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Introduction

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Tube

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steel productsWelding
productsKanthal
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Stainless steel pipe size and weight chart

Nominal bore pipe sizes and pipe schedules expressed as outside diameter and wall thickness

Dimensions and theoretical weights of welded and seamless pipe schedules acc. to ASTM B36.10 / B36.19

Upper figures - wall thickness in mm lower figures - weight in kg per meter ASTM B36.10 ASTM B36.19

Inch DN Nom	O.D. mm	Pipe schedules																	
		5S	10S	10	20	30	40S	STD	40	60	80S	80	XS	XXS	100	120	140	160	
6	1/8 10.29	1.24					1.73	1.73	1.73			2.41	2.41	2.41					
		0.28					0.37	0.37	0.37			0.47	0.47	0.47					
8	1/4 13.72	1.65					2.24	2.24	2.24			3.02	3.02	3.02					
		0.50					0.64	0.64	0.64			0.81	0.81	0.81					
10	3/8 17.15	1.65					2.31	2.31	2.31			3.20	3.20	3.20					
		0.64					0.86	0.86	0.86			1.12	1.12	1.12					
15	1/2 21.34	1.65	2.11				2.77	2.77	2.77			3.73	3.73	3.73	7.47				4.78
		0.81	1.01				1.28	1.28	1.28			1.64	1.64	1.64	2.59				1.98
20	3/4 26.67	1.65	2.11				2.87	2.87	2.87			3.91	3.91	3.91	7.82				5.56
		1.03	1.29				1.71	1.71	1.71			2.23	2.23	2.23	3.69				2.93
25	1 33.40	1.65	2.77				3.38	3.38	3.38			4.55	4.55	4.55	9.09				6.35
		1.31	2.12				2.54	2.54	2.54			3.28	3.28	3.28	5.53				4.29
32	1.1/4 42.16	1.65	2.77				3.56	3.56	3.56			4.85	4.85	4.85	9.70				6.35
		1.67	2.73				3.43	3.43	3.43			4.52	4.52	4.52	7.87				5.68
40	1.1/2 48.26	1.65	2.77				3.68	3.68	3.68			5.08	5.08	5.08	10.15				7.14
		1.92	3.15				4.10	4.10	4.10			5.48	5.48	5.48	9.68				7.34
50	2 60.33	1.65	2.77				3.91	3.91	3.91			5.54	5.54	5.54	11.07				8.74
		2.42	3.98				5.52	5.52	5.52			7.58	7.58	7.58	13.63				11.27
65	2.1/2 73.03	2.11	3.05				5.16	5.16	5.16			7.01	7.01	7.01	14.02				9.53
		3.74	5.33				8.75	8.75	8.75			11.57	11.57	11.57	20.68				15.12
80	3 88.90	2.11	3.05				5.49	5.49	5.49			7.62	7.62	7.62	15.24				11.13
		4.57	6.54				11.44	11.44	11.44			15.48	15.48	15.48	28.06				21.63
90	3.1/2 101.60	2.11	3.05				5.74	5.74	5.74			8.08	8.08	8.08	16.15				
		5.24	7.51				13.75	13.75	13.75			18.88	18.88	18.88	34.50				
100	4 114.30	2.11	3.05				6.02	6.02	6.02			8.56	8.56	8.56	17.12		11.13		13.49
		5.91	8.48				16.29	16.29	16.29			22.62	22.62	22.62	41.59		28.69		33.99
125	5 141.30	2.77	3.40				6.55	6.55	6.55			9.53	9.53	9.53	19.05		12.70		15.88
		9.59	11.73				22.07	22.07	22.07			31.37	31.37	31.37	58.21		40.82		49.77
150	6 168.28	2.77	3.40				7.11	7.11	7.11			10.97	10.97	10.97	21.95		14.27		18.26
		11.45	14.03				28.65	28.65	28.65			43.15	43.15	43.15	80.27		54.95		68.48
200	8 219.08	2.77	3.76		6.35	7.04	8.18	8.18	8.18	10.31		12.70	12.70	12.70	22.23	15.09	18.26	20.62	23.01
		14.97	20.23		33.77	37.30	43.12	42.55	42.55	53.81		65.52	65.52	65.52	109.36	75.92	91.67	102.31	112.78
250	10 273.05	3.40	4.19		6.35	7.80	9.27	9.27	9.27	12.70		12.70	15.09	12.70		18.26	21.44	25.40	28.58
		22.94	28.17		42.33	51.70	61.13	60.31	60.31	82.65		82.65	97.29	82.65		114.75	134.83	157.24	174.62
300	12 323.85	3.96	4.57		6.35	8.38	9.53	9.53	10.31	14.27		12.70	17.48	12.70	25.40	21.44	25.40	28.58	33.32
		31.68	36.49		50.40	66.09	74.84	74.84	80.82	110.46		98.78	133.83	98.78	189.49	159.91	189.49	210.91	242.01
350	14 355.60	3.96	4.78		6.35	7.92	9.53	9.53	11.13	15.09			19.05	12.70		23.83	27.79	31.75	35.71
		34.83	41.88		55.44	68.87	82.40	82.40	95.80	128.42			160.26	108.86		194.96	227.70	257.02	285.56
400	16 406.40	4.19	4.18		6.35	7.92	9.53	9.53	12.70	16.66			21.44	12.70		26.19	30.96	36.53	40.49
		42.14	47.94		63.50	78.94	94.50	94.49	124.98	162.33			206.29	124.98		245.56	290.57	337.70	370.32
450	18 457.20	4.19	4.78		6.35	7.92	11.13	9.53	14.27	19.05			23.83	12.70		29.36	34.93	39.67	45.24
		47.46	54.00		71.56	89.00	123.91	106.59	158.05	208.64			257.84	141.11		309.62	368.65	414.07	465.84
500	20 508.00	4.78	5.54		6.35	9.53	12.70	9.53	15.09	20.62			26.19	12.70		32.54	38.10	44.45	50.01
		60.07	69.55		79.63	118.68	157.24	118.68	185.90	251.27			315.39	157.24		381.53	447.52	515.05	572.55
550	22 558.80	4.78	5.54		6.35	9.53	12.70	9.53	15.88	22.23			28.58	12.70		34.93	41.28	47.63	53.98
		66.13	76.58		87.69	130.78	173.36	130.78	215.44	298.09			378.73	173.36		451.42	533.95	608.53	706.74
600	24 609.60	5.54	6.35		6.35	9.53	14.27	9.53	17.48	24.61			30.96	12.70		38.89	46.02	52.37	59.54
		83.61	95.75		95.75	142.87	212.61	142.87	258.65	359.90			447.84	189.49		547.71	648.37	729.51	818.62
750	30 762.00	6.35	7.92		7.92	12.70	15.88	9.53						12.70					
		119.94	149.38		149.38	237.87	296.08	179.16						237.87					

