-	1.62	-	-	-	-	1.94	2.55
3/4"	26.67	1.65	2.11	-	-	-	2.87	-	-	3.91	-	-	-	-	5.56	7.82
		1.03	1.28	-	-	-	1.68	-	-	2.19	-	-	-	-	2.90	3.63
1"	33.4	1.65	2.77	-	-	-	3.38	-	-	4.55	-	-	-	-	6.35	9.09
		1.29	2.08	-	-	-	2.50	-	-	3.23	-	-	-	-	4.18	5.45
1 1/4"	42.16	1.65	2.77	-	-	-	3.56	-	-	4.85	-	-	-	-	6.35	9.70
		1.65	2.69	-	-	-	3.38	-	-	4.47	-	-	-	-	5.58	7.76
1 1/2"	48.26	1.65	2.77	-	-	-	3.68	-	-	5.08	-	-	-	-	7.14	10.16
		1.90	3.12	-	-	-	4.05	-	-	5.41	-	-	-	-	7.22	9.55
2"	60.32	1.65	2.77	-	-	-	3.91	-	-	5.54	-	-	-	-	8.74	11.07
		2.38	3.94	-	-	-	5.44	-	-	7.49	-	-	-	-	11.08	13.45
2 1/2"	73.02	2.11	3.05	-	-	-	5.16	-	-	7.01	-	-	-	-	9.52	14.02
		3.70	5.26	-	-	-	8.68	-	-	11.42	-	-	-	-	14.88	20.41
3"	88.9	2.11	3.05	-	-	-	5.49	-	-	7.62	-	-	-	-	11.13	15.24
		4.50	6.45	-	-	-	11.29	-	-	15.27	-	-	-	-	20.98	27.67
3 1/2"	101.6	2.11	3.05	-	-	-	5.74	-	-	8.08	-	-	-	-	-	-
		5.20	7.4	-	-	-	13.57	-	-	18.63	-	-	-	-	-	-
4"	114.3	2.11	3.05	-	-	-	6.02	-	-	8.56	-	11.13	-	-	13.49	17.12
		5.81	8.34	-	-	-	16.07	-	-	22.31	-	28.25	-	-	33.48	41.02
5"	141.3	2.77	3.4	-	-	-	6.55	-	-	9.52	-	12.7	-	-	15.88	19.05
		9.45	11.56	-	-	-	21.78	-	-	30.95	-	40.24	-	-	49.11	57.42
6"	168.3	2.77	3.4	-	-	-	7.11	-	-	10.97	-	14.27	-	-	18.26	21.95
		11.31	13.82	-	-	-	28.26	-	-	42.56	-	54.2	-	-	67.22	79.18
8"	219.1	2.77	3.76	-	6.35	7.04	8.18	10.31	12.7	15.09	18.26	20.62	23.01	25.4	28.26	30.95
		14.78	19.94	-	33.03	36.72	42.53	52.88	64.63	75.8	90.32	101.04	111.32	122.22	134.62	147.62
10"	273.0	3.4	4.19	-	6.35	7.8	9.27	12.7	15.09	18.26	21.44	25.4	28.58	32.01	35.88	39.95
		22.62	27.83	-	41.7	51.0	60.29	81.46	81.46	95.59	114.59	132.74	154.94	172.14	194.54	219.54
12"	323.85	3.96	4.57	-	6.35	8.38	9.52	10.31	14.27	12.7	17.47	21.44	25.4	28.58	33.34	38.45
		33.00	36.00	-	49.81	65.07	73.82	79.67	108.97	97.36	131.7	159.52	186.77	206.96	238.11	274.77
14"	355.6	3.96	4.78	6.35	7.92	9.52	9.52	11.13	15.09	12.7	19.05	23.82	27.79	31.75	35.71	-
		34.23	41.18	54.63	67.95	81.28	81.28	94.31	126.49	107.28	157.94	194.82	224.42	253.14	281.38	-
16"	406.4	4.19	4.78	6.35	7.92	9.52	9.52	12.7	16.94	12.7	21.44	26.19	30.96	36.52	40.49	-
		41.6	47.33	62.58	77.88	93.21	93.21	123.18	159.98	123.18	203.16	245.32	286.44	332.62	364.85	-
18"	457.2	4.19	4.78	6.35	7.92	11.13	9.52	14.27	19.05	12.7	23.82	29.36	34.92	39.69	45.24	-
		46.83	53.18	70.53	87.81	122.12	105.14	155.90	205.62	139.07	254.19	309.44	363.19	408.01	459.18	-
20"	508.0	4.78	5.54	6.35	9.52	12.7	9.52	15.09	20.62	12.7	26.19	32.54	38.1	44.45	50.01	-
		59.22	68.5	78.47	117.07	154.97	117.07	183.12	247.79	154.97	310.9	381.04	440.93	587.54	664.14	-
22"	558.8	4.78	5.54	6.35	9.52	12.7	9.52	-	22.22	12.7	28.6	34.92	41.28	47.62	53.98	-
		66.31	76.75	86.49	129.01	171.01	129.01	-	294.06	171.01	373.58	451.14	526.7	600.27	671.58	-
24"	609.6	5.54	6.35	6.35	9.52	14.27	9.52	17.48	24.61	12.7	30.96	38.89	46.02	52.3	59.94	-
		82.60	94.37	94.37	140.94	209.54	140.94	254.74	354.64	186.75	441.1	546.	639.18	718.94	806.61	-
26"	660.4	-	-	7.92	12.7	-	9.52	-	-	12.7	-	-	-	-	-	-
		-	-	127.30	202.70	-	152.80	-	-	202.70	-	-	-	-	-	-
28"	711.2	-	-	7.92	12.7	15.88	9.52	-	-	12.7	-	-	-	-	-	-
		-	-	137.30	218.60	272.18	164.80	-	-	218.6	-	-	-	-	-	-
30"	762.0	6.35	7.92	7.92	12.7	15.88	9.52	-	-	12.7	-	-	-	-	-	-
		120.12	149.55	147.20	234.64	292.06	176.73	-	-	234.64	-	-	-	-	-	-
32"	812.8	-	-	7.92	12.7	15.88	9.52	17.48	-	12.7	-	-	-	-	-	-
		-	-	157.28	250.55	311.95	188.66	342.70	-	250.55	-	-	-	-	-	-
34"	863.6	-	-	7.92	12.7	15.88	9.52	17.48	-	12.7	-	-	-	-	-	-
		-	-	167.20	266.46	331.83	200.59	364.01	-	266.46	-	-	-	-	-	-
36"	914.4	-	-	7.92	12.7	15.88	9.52	19.05	-	12.7	-	-	-	-	-	-
		-	-	177.13	282.36	351.72	212.52	420.21	-	282.36	-	-	-	-	-	-





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