



Tubificio di Terni

Tubificio di Terni S.r.l.
Società controllata da Arvedi AST
A controlled company of Arvedi AST

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Tubificio di Terni



**TUBI IN ACCIAIO
INOSSIDABILE
ELETTROSALDATI**
*ELECTRO-WELDED
STAINLESS STEEL
TUBES*

CATALOGO PRODOTTI
PRODUCT CATALOGUE

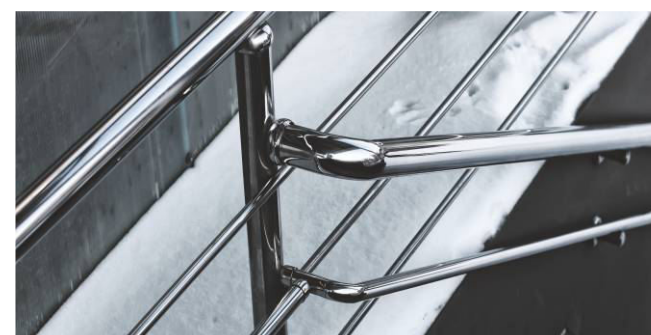
TUBI IN ACCIAIO INOSSIDABILE ELETTROSALDATI *ELECTRO-WELDED STAINLESS STEEL TUBES*

Il Tubificio di Terni, una società di Arvedi AST, occupa una superficie di 45.000 mq ed è all'avanguardia nella produzione di tubi in acciaio inossidabile elettrosaldati. È considerata in tutto il mondo la specialista del settore automotive e dell'edilizia e arredo urbano. All'ampia gamma si affianca un sistema di gestione della qualità particolarmente rigoroso ed una strategia che garantisce la prossimità e l'assistenza ad ogni cliente.

Tubificio di Terni, a company of Arvedi AST, occupies an area of 45,000 square metres, and is a leader in the manufacture of ERW stainless steel tubes. It is considered worldwide the primary specialist for the automotive, building and urban furnishing industries. Its wide product range is flanked by a particularly stringent quality management system and a strategy which ensures close support and assistance to each customer.



TUBI PER SISTEMI DI SCARICO
EXHAUST SYSTEMS TUBES



TUBI DECORATIVI E ORNAMENTALI
ORNAMENTAL AND DECORATIVE TUBES



TUBI STRUTTURALI (STR12 - EN 1.4003)
STRUCTURAL TUBES (STR12 - EN 1.4003)

TUBI INDUSTRIALI (EN 10217-7)
INDUSTRIAL TUBES (EN 10217-7)

TIPI DI ACCIAIO INOSSIDABILE PER PRODUZIONE DI TUBI STAINLESS STEEL GRADES FOR TUBES MANUFACTURING

La qualità rappresenta il principale valore costante in tutto il processo produttivo che include ricerca e miglioramento continuo sui migliori acciai austenitici e ferritici destinati a molteplici applicazioni di mercato.

Quality is the constant and main value in all of our manufacturing cycle and includes research and implementation of the best austenitic and ferritic stainless steels for the most important and widespread market applications.

FERRITICI - FERRITIC GRADES

		FERRO CHROME	FERRO CHROME STABILIZED			FERRO CHROME STABILIZED SUPER FERRITIC	FERRO CHROME MOLYBDENUM SUPER FERRITIC	
ARVEDI AST		STR 12	409 LI	439 M	441 LI	470 LI	4513	444
EN 10088-2		1.4003	1.4512	1.4510	1.4509	1.4613	1.4513	1.4521
TYPICAL COMPOSITION	C	0.02	0.01	0.02	0.02	0.01	0.02	0.02
	Cr	11.3	11.5	17.7	18.2	24.0	16.3	17,7
	Ni	0.5	-	-	-	-	-	-
	Mo	-	-	-	-	-	1,2	2,1
	Others	-	Ti	Ti, Nb	Ti, Nb	Ti, Nb	Ti	Ti, Nb
MECHANICAL PROPERTIES AT 20 °C - TYPICAL VALUES	0.2% Yield Strength Mpa	320	250	280	300	330	300	300
	Rm tensile Strength MPa	500	420	450	470	490	470	420
	Elongation A% A ₈₀ (thickness <3mm) A ₅ (thickness ≥3mm)	23	32	28	30	30	28	20
CORROSION RESISTANCE	General	°	°	+	+	+++	++	++
	Pitting	°	+	+	++	+++	++	++
	SCC	+	+	++	++	+++	++	++
	Heat resistance	°	++	++	+++	+++	+	+
COLD FORMABILITY		+	++	++	++	++	++	++
WELDABILITY		++	+++	+++	+++	+++	+++	+++

Le tabelle di cui sopra includono i principali tipi di acciaio inossidabile prodotti e commercializzati da Arvedi AST.