Welded pipe

According to ANSI / ASME B36.19 / B36.10 and ASTM standards



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TWH

e.g. TWH-W-316L-6-SCH40S

A = Australia Stock

● = Ex. Mill Stock or Production

Outside diameter	Wall thickness	Nominal size according to B36.19		Weight	Sandvik 3R12 ASTM 304L SS 2352	Sandvik 3R65 ASTM 316L SS 2348	Sandvik SAF 2205 UNS S31803	Sandvik SAF 2507 UNS S32750
mm	mm			kg/m				
13.72	1.65	1/4"	Sch 10S	0.50	●	A		
	2.24		Sch 40S	0.64	A	A		
17.15	1.65	3/8"	Sch 10S	0.64	●	A		
	2.31		Sch 40S	0.86	A	A		
21.34	2.11	1/2"	Sch 10S	1.01	A	A	●	
	2.77		Sch 40 S	1.28	A	A		
26.67	2.11	3/4"	Sch 10S	1.29	A	A		
	2.87		Sch 40S	1.71	A	A		
33.40	2.77	1"	Sch 10S	2.12	A	A	●	
	3.38		Sch 40S	2.54	A	A	●	
42.16	2.77	1.1/4"	Sch 10S	2.73	A	A	●	
	3.56		Sch 40S	3.43	A	A	●	
48.26	2.77	1.1/2"	Sch 10S	3.15	A	A	●	
	3.68		Sch 40S	4.10	A	A	●	
60.33	2.77	2"	Sch 10S	3.98	A	A	●	
	3.91		Sch 40S	5.52	A	A	●	
73.03	3.05	2.1/2"	Sch 10S	5.33	A	A	●	
	5.16		Sch 40S	8.75	A	A	●	
88.90	3.05	3"	Sch 10S	6.54	A	A	●	●
	5.49		Sch 40S	11.44	A	A	●	●
101.60	3.05	3.1/2"	Sch 10S	7.51	A	A	●	●
	5.74		Sch 40S	13.75	A	A	●	●
114.30	3.05	4"	Sch 10S	8.48	A	A	●	●
	6.02		Sch 40S	16.29	A	A	●	●
141.30	3.40	5"	Sch 10S	11.73	A	A	●	●
	6.55		Sch 40S	22.07	A	A	●	●
168.28	3.40	6"	Sch 10S	14.03	A	A	A	●
	7.11		Sch 40S	28.65	A	A	●	●
219.08	3.76	8"	Sch 10S	20.23	A	A	A	●
	8.18		Sch 40S	43.12	A	A	●	A
273.05	4.19	10"	Sch 10S	28.17	A	A	A	●
	9.27		Sch 40S	61.13	A	A	A	A
323.85	4.57	12"	Sch 10S	36.49	A	A	A	●
	9.53		Sch 40S	74.84	A	A	●	●
355.60	4.78	14"	Sch 10S	41.88	A	A	●	●
	9.53	14"	Std. Wall	82.40	A	A	●	●
406.40	4.78	16"	Sch 10S	47.94	A	A	●	●
	9.53	16"	Std. Wall	94.49	A	A	●	●
457.20	4.78	18"	Sch 10S	54.00	A	A	●	●
	9.53	18"	Std Wall	106.59	A	A	●	●
508.0	5.54	20"	Sch 10S	69.55	A	A	●	●
	9.53	20"	Std Wall	118.68	A	A	●	●
609.6	6.35	24"	Sch 10S	95.75	A	A	●	●
	9.53	24"	Std Wall	142.87	A	A	●	●
762.0	7.92	30"	Sch 10S	149.38	●	A	●	●

Other sizes and grades available on request

Seamless pipe

According to ANSI / ASME B36.19 / B36.10 and ASTM standards



A = Australia Stock

● ■ = Stock Standard Mill

✘ = Ex. mill Production

TST

● = Cold worked pipe

TST-E

■ = Hot worked pipe

e.g. TST-E-316L-2-SCH40

O.D.	Wall thickness	Nominal size according to B36.19	Weight	Sandvik 3R12 ASTM 304L SS 2352	Sandvik 3R65 ASTM 316L SS 2348	Sandvik SAF 2205 UNS S31803 SS 2377	Sandvik SAF 2507 UNS S32750 SS 2328	Sandvik 2RK65 UNS N08904 SS 2562	Sandvik Sanicro 28 UNS N08028 SS 2584
mm	mm		kg/m						
10.29	1.73	1/8"	Sch 40S						
	3.02		Sch 80S						
13.72	1.65	1/4"	Sch 10S	●					
	2.24		Sch 40S	●					
	3.02		Sch 80S	●					
17.15	1.65	3/8"	Sch 10S	A					
	2.31		Sch 40S	A					
	3.20		Sch 80S	A					
21.34	2.11	1/2"	Sch 10S	A	A	A	A	●**	✘
	2.77		Sch 40S	A	A	A	A	●**	●
	3.73		Sch 80S	A	A	A	✘	✘	✘
	4.78 ¹⁾		Sch 160	A	A	✘	✘	✘	✘
26.67	2.11	3/4"	Sch 10S	A	A	A	✘	●**	✘
	2.87		Sch 40S	A	A	A	A	●**	●
	3.91		Sch 80S	A	A	✘	✘	✘	✘
	5.56 ¹⁾		Sch 160		A		✘		
33.40	2.77	1"	Sch 10S	A	A	A	A	●**	●
	3.38		Sch 40S	A	A	A	A	●**	●
	4.55		Sch 80S	A	A	A	A	✘	✘
	6.35 ¹⁾		Sch 160	A	A	✘	✘	✘	✘
42.16	2.77	1.1/4"	Sch 10S	A	A	A	■	●**	●
	3.56		Sch 40S	A	A	A	✘	●**	✘
	4.85		Sch 80S	A	A	✘	✘	✘	✘
	6.35 ¹⁾		Sch 160	A	A	✘	✘	✘	✘
48.26	2.77	1.1/2"	Sch 10S	A	A	A	A	●	✘
	3.68		Sch 40S	A	A	A	A	●	●
	5.08		Sch 80S	A	A	A	A	✘	✘
	7.14 ¹⁾		Sch 160		A	✘	✘	✘	✘
60.33	2.77	2"	Sch 10S	A	A	A	A	●	●
	3.91		Sch 40S	A	A	A	A*	●	●
	5.54		Sch 80S	A	A	A	A	✘	✘
	8.74 ¹⁾		Sch 160		A	✘	✘	✘	✘
73.03	3.05	2.1/2"	Sch 10S	A	A	■	✘	●	✘
	5.16		Sch 40S	A	A	A	✘	●	✘
	7.01		Sch 80S	■	A	■	✘	✘	✘
	9.53 ¹⁾		Sch 160	✘	A	✘	✘	✘	✘
88.90	3.05	3"	Sch 10S	A	A	A	A	●	●
	5.49		Sch 40S	A	A	A	A*	●	●
	7.62		Sch 80S	A	A	A	✘	✘	✘
	11.13 ¹⁾		Sch 160		A	✘	✘	✘	✘
101.60	3.05	3 1/2"	Sch 10S	●	A	✘	✘	✘	✘
	5.74		Sch 40S	■	A	✘	✘	✘	✘
	8.08		Sch 80S	■	A	✘	✘	✘	✘