The above table reports the main stainless steels produced and traded by Arvedi AST for tubes production

I valori sopra riportati riferiti a 1mm LAF, Finitura 2B, sono approssimati e possono variare a seconda dello spessore e della finitura

The above mentioned figures, which refer to 1 mm CR, 2B finish, are approximate; they can vary according to thickness and finishing

° Not applicable/not required
+ Acceptable
++ Good
+++ Excellent
++++ Superior performance



AUSTENITICI - AUSTENITIC GRADES

FERRO CHROME NICKEL				FERRO CHROME NICKEL MOLYBDENUM			HEAT RESISTANT
ARVEDI AST	304	304 DL	321	316	316 L	316 Ti	4828
EN 10088-2	1.4301	1.4307	1.4541	1.4401	1.4404	1.4571	1.4828
TYPICAL COMPOSITION	C	0.04	0.025	0.05	0.06	0.03	0.05
	Cr	18.2	18.2	17.3	16.7	16.7	19.3
	Ni	8.1	8.1	9.1	10.6	10.3	11.1
	Mo	-	-	-	2,1	2,1	2,1
	Others	-	-	Ti	-	-	Ti
MECHANICAL PROPERTIES AT 20 °C - TYPICAL VALUES	0.2% Yield Strength Mpa	270	250	250	300	270	270
	Rm tensile Strength MPa	650	630	590	610	580	580
	Elongation A%						
	A ₈₀ (thickness <3mm) A ₅ (thickness ≥3mm)	54	54	57	50	52	55
CORROSION RESISTANCE	General	++	++	+++	+++	+++	+++
	Pitting	++	++	+++	+++	+++	+++
	SCC	°	°	°	°	°	°
	Heat resistance	++	++	+++	++	++	++
COLD FORMABILITY		++	++	+++	++	+++	+++
WELDABILITY		+++	++++	+++	+++	++++	+++

Le tabelle di cui sopra includono i principali tipi di acciaio inossidabile prodotti e commercializzati da Arvedi AST.

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° Not applicable/not required

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++ Good

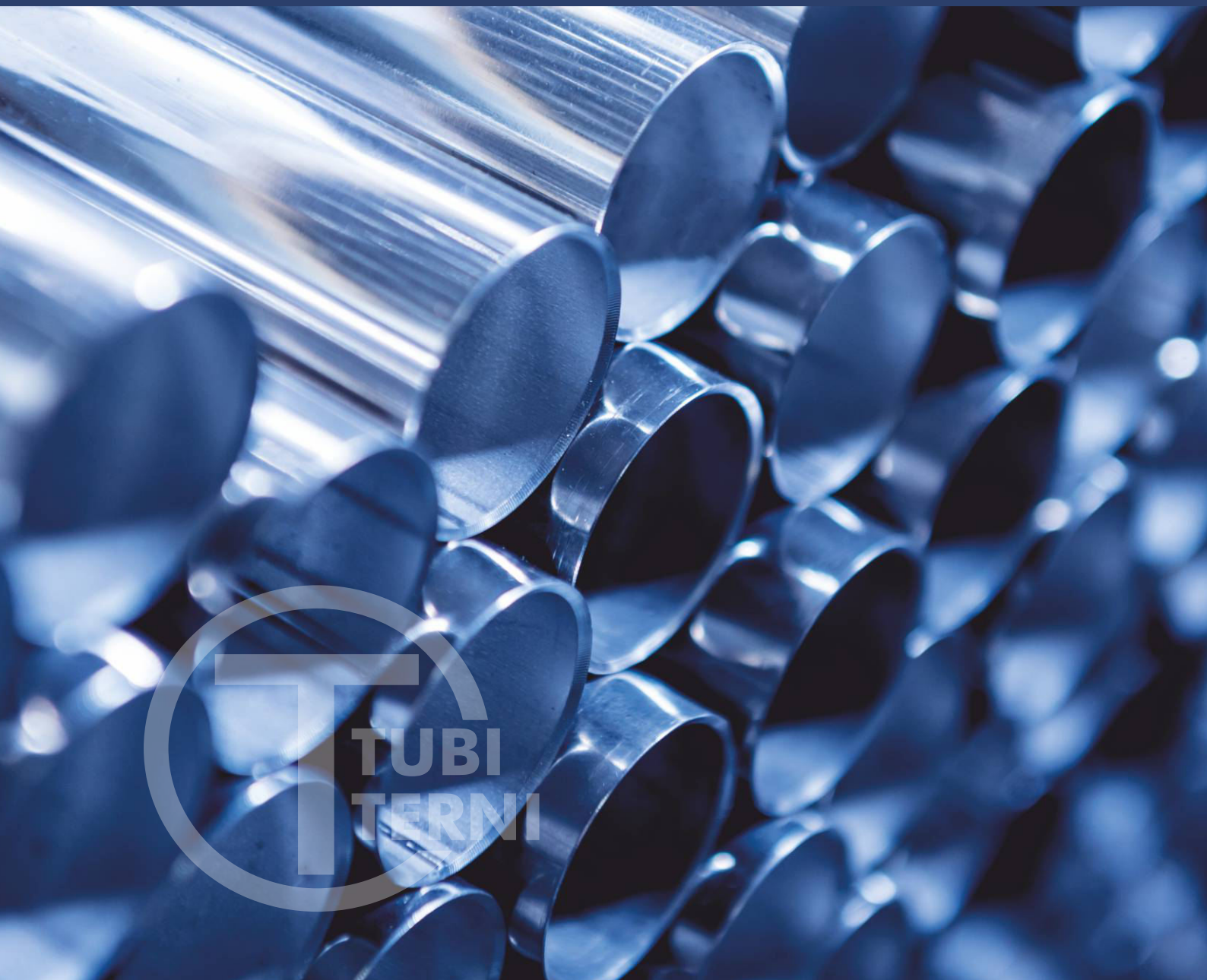
+++ Excellent

++++ Superior performance

Tubificio di Terni



TUBI PER SISTEMI DI SCARICO
EXHAUST SYSTEMS TUBES



Le più importanti case automobilistiche europee hanno scelto i nostri tubi in acciaio inossidabile per l'alta qualità, le elevate prestazioni e la vasta gamma di prodotti disponibili, oltre alle personalizzate soluzioni tecniche e logistiche.

The most important European automotive brands have chosen our stainless steel tubes for high quality, performance and wide product range available along with tailor-made solutions.

Arvedi



TUBI PER SISTEMI DI SCARICO
EXHAUST SYSTEMS TUBES



AUSTENITICI - AUSTENITIC GRADES

DIAMETER FROM 8 TO 34 mm	THICKNESS (mm)										
	0.5	0.6	0.7	0.8	1.0	1.2	1.5	1.6	1.7	1.8	2.0
	THEORETICAL WEIGHTS kg/m										
8	0.094	0.111	0.128	0.144	0.175	0.204	0.244				
10	0.119	0.141	0.163	0.184	0.225	0.264	0.319				
12	0.144	0.171	0.198	0.224	0.275	0.324	0.394				
13	0.156	0.186	0.216	0.244	0.300	0.355	0.432				
14	0.169	0.201	0.233	0.264	0.326	0.385	0.469	0.497	0.524		
15	0.182	0.216	0.251	0.284	0.351	0.415	0.507	0.537	0.566		
16	0.194	0.231	0.268	0.304	0.376	0.445	0.545	0.577	0.609		
18	0.219	0.261	0.303	0.345	0.426	0.505	0.620	0.657	0.694		
19	0.232	0.276	0.321	0.365	0.451	0.535	0.657	0.697	0.736	0.775	0.851
20	0.244	0.291	0.338	0.385	0.476	0.565	0.695	0.737	0.779	0.820	0.901
21.3	0.260	0.311	0.361	0.411	0.508	0.604	0.744	0.789	0.834	0.879	0.966
22	0.269	0.321	0.373	0.425	0.526	0.625	0.770	0.817	0.864	0.910	1.002
25	0.307	0.367	0.426	0.485	0.601	0.715	0.883	0.937	0.992	1.046	1.152
25.4	0.312	0.373	0.433	0.493	0.611	0.727	0.898	0.953	1.009	1.064	1.172
26.9	0.331	0.395	0.459	0.523	0.648	0.772	0.954	1.014	1.073	1.131	1.247
27	0.332	0.397	0.461	0.525	0.651	0.775	0.958	1.018	1.077	1.136	1.252
28	0.344	0.412	0.478	0.545	0.676	0.805	0.995	1.058	1.119	1.181	1.302
28.7	0.353	0.422	0.491	0.559	0.694	0.826	1.022	1.086	1.149	1.212	1.337
29	0.357	0.427	0.496	0.565	0.701	0.835	1.033	1.098	1.162	1.226	1.352
30	0.369	0.442	0.514	0.585	0.726	0.865	1.070	1.138	1.205	1.271	1.402
31.75	0.391	0.468	0.544	0.620	0.770	0.918	1.136	1.208	1.279	1.350	1.490
32	0.394	0.472	0.549	0.625	0.776	0.925	1.146	1.218	1.290	1.361	1.502
33	0.407	0.487	0.566	0.645	0.801	0.955	1.183	1.258	1.332	1.406	1.552
33.7	0.416	0.497	0.578	0.659	0.819	0.977	1.209	1.286	1.362	1.438	1.587
34	0.419	0.502	0.584	0.665	0.826	0.986	1.221	1.298	1.375	1.451	1.602

AUSTENITICI - AUSTENITIC GRADES

DIAMETER FROM 35 TO 127 mm	THICKNESS (mm)											
	0.5	0.6	0.7	0.8	1.0	1.2	1.5	1.6	1.7	1.8	2.0	3.0
	THEORETICAL WEIGHTS kg/m											
35	0.432	0.517	0.601	0.685	0.851	1.016	1.258	1.338	1.417	1.496	1.653	
38	0.469	0.562	0.654	0.745	0.926	1.106	1.371	1.458	1.545	1.632	1.803	
38.1	0.471	0.563	0.656	0.747	0.929	1.109	1.375	1.462	1.549	1.636	1.808	
40	0.495	0.592	0.689	0.785	0.977	1.166	1.446	1.538	1.630	1.722	1.903	
42.4	0.525	0.628	0.731	0.833	1.037	1.238	1.536	1.635	1.732	1.830	2.023	
43	0.532	0.637	0.741	0.845	1.052	1.256	1.559	1.659	1.758	1.857	2.053	
44.4	0.550	0.658	0.766	0.873	1.087	1.298	1.611	1.715	1.818	1.920	2.123	
44.45	0.550	0.659	0.767	0.874	1.088	1.300	1.613	1.717	1.820	1.922	2.126	
45	0.557	0.667	0.776	0.885	1.102	1.316	1.634	1.739	1.843	1.947	2.153	
48.3	0.598	0.717	0.834	0.951	1.184	1.415	1.758	1.871	1.984	2.096	2.319	
50	0.620	0.742	0.864	0.986	1.227	1.466	1.822	1.939	2.056	2.172	2.404	
50.8	0.630	0.754	0.878	1.002	1.247	1.490	1.852	1.971	2.090	2.208	2.444	
51				1.006	1.252	1.496	1.859	1.979	2.098	2.217	2.454	
52				1.026	1.277	1.526	1.897	2.019	2.141	2.262	2.504	
53				1.046	1.302	1.556	1.934	2.059	2.184	2.308	2.554	
54				1.066	1.327	1.586	1.972	2.099	2.226	2.353	2.604	
55				1.086	1.352	1.616	2.009	2.139	2.269	2.398	2.654	
60				1.186	1.477	1.767	2.197	2.340	2.482	2.623	2.904	
60.3					1.485	1.776	2.208	2.352	2.494	2.637	2.919	4.304
63.5					1.565	1.872	2.329	2.480	2.631	2.781	3.080	4.544
65				1.286	1.602	1.917	2.385	2.540	2.694	2.848	3.155	4.657
70				1.386	1.728	2.067	2.573	2.740	2.907	3.074	3.405	5.033
75					1.853	2.217	2.761	2.941	3.120	3.299	3.656	5.408
76.1					1.880	2.250	2.802	2.985	3.167	3.349	3.711	5.491
80				1.586	1.978	2.368	2.948	3.141	3.333	3.524	3.906	5.784
88.9					2.201	2.635	3.283	3.497	3.712	3.926	4.352	6.452
101.6					2.519	3.017	3.760	4.006	4.252	4.498	4.988	7.406
114.3					2.837	3.398	4.237	4.515	4.793	5.070	5.624	8.360
120					2.980	3.569	4.451	4.743	5.036	5.327	5.909	8.789
127					3.155	3.780	4.714	5.024	5.333	5.643	6.260	9.314