* Also stocked in Sandvik SAF 2707HD

Seamless pipe

According to ANSI / ASME B36.19 / B36.10 and ASTM standards



A = Australia Stock

● ■ = Stock Standard Mill

✱ = Ex. mill Production

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TST		● = Cold worked pipe		TST-E		■ = Hot worked pipe		e.g. TST-E-316L-2-SCH40		
O.D.	Wall thickness	Nominal size according to B36.19		Weight	Sandvik 3R12 ASTM 304L SS 2352	Sandvik 3R65 ASTM 316L SS 2348	Sandvik SAF 2205 UNS S31803 SS 2377	Sandvik SAF 2507 UNS S32750 SS 2328	Sandvik 2RK65 UNS N08904 SS 2562	Sandvik Sanicro 28 UNS N08028 SS 2584
mm	mm			kg/m						
114.30	3.05	4"	Sch 10S	8.48	A	A	A	A	✱	✱
	6.02		Sch 40S	16.29	A	A	A	A*	●	●
	8.56		Sch 80S	22.62	A	A	A	✱	✱	✱
	13.49 ¹⁾		Sch 160	33.99	✱	✱	✱	✱	✱	✱
141.30	6.55	5"	Sch 40S	22.07	■	A	✱	✱	✱	✱
	9.53		Sch 80S	31.37	■	A	✱	✱	✱	✱
	15.88 ¹⁾		Sch 160	49.77	✱	■	✱	✱	✱	✱
168.28	3.40	6"	Sch 10S	14.03	A	A	✱		✱	✱
	7.11		Sch 40S	28.65	A	A	A	A	✱	✱
	10.97		Sch 80S	43.15	A	A	✱	✱	✱	✱
	18.26 ¹⁾		Sch 160	68.48	✱	■	✱	✱	✱	✱
219.08	3.76	8"	Sch 10S	20.23	A	A				
	8.18		Sch 40S	43.12	A	A	A	A	✱	✱
	12.70		Sch 80S	65.52	A	A	✱	✱	✱	✱
	23.01 ¹⁾		Sch 160	112.78	✱	A	✱	✱	✱	✱
273.05	4.19	10"	Sch 10S	28.17	A	A	✱		✱	
	9.27		Sch 40S	61.13	✱	A	✱		✱	
	12.7		Sch 80S	82.65	✱	A	✱		✱	
323.85	4.57	12"	Sch 10S	36.49		✱				
	9.52		Sch 40S	74.84	✱	A	✱		✱	
	12.7		Sch 80S	98.78	✱	A	✱		✱	

1) ASME B36.10 *Also stocked in Sandvik SAF 2707HD **Tested acc. to AD2000-W2 Einbaurohre TÜV BI. 421 incl. hot tensile test at +400°C

Other sizes and grades available on request

Tolerances

For ASTM A312 and ASTM A790, acc. to ASTM A999

Valid for all grades except 2RK65

Size mm	Outside Diameter mm
10.3-48.3	+0.4/-0.8
(48.3)-114.3	+0.8/-0.8
(114.3)-219.1	+1.6/0.8

Tolerances on wall thickness

Valid for all grades except 2RK65

Size mm	Wall Thickness	TH/OD Ratio
10.3-73.03	+20/-12.5	All
88.90-219.10	+22.5/-12.5	Less or equal to 0.05
88.90-219.10	+15/-12.5	Above 0.05

Standards

Sandvik 3R12 (ASTM 304L), 3R65 (ASTM 316L)

ASTM A312 incl. corrosion test acc. to ASTM A262 Pr.E.

NACE M-0175/ISO 15156

NFA 49-117, tolerances and leak test acc. to ASTM A312/A999.

Sandvik 6R35 (ASTM 321)

ASTM A312 incl. corrosion test acc. to ASTM A262 Pr.E.

NACE M-0175/ISO 15156

According to ASTM B677-04

Valid for 2RK65. Pipe is stocked with average wall.

Size mm	Outside Diameter mm	Wall thickness average wall %	min wall %
16-38	±0.19	±10	+20/-0
(38)-89	±0.25	±10	+22/-0
(89)-114	±0.38	±10	+22/-0

According to ASTM B-668 (B-829)

Valid for Sanicro 28. Pipe is stocked with average wall.

Size mm	Outside Diameter mm	Wall thickness average wall %	min wall %
≤ 48.26	±0.19	±10	+20/-0
> 48.26 - 88.9	±0.25	±10	+22/-0
> 88.9 - 114.0	±0.38	±10	+22/-0
> 114.01	±0.51	±10	+22/-0

Sandvik SAF 2205 (UNS S32205, S31803) and SAF 2507 (UNS S32750)

ASTM A790 incl. corrosion test acc. to ASTM G-48 Method A (SAF 2205 at 25°C, SAF 2507 at 50°C, both for 24 h)

Sandvik 2RK65 (UNS N08904)

ASTM A312

Sizes marked ** are also tested acc. to AD2000-W2 Einbaurohre TÜV BI. 421 incl. hot tensile test at +400°C

Sandvik Sanicro 28 (UNS N08028)