Spessore 2.50 disponibile su richiesta
Thickness of 2.5 mm available upon request

FINITURE SUPERFICIALI: Originario
SURFACE FINISH: Mill finish

FERRITICI - FERRITIC GRADES

DIAMETER	THICKNESS (mm)							
	0.8	1.0	1.2	1.5	1.8	2.0	2.5	3.0
	THEORETICAL WEIGHTS kg/m							
25		0.595	0.708	0.874	1.036	1.141		
25.4		0.605	0.720	0.889	1.054	1.161		
26.9		0.642	0.765	0.945	1.121	1.235		
27		0.645	0.768	0.949	1.125	1.240		
32	0.619	0.769	0.917	1.135	1.348	1.488		
33	0.639	0.794	0.946	1.172	1.393	1.538		
33,7	0.659	0.819	0.977	1.209	1.438	1.587		
35	0.679	0.843	1.006	1.246	1.482	1.637		
38	0.738	0.918	1.095	1.358	1.616	1.786		
38.1	0.740	0.920	1.098	1.362	1.621	1.791		
40	0.778	0.967	1.155	1.432	1.705	1.885		
42.4	0.825	1.027	1.226	1.522	1.813	2.004	2.474	
43	0.837	1.042	1.244	1.544	1.839	2.034	2.511	
44.45	0.866	1.078	1.287	1.598	1.904	2.106	2.601	
45	0.877	1.091	1.304	1.618	1.929	2.133	2.635	
48.3	0.943	1.173	1.402	1.741	2.076	2.297	2.840	
50	0.976	1.215	1.452	1.804	2.152	2.381	2.945	
50.8	0.992	1.235	1.476	1.834	2.188	2.421	2.995	
51	0.996	1.240	1.482	1.842	2.197	2.431	3.007	
52	1.016	1.265	1.512	1.879	2.241	2.480	3.069	
53	1.036	1.290	1.542	1.916	2.286	2.530	3.131	
54	1.056	1.315	1.572	1.953	2.330	2.580	3.193	
55	1.075	1.339	1.601	1.990	2.375	2.629	3.255	
60	1.175	1.463	1.750	2.176	2.598	2.877	3.565	
60.3		1.471	1.759	2.188	2.612	2.892	3.584	4.264
63		1.538	1.839	2.288	2.732	3.026	3.751	4.465
63.5		1.550	1.854	2.307	2.755	3.051	3.782	4.502
65		1.587	1.899	2.362	2.822	3.125	3.875	4.614
70		1.711	2.048	2.549	3.045	3.373	4.185	4.986
75		1.835	2.197	2.735	3.268	3.621	4.496	5.358
76.2		1.865	2.232	2.779	3.322	3.681	4.570	5.447
80			2.345	2.921	3.491	3.869	4.806	5.703
88.9			2.610	3.252		4.311	5.357	6.392
101.6			2.988	3.724		4.941	6.145	7.337
114.3			3.366	4.197		5.571	6.932	8.282
120			3.536	4.409		5.853	7.286	8.706
127			3.744	4.669		6.201	7.720	9.227

Spessore 2.50 disponibile su richiesta
Thickness of 2.5 mm available upon request

FINITURE SUPERFICIALI: Originario
SURFACE FINISH: Mill finish

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www.arvedi.it





TUBI RETTANGOLARI - RECTANGULAR TUBES						
SECTION (mm)	THICKNESS (mm)					
	1.0	1.2	1.5	2.0	2.5	3.0
THEORETICAL WEIGHTS kg/m						
30x20	0.772	0.921	1.140	1.495		
40x20	0.932	1.112	1.379	1.813		
40x30	1.091	1.303	1.618	2.132		
50x30			1.857	2.451		
50x40			2.096	2.770		
60x30			2.096	2.770	3.432	4.080
60x40			2.335	3.089	3.831	4.558
80x30				3.408	4.229	5.038
80x40			2.813	3.726	4.628	5.515
80x60			3.291	4.364	5.425	6.471
100x40			3.291	4.364	5.425	6.471
100x50			3.531	4.683	5.824	6.949
100x60			3.770	5.001	6.223	7.427
120x40			3.770	5.001	6.223	7.427
120x60			4.248	5.639	7.020	8.384
120x80				6.277	7.818	9.340

Spessore 2.50 disponibile su richiesta
Thickness of 2.5 mm available upon request

FINITURE SUPERFICIALI: Spazzolato, Satinato
SURFACE FINISH: Brushed, Polished and Mirror Polished

TUBI QUADRATI - SQUARE TUBES						
SECTION (mm)	THICKNESS (mm)					
	1.0	1.2	1.5	2.0	2.5	3.0
THEORETICAL WEIGHTS kg/m						
20x20	0.613	0.729	0.900	1.176		
25x25	0.772	0.921	1.140	1.495		
30x30	0.932	0.112	1.379	1.813	2.236	2.645
35x35	1.091	1.303	1.618	2.132	2.634	3.124
40x40	1.250	1.494	1.857	2.451	3.033	3.602
50x50			2.335	3.089	3.831	4.558
60x60				3.726	4.628	5.515
80x80				5.001	6.223	7.427
100x100					7.818	9.340



TUBI DECORATIVI E ORNAMENTALI ORNAMENTAL AND DECORATIVE TUBES



TUBI TONDI* - ROUND TUBES*											
DIAMETER FROM 8 TO 34 mm	THICKNESS (mm)										
	0.5	0.6	0.7	0.8	1.0	1.2	1.5	1.6	1.7	1.8	2.0
	THEORETICAL WEIGHTS kg/m										
8	0.094	0.111	0.128	0.144	0.175	0.204	0.244				
10	0.119	0.141	0.163	0.184	0.225	0.264	0.319				
12	0.144	0.171	0.198	0.224	0.275	0.324	0.394				
13	0.156	0.186	0.216	0.244	0.300	0.355	0.432				
14	0.169	0.201	0.233	0.264	0.326	0.385	0.469	0.497	0.524		
15	0.182	0.216	0.251	0.284	0.351	0.415	0.507	0.537	0.566		
16	0.194	0.231	0.268	0.304	0.376	0.445	0.545	0.577	0.609		
18	0.219	0.261	0.303	0.345	0.426	0.505	0.620	0.657	0.694		
19	0.232	0.276	0.321	0.365	0.451	0.535	0.657	0.697	0.736	0.775	0.851
20	0.244	0.291	0.338	0.385	0.476	0.565	0.695	0.737	0.779	0.820	0.901
21.3	0.260	0.311	0.361	0.411	0.508	0.604	0.744	0.789	0.834	0.879	0.966
22	0.269	0.321	0.373	0.425	0.526	0.625	0.770	0.817	0.864	0.910	1.002
25	0.307	0.367	0.426	0.485	0.601	0.715	0.883	0.937	0.992	1.046	1.152
25.4	0.312	0.373	0.433	0.493	0.611	0.727	0.898	0.953	1.009	1.064	1.172
26.9	0.331	0.395	0.459	0.523	0.648	0.772	0.954	1.014	1.073	1.131	1.247
27	0.332	0.397	0.461	0.525	0.651	0.775	0.958	1.018	1.077	1.136	1.252
28	0.344	0.412	0.478	0.545	0.676	0.805	0.995	1.058	1.119	1.181	1.302
30	0.369	0.442	0.514	0.585	0.726	0.865	1.070	1.138	1.205	1.271	1.402
31.75	0.391	0.468	0.544	0.620	0.770	0.918	1.136	1.208	1.279	1.350	1.490
32	0.394	0.472	0.549	0.625	0.776	0.925	1.146	1.218	1.290	1.361	1.502
33	0.407	0.487	0.566	0.645	0.801	0.955	1.183	1.258	1.332	1.406	1.552
33,7	0.416	0.497	0.578	0.659	0.819	0.977	1.209	1.286	1.362	1.438	1.587
34	0.419	0.502	0.584	0.665	0.826	0.986	1.221	1.298	1.375	1.451	1.602

* Austenitici - Austenitic grades

Spessore 2.50 disponibile su richiesta

Thickness of 2.5 mm available upon request

FINITURE SUPERFICIALI: Spazzolato, Satinato

SURFACE FINISH: Brushed, Polished and Mirror Polished



TUBI TONDI* - ROUND TUBES*

DIAMETER FROM 35 TO 127 mm	THICKNESS (mm)											
	0.5	0.6	0.7	0.8	1.0	1.2	1.5	1.6	1.7	1.8	2.0	3.0
	THEORETICAL WEIGHTS kg/m											
35	0.432	0.517	0.601	0.685	0.851	1.016	1.258	1.338	1.417	1.496	1.653	
38	0.469	0.562	0.654	0.745	0.926	1.106	1.371	1.458	1.545	1.632	1.803	
38.1	0.471	0.563	0.656	0.747	0.929	1.109	1.375	1.462	1.549	1.636	1.808	
40	0.495	0.592	0.689	0.785	0.977	1.166	1.446	1.538	1.630	1.722	1.903	
42.4	0.525	0.628	0.731	0.833	1.037	1.238	1.536	1.635	1.732	1.830	2.023	
43	0.532	0.637	0.741	0.845	1.052	1.256	1.559	1.659	1.758	1.857	2.053	
44.4	0.550	0.658	0.766	0.873	1.087	1.298	1.611	1.715	1.818	1.920	2.123	
44.45	0.550	0.659	0.767	0.874	1.088	1.300	1.613	1.717	1.820	1.922	2.126	
45	0.557	0.667	0.776	0.885	1.102	1.316	1.634	1.739	1.843	1.947	2.153	
48.3	0.598	0.717	0.834	0.951	1.184	1.415	1.758	1.871	1.984	2.096	2.319	
50	0.620	0.742	0.864	0.986	1.227	1.466	1.822	1.939	2.056	2.172	2.404	
50.8	0.630	0.754	0.878	1.002	1.247	1.490	1.852	1.971	2.090	2.208	2.444	
51				1.006	1.252	1.496	1.859	1.979	2.098	2.217	2.454	
52				1.026	1.277	1.526	1.897	2.019	2.141	2.262	2.504	
53				1.046	1.302	1.556	1.934	2.059	2.184	2.308	2.554	
54				1.066	1.327	1.586	1.972	2.099	2.226	2.353	2.604	
55				1.086	1.352	1.616	2.009	2.139	2.269	2.398	2.654	
60				1.186	1.477	1.767	2.197	2.340	2.482	2.623	2.904	
60.3					1.485	1.776	2.208	2.352	2.494	2.637	2.919	4.304
63.5					1.565	1.872	2.329	2.480	2.631	2.781	3.080	4.544
65				1.286	1.602	1.917	2.385	2.540	2.694	2.848	3.155	4.657
70				1.386	1.728	2.067	2.573	2.740	2.907	3.074	3.405	5.033
75					1.853	2.217	2.761	2.941	3.120	3.299	3.656	5.408
76.1					1.880	2.250	2.802	2.985	3.167	3.349	3.711	5.491
80				1.586	1.978	2.368	2.948	3.141	3.333	3.524	3.906	5.784
88.9					2.201	2.635	3.283	3.497	3.712	3.926	4.352	6.452
101.6					2.519	3.017	3.760	4.006	4.252	4.498	4.988	7.406
114.3					2.837	3.398	4.237	4.515	4.793	5.070	5.624	8.360
120					2.980	3.569	4.451	4.743	5.036	5.327	5.909	8.789
127					3.155	3.780	4.714	5.024	5.333	5.643	6.260	9.314