ASTM B668 average wall

Tube and pipe for high temperatures



A = Australia Stock

THR

● = Cold worked ■ = Hot worked ▲ = Powder Metallurgy tube e.g. THR-253MA-2-SCH10

● ■ ▲ = Stock standard Sweden

Outside diameter	Wall thickness	Nominal size		Weight	Sandvik 4C54	Sandvik 253MA	Sandvik 353MA	Sandvik Sanicro 3IHT	Sandvik 7RE10	Sandvik APM
mm	mm			kg/m	ASTM 446-1	UNS S30815	UNS S35315	UNS N08811 / N08810	ASTM 310H	
					SS 2322	SS 2368				
13.5	2.35			0.656					●	
17.15	2.31	3/8"	Sch 40S	0.858	●	A			●	
	3.20		Sch 80S	1.12		●				
21.3	2.65			1.24	A				●	
21.34	2.11	1/2"	Sch 10S	1.01			●			
	2.77		Sch 40S	1.29		A	●	●	●	
	3.73		Sch 80S	1.65						
22	2			0.954	●					
26	4.0			2.20	●					
26.67	2.11	3/4"	Sch 10S	1.30		A				
	2.87		Sch 40S	1.71		A	●	●	●	▲
	3.91		Sch 80S	2.23					●	
26.9	2.65			1.61	A				●	
33.40	3.38	1"	Sch 40S	2.54		A	●	■	■	▲
	4.55		Sch 80S	3.29		■			■	
33.7	3.25			2.48	■				■	
42.16	3.56	1.1/4"	Sch 40S	3.44		A	■	■	■	
42.4	3.25			3.19	■				■	
44.5	3.0			3.12	■					
48.26	2.77	1.1/2"	Sch 10S	3.15		A				
	3.68		Sch 40S	4.11		A	■	■	■	
	5.08		Sch 80S	5.49		■			■	
48.3	3.25			3.67	■				■	
60.3	2.90			4.17						
	3.65			5.18	A				■	
60.33	2.77	2"	Sch 10S	3.99		■				
	3.91		Sch 40S	5.52		A	■	■	■	▲
	5.54		Sch 80S	7.60	■				■	
73.03	5.16	2.1/2"	Sch 40S	8.77		A			■	
76.1	3.65			6.62	■				■	
88.9	4.05			8.60	■				■	
88.90	5.49	3"	Sch 40S	11.5		A	■		■	▲
114.3	4.5			12.5					■	
114.30	6.02	4"	Sch 40S	16.3		A			■	
168.28	7.11	6"	Sch 40S	28.7		A			■	

Sandvik 353MA, 7RE10 and APM are also commonly stocked in Sweden. Other sizes in Sandvik APM available.



Tube and pipe for high temperatures

Tolerances

Sandvik 4C54 and 7RE10 (metric sizes), according to EN ISO 1127

Condition	Outside diameter	Wall thickness
Cold-worked tube	±0.75%, but min.	±10% (T3), but min.
	±0.3 mm (D#)	±0.2 mm
Hot-worked tube	±1.5%, but min.	±15% (T3), but min.
	±0.75 mm (D#)	±0.6 mm

Sandvik Sanicro 3IHT, according to ASTM B407

Size mm	Outside diameter mm	Wall thickness %
Cold-worked:		
15.8-38.1	±0.19	±10.0
Hot-worked. A999:		
Tolerance to ASTM A999, see above table Sandvik 253 MA and 353 MA		

Sandvik 253 MA, 353 MA and 7RE10, according to ASTM A312/A999

Size mm	Outside diameter mm
10.3-48.3	+0.4/-0.8
(48.3)-114.3	±0.8
(114.3)-219.1	+1.6/-0.8

Tolerances on wall thickness

Size mm	Outside diameter	TH/OD ratio
10.3-73.03	+20/-12.5	All
88.90-219.10	+22.5/-12.5	Less or equal to 0.05
88.90-219.10	+15/-12.5	Above 0.05

Sandvik produces stainless steel boiler tubes - for more information contact your nearest Sandvik branch.

Standards

Sandvik 4C54 (ASTM 446-1)

ASTM A268 (tube)

Sandvik 253 MA (UNS S30815) and 353 MA (UNS S35315)

ASTM A312 (pipe)

Sandvik Sanicro 3IHT (UNS N08811 / N08810)

Cold-worked ASTM B407

Hot-worked ASTM B407, tolerances acc. to ATM A999

Sandvik 7RE10 (ASTM 310H)

ASTM A312

DIN 17458, PK I

NFA 49-117

Hot-worked ASTM B407, tolerances acc. to ASTM A999

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Steel grades

Chemical compositions and standards

Designation Sandvik	Chemical composition (nominal), %					Standards*				
	C	Cr	Ni	Mo	Others	UNS	ASTM	EN Steel number	SS	AFNOR
5R10	0.04	18.5	9.5	–	–	S30400/S30409	304/304H	1.4301/1.4948	2333	Z6CN18-09
6R35	0.05	17.5	10.5	–	Ti	S32100/S32109	321/321H	1.4541/1.4940	2337	(Z6CNT18-10)
8R40	0.06	17.5	11	–	Nb	S34700/S34709	347/347H	1.4550/1.4912	2338	Z6CNNb18-10
6LR62	0.05	17	11.5	2.1	–	S31600/S31609	316, 316H	1.4401	–	Z6CND17-12
8RE18	0.07	22.5	14	–	–	S30908/S30909	309S, 309H	1.4833**	–	–
7RE10	0.06	24.5	21	–	–	S31008/S31009	310S, 310H	1.4845**	2361	Z12CN25-20
253 MA	0.08	21	11	–	Si, N, Ce	S30815	–	1.4835**	2368	–
353 MA	0.05	25	35	–	Si, N, Ce	S35315	–	1.4854**	–	–
Sanicro 31HT	0.07	20.5	30.5	–	Ti, Al	N08811/N08810	–	1.4959	–	–
Sanicro 61	0.07	23	60	–	Si, Mn, Al	N06601	Alloy	601	–	–
Sanicro 70	0.05	16.5	72.5	–	Fe	N06600	Alloy	600	–	–
4C54	≤0.20	26.5	–	–	N	S44600	446-1	1.4749**	2322	–
2C48	0.09	23.5	–	–	N	S44600	446-2	–	–	–
Kanthal APM	≤0.08	22	–	–	Al = 5.8	–	–	–	–	–
Kanthal APMT	≤0.08	22	–	3	Al = 5.0	–	–	–	–	–

* In brackets, nearest equivalent steel grade.