* Austenitici - Austenitic grades

Spessore 2.50 disponibile su richiesta

Thickness of 2.5 mm available upon request

FINITURE SUPERFICIALI: Spazzolato, Satinato

SURFACE FINISH: Brushed, Polished and Mirror Polished





TUBI TONDI* - ROUND TUBES*

DIAMETER FROM 8 TO 34 mm	THICKNESS (mm)							
	0.5	0.6	0.7	0.8	1.0	1.2	1.5	2.0
	THEORETICAL WEIGHTS kg/m							
8	0.094	0.111	0.128	0.144	0.175	0.204	0.244	
10	0.119	0.141	0.163	0.184	0.225	0.264	0.319	
12	0.144	0.171	0.198	0.224	0.275	0.324	0.394	
13	0.156	0.186	0.216	0.244	0.300	0.355	0.432	
14	0.169	0.201	0.233	0.264	0.326	0.385	0.469	
15	0.182	0.216	0.251	0.284	0.351	0.415	0.507	
16	0.194	0.231	0.268	0.304	0.376	0.445	0.545	
18	0.219	0.261	0.303	0.345	0.426	0.505	0.620	
19	0.232	0.276	0.321	0.365	0.451	0.535	0.657	0.851
20	0.244	0.291	0.338	0.385	0.476	0.565	0.695	0.901
21.3	0.260	0.311	0.361	0.411	0.508	0.604	0.744	0.966
22	0.269	0.321	0.373	0.425	0.526	0.625	0.770	1.002
25	0.307	0.367	0.426	0.485	0.601	0.715	0.883	1.152
25.4	0.312	0.373	0.433	0.493	0.611	0.727	0.898	1.172
26.9	0.331	0.395	0.459	0.523	0.648	0.772	0.954	1.247
27	0.332	0.397	0.461	0.525	0.651	0.775	0.958	1.252
28	0.344	0.412	0.478	0.545	0.676	0.805	0.995	1.302
30	0.369	0.442	0.514	0.585	0.726	0.865	1.070	1.402
31.75	0.391	0.468	0.544	0.620	0.770	0.918	1.136	1.490
32	0.394	0.472	0.549	0.625	0.776	0.925	1.146	1.502
33	0.407	0.487	0.566	0.645	0.801	0.955	1.183	1.552
33,7	0.416	0.497	0.578	0.659	0.819	0.977	1.209	1.587
34	0.419	0.502	0.584	0.665	0.826	0.986	1.221	1.602

* Austenitici - Austenitic grades

Spessore 2.50 disponibile su richiesta
Thickness of 2.5 mm available upon request

FINITURE SUPERFICIALI: Originaria
SURFACE FINISH: Mill Finish



TUBI TONDI* - ROUND TUBES*

DIAMETER FROM 35 TO 127 mm	THICKNESS (mm)								
	0.5	0.6	0.7	0.8	1.0	1.2	1.5	2.0	2.0
	THEORETICAL WEIGHTS kg/m								
35	0.432	0.517	0.601	0.685	0.851	1.016	1.258	1.653	
38	0.469	0.562	0.654	0.745	0.926	1.106	1.371	1.803	
38.1	0.471	0.563	0.656	0.747	0.929	1.109	1.375	1.808	
40	0.495	0.592	0.689	0.785	0.977	1.166	1.446	1.903	
42.4	0.525	0.628	0.731	0.833	1.037	1.238	1.536	2.023	
43	0.532	0.637	0.741	0.845	1.052	1.256	1.559	2.053	
44.4	0.550	0.658	0.766	0.873	1.087	1.298	1.611	2.123	
44.45	0.550	0.659	0.767	0.874	1.088	1.300	1.613	2.126	
45	0.557	0.667	0.776	0.885	1.102	1.316	1.634	2.153	
48.3	0.598	0.717	0.834	0.951	1.184	1.415	1.758	2.319	
50	0.620	0.742	0.864	0.986	1.227	1.466	1.822	2.404	
50.8	0.630	0.754	0.878	1.002	1.247	1.490	1.852	2.444	
51				1.006	1.252	1.496	1.859	2.454	
52				1.026	1.277	1.526	1.897	2.504	
53				1.046	1.302	1.556	1.934	2.554	
54				1.066	1.327	1.586	1.972	2.604	
55				1.086	1.352	1.616	2.009	2.654	
60				1.186	1.477	1.767	2.197	2.904	
60.3					1.485	1.776	2.208	2.919	4.304
63.5					1.565	1.872	2.329	3.080	4.544
65					1.602	1.917	2.385	3.155	4.657
70					1.728	2.067	2.573	3.405	5.033
75					1.853	2.217	2.761	3.656	5.408
76.1					1.880	2.250	2.802	3.711	5.491
80						2.368	2.948	3.906	5.784
88.9						2.635	3.283	4.352	6.452
101.6						3.017	3.760	4.988	7.406
114.3						3.398	4.237	5.624	8.360
120						3.569	4.451	5.909	8.789
127						3.780	4.714	6.260	9.314

* Austenitici - Austenitic grades

Spessore 2.50 disponibile su richiesta

Thickness of 2.5 mm available upon request

FINITURE SUPERFICIALI: Originaria

SURFACE FINISH: Mill Finish

TUBI STRUTTURALI (STR12 - EN 1.4003) STRUCTURAL TUBES (STR12 - EN 1.4003)



TUBI RETTANGOLARI - RECTANGULAR TUBES

SECTION (mm)	1,00	1,20	1,50	2,00	2,50	3,00
	THEORETICAL WEIGHTS kg/m					
30x20	0,749	0,893	1,105	1,450		
40x20	0,904	1,079	1,337	1,759		
40x30	1,058	1,264	1,569	2,068		
50x25	1,136	1,357	1,685	2,223		
50x30			1,802	2,378		
50x40			2,034	2,687		
60x30			2,034	2,687		
60x40			2,266	2,996	3,715	4,422
60x50				3,306	4,102	4,886
80x30				3,306	4,102	4,886
80x40			3,615	4,489	4,471	5,350
80x60			3,194	4,234	5,241	6,278
100x40			3,194	4,234	5,241	6,278
100x50			3,426	4,543	5,627	6,742
100x60			3,658	4,853	6,012	7,206
120x40			3,658	4,853	6,035	7,206
120x60			4,122	5,471	6,782	8,134
120x80				6,090	7,553	9,062

Spessore 4.00 disponibile su richiesta
Thickness of 4.00 mm available upon request

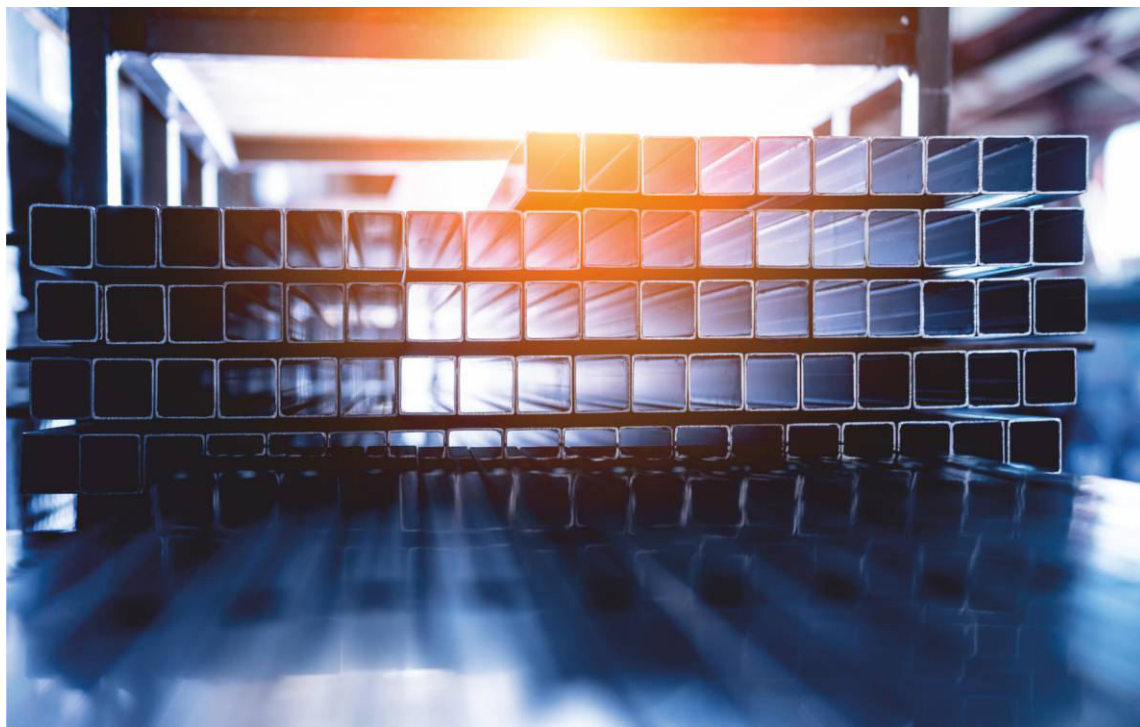
FINITURE SUPERFICIALI: Originaria
SURFACE FINISH: Mill Finish

TUBI QUADRATI - SQUARE TUBES

SECTION	1,00	1,20	1,50	2,00	2,50	3,00
	THEORETICAL WEIGHTS KG/M					
20x20	0,594	0,707	0,873	1,140		
25x25	0,749	0,893	1,105	1,45		
30x30	0,904	1,079	1,337	1,759		2,566
35x35	1,058	1,264	1,569	2,068		3,03
40x40	1,213	1,45	1,802	2,378	2,942	3,494
50x50			2,266	2,996		4,422
60x60				3,615		5,35
80x80				4,853		7,206
100x100						9,062