** Not applicable for tube and pipe. Only for information.

Mechanical properties at room temperature

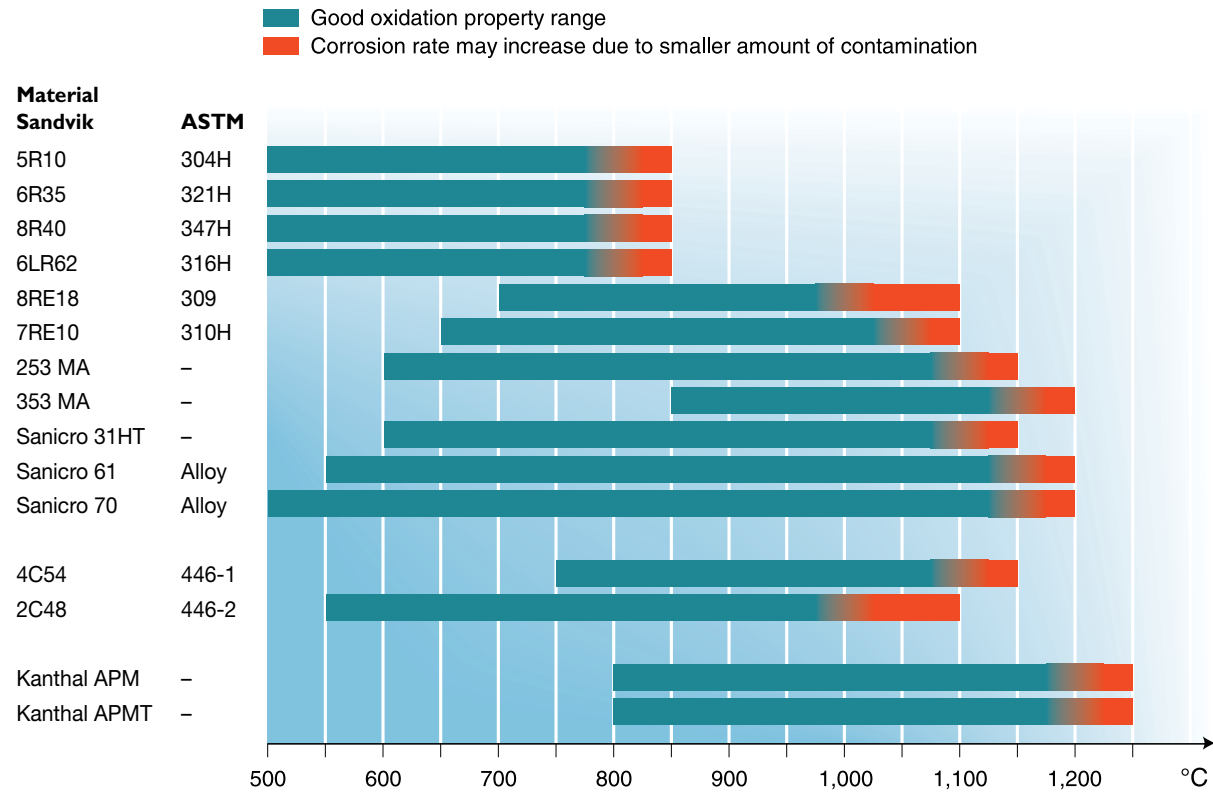
Material Sandvik	ASTM	Mechanical properties		
		Proof strength $R_{p0.2}$, MPa, min.	Tensile strength R_m , MPa	Elongation A %, min.
5R10	304H	210	515–690	45
6R35	321H	210	515–690	45
8R40	347H	220	515–690	35
6LR62	316H	205	515–790	45
8RE18	309	205	≥515	35
7RE10	310H	220	515–750	35
253 MA	–	310	650–850	40
353 MA	–	270	650–750	40
Sanicro 31HT	–	170	500–700	35
Sanicro 61	Alloy	205	≥550	≥30
Sanicro 70	Alloy	245	≥560	35
4C54	446-1	275	500–700	20
2C48	446-2	275	≥450	20
Kanthal APM	–	475*	685*	11
Kanthal APMT	–	545*	740*	26

* Typical values

Sandvik, Sanicro and Kanthal are trademarks owned by Sandvik AB.