Spessore 2.50 disponibile su richiesta
Thickness of 2.5 mm available upon request

FINITURE SUPERFICIALI: Originaria
SURFACE FINISH: Mill Finish



Tubificio di Terni



CARATTERISTICHE TECNICHE
TECHNICAL FEATURES



Arvedi





STANDARD RIFERIMENTI TECNICI E CERTIFICAZIONI

TECHNICAL REFERENCES STANDARDS AND CERTIFICATIONS

ISO 9001: Quality System Standards

ISO 14001 Environmental System Standards

OH SAS 18001 Safety system standards

IATF 16949: SQ automotive sector standards

EN 10204: Test certificates for stainless steel products

EN 10088: Chemical composition standards for stainless steel

EN 10028-7: Flat products made of steel for pressure purpose, stainless Steels

EN 10095: Chemical composition and Mechanical properties standards for stainless steel

EN ISO 1127: Dimensional standards and tolerances

STANDARD DI PRODUZIONE

MANUFACTURING STANDARDS

EN 10296-2

EN 10217-7

AD 2000 - Merkblatt W0

ASTM: A554, A791, A450

NFA: 49647

EN 10217-7

STANDARD CONTROLLI QUALITÀ

QUALITY CHECK STANDARDS

EN 10002, 10246

ASTM A426

EN ISO 6892-1, 8492, 8493, 10893

TOLLERANZE GENERALI GENERAL TOLERANCES



TOLLERANZE DIMENSIONALI PER TUBI TONDI A LUNGHEZZE COMMERCIALI DIMENSIONAL TOLERANCES FOR ROUND COMMERCIAL-LENGTH TUBES

	GUARANTEED VALUES	TYPICAL VALUES	NOTES
Thickness	+/- 10% with min $\pm 0,2$	+1 / - 7%	
Diameter	+/- 0,75% with $\pm 0,3$	+ 0,10 / - 0,20 mm	
Length	- 0 / + 50 mm	- 0 / + 50 mm	
Internal bead	- 0 / +10% max 0,20 mm	max 0,10 mm	
Linearity	2,0 mm/m	1,0 mm/m	

TOLLERANZE DIMENSIONALI PER TUBI TONDI TAGLIATI A MISURA DIMENSIONAL TOLERANCES FOR FIX-LENGTH TUBES

	GUARANTEED VALUES	TYPICAL VALUES	NOTES
Length	- 0 / + 1 mm	0,50 mm	upon request +/- 0,5 mm
Ovality on the cut	0,60 mm	0,30 - 0,40 mm	$D_{max} - D_{min}^{(*)}$ at 1 D from cut end

TOLLERANZE DIMENSIONALI PER TUBI DECORATIVI DIMENSIONAL TOLERANCES FOR ORNAMENTAL TUBES

Thickness	$\pm 10\%$
Dimensions base and height	$\pm 0,50 \%$
Length	- 0 + 50 mm
Thickness of the weld bead	- 0 / +10% of the thickness; max 0,20 mm
Linearity	$\leq 2,0$ mm per meter
Torsion	$\leq 2,0$ mm for the first meter then 0,5 mm for the following
Radius of the corners	1,2 x T +/- 20% (thickness $\leq 2,0$ mm) 2,0 x T +/- 20% (thickness $> 2,0$ mm)
Burr	max 1,0 mm per thickness $\geq 2,5$ mm max 0,2 mm per thickness $< 2,5$ mm

T = Spessore - Thickness

PRESTAZIONI PERFORMANCES

Ferritici - Ferritic Grades

PROPRIETÀ MECCANICHE DEI TUBI MECHANICAL PROPERTIES OF THE TUBES				
		REFERENCE NORMS	GUARANTEED	TYPICAL
AISI 409 LI W 1.4512	Rp02 (MPa)	> 210	> 205	330
	Rm (MPa)	> 380	400 ÷ 500	420
	A5 (%)	> 25	> 30	36 ÷ 38
AISI 441 W 1.4509 AISI 439 W 1.4510 et al.	Rp02 (MPa)	> 230	> 300	380
	Rm (MPa)	> 420	> 450	490
	A5 (%)	> 20	> 28	32 ÷ 34
W 1.4003	Rp02 (MPa)	> 280	> 300	350
	Rm (MPa)	> 450	> 450	480
	A5 (%)	> 20	> 20	22

TEST TECNOLOGICI SU TUBI MARMITTA TECHNOLOGICAL TESTS ON THE EXHAUST SYSTEM TUBE			
			AISI 409 LI / W 1.4512
	REFERENCE NORMS	GUARANTEED	TYPICAL
Flattening test	2xT + 16 mm	2xT + 16 mm	2xT
Cone expansion	30%	30%	30%
Radial expansion	-	20%	30%

Austenitici - Austenitic Grades

PROPRIETÀ MECCANICHE DEI TUBI TONDI MECHANICAL PROPERTIES OF THE ROUND TUBES			
	REFERENCE NORMS	GUARANTEED	TYPICAL
Rp02 (MPa)	> 200	> 300	400
Rm (MPa)	> 500	> 550	600
A5 (%)	> 40	> 40	50 ÷ 55
Hv 5	< 220	< 220	< 220

TEST TECNOLOGICI SU TUBI MARMITTA TECHNOLOGICAL TESTS ON THE EXHAUST SYSTEM TUBE			
	REFERENCE NORMS	GUARANTEED	TYPICAL
Flattening test	2xT + 16 mm	2xT	2xT
Cone expansion	40%	40%	50%
Radial expansion	-	30%	33 - 35%

T = Spessore - Thickness