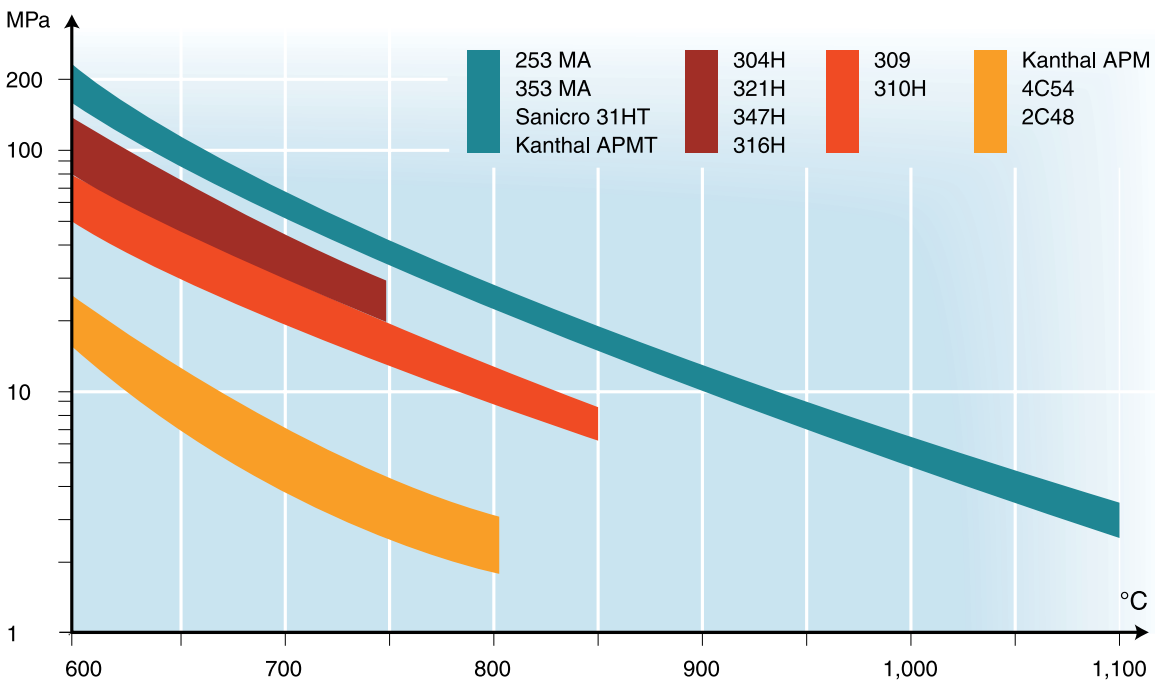
253 MA and 353 MA are trademarks owned by Outokumpu Stainless.

Recommended operating temperatures in air



Creep rupture strength

$R_{km}/100,000$ h, for some Sandvik stainless steels and high nickel alloys



High temperature corrosion properties

A comparison between Sandvik high temperature materials and ASTM 304H

Grade		In air	Oxidizing sulfur	Reducing sulfur	Carburizing	Nitriding
Sandvik	ASTM					
5R10	304H	0	0	0	0	0
6R35	321H	0	0	0	0	0
8R40	347H	0	0	0	0	0
6LR62	316H	0	0	0	0	0
8RE18	309	++	++	+	+	++ (**)
7RE10	310H*	+++	++	0	++	++
Sandvik 253 MA*	-	++++	+++	++	+++	++ (**)
Sandvik 353 MA*	-	++++	+	0	++++	++++
Sandvik Sanicro 31HT*	-	++	+	0	+++	+++
Sandvik Sanicro 61	Alloy	++++	0	-	+++	
Sandvik Sanicro 70	Alloy	+++	0	-	+	++++
Sandvik 4C54*	446-1	++++	+++	++++	-	-
Sandvik 2C48	446-2	+++	+++	+++	-	-
Kanthal APM	-	+++++	++++	++++	++++	+++ (***)
Kanthal APMT	-	+++++	++++	++++	++++	+++ (***)

* Sandvik stock standard

** In low oxygen potential (<100ppm O₂) nitriding may occur

*** In low dew point (<-20°C) severe nitriding may occur

0 = reference value + = superior to - = inferior to

Consider structural stability

Almost all steels developed to combat corrosive environments at elevated temperatures can suffer from embrittlement due to a secondary phase formation. A common type is sigma-phase, which is formed after a longer period of service in the temperature range 600 to 850 °C.

The amount of sigma-phase formed is related to the chemical composition of the material. Chromium rich materials are, in general, more prone to form a sigma-phase. On the other hand, elements like nickel and nitrogen hinder the formation of sigma-phase. Nitrogen is a very efficient sigma-phase blocker, which is why Sandvik 253 MA, with high chromium and low nickel, is less prone to sigma-phase formation than some of the more common materials such as ASTM 309 and ASTM 310H. Ferritic steels with more than 16% chromium are very sensitive to sigma-phase formation. Ferritic chromium steels are also prone to embrittlement in the temperature range 400 to 550 °C (475 °C - embrittlement). Heat treatment at 1,000 to 1,100 °C dissolves most embrittling phases and returns the material to a ductile state.

Composite tubes for steam boiler applications



● = Stock standard Sweden

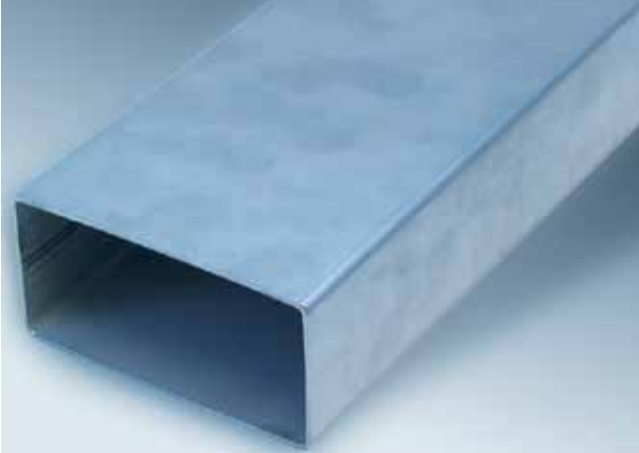
Outside diameter		In. wall thickness		Weight kg/m	Sandvik 3R12 / 4L7 ASTM 304L SA-210 A1	Sandvik San. 28 / 4L7 UNS N08028 SA-210 A1	Sandvik San. 38 / 4L7 UNS N08825 Mod. SA-210 A1	Sandvik San. 63 / 4L7 UNS N06625 SA-210 A1	Sandvik 7RE10 ASTM 310 San. 28 UNS N08028 ON HT8 = T22	Sandvik San. 63 / HT8 UNS N06625 T22
mm	inch	mm	inch		mm	inch	mm	inch	mm	inch
38	1. 1/2"	4.5-5.0	0.197"	4.36	●	●		●		●
44.4	1. 3/4"	4.5	0.177"	4.9				●		
50.8	2"	5.08	0.200"	6.15	●	●	●	●	●	●
60.3	2.3/8"	6.0	0.236"	8.7		●		●		●
63.5	2.1/2"	6.53	0.257"	9.8	●	●	●	●	●	
76.2	3"	6.58	0.259"	12.1	●	●	●	●		

Grades

Sandvik	ASTM/UNS	W.-Nr.	EN
Outside stainless component			
3R12	304L	1.4306	1.4306
Sanicro 28	N08028	1.4563	1.4563
Sanicro 38	(N08825 Mod.)	2.4858 Mod.	2.4858 Mod.
7RE10	310	1.4845	1.4845
Sanicro 63	N06625	2.4856 Mod.	-
Inside component			
4L7	ASME SA-210 Gr A1	1.0405	1.0425, P265GH
HT7	ASME SA-213 T91	1.4903/ X10CrMoVNb9-1	1.4903
HT8	ASME SA-213 T22	1.7380/ 10CrMo9-10	1.7380

Specifications

Sandvik spec. 7-1-0009 (4L7)
 Sandvik spec. 7-1-1169 (HT8)
 Sandvik spec. 7-1-1288 (HT7)



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Sandvik – the perfect choice in stainless

Just what the market needs

Continuous and close contact with our customers, combined with our own market research, makes us very well aware of market requirements regarding service, product range, finishes and materials.

Plenty of choice

We have a wide range of stainless, seamless tube available from stock. On request we can also supply you with a large number of specially made sizes from our extensive manufacturing programme. This is backed up by other stainless products, such as welded pipe, tube, fittings, bar, sheet, plate and welding products.

Whether you need a single tube length or materials for a complete tubing installation.

- Sandvik can supply it all
- Just-In-Time



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Seamless hydraulic tube

Sandvik 3R60 = ASTM 316L

with 2.5% minimum Molybdenum (W 1.4435)



A = Australia Stock

● = Stock standard Sweden

THT

e.g. THT-3R60-10-1.5

Outside diameter	Wall thickness	Weight	Sandvik 3R12 ASTM 304L SS 2352	Sandvik 3R60 ASTM 316L SS 2353	Sandvik 6R35 ASTM 321 SS 2337	Sandvik 5R75 ASTM 316Ti SS 2350
mm	mm	kg/m				
4	1.0	0.11		●		
6	1.0	0.125	●	A		●
	1.5	0.169		A	●	●
8	1.0	0.175	●	●		
	1.5	0.244	●	A	●	●
	2.0	0.300	●	●	●	●
10	1.0	0.225	●	A	●	●
	1.5	0.319	●	A	●	●
	2.0	0.400	●	●	●	●
12	1.0	0.275	●	●	●	●
	1.5	0.394	●	A	●	●
	2.0	0.500	●	●	●	●
14	1.0	0.325	●	●		
	1.5	0.469				●
	2.0	0.600	●	●	●	●
15	1.0	0.350	●	●		
	1.5	0.507	●	A	●	●
	2.0	0.651	●	●		●
16	1.0	0.375	●	●		
	1.5	0.544	●	●		●
	2.0	0.701	●	A	●	●
	2.5	0.845		●	●	●
	3.0	0.976			●	●
18	1.0	0.425	●	●		
	1.5	0.619	●	A	●	●
	2.0	0.801	●	A	●	●
	2.5	0.970				●
20	1.5	0.694	●	●		
	2.0	0.901	●	A		
	2.5	1.09		A	●	●
	3.0	1.28			●	●
	4.0	1.60		●		
22	1.5	0.769	●	●	●	●
	2.0	1.00	●	A	●	●
25	1.5	0.882	●			
	2.0	1.15	●	A		●
	2.5	1.41	●	A		●
	3.0	1.65	●	A		●
28	1.5	0.995	●	●	●	
	2.0	1.30	●	A	●	●
	2.5	1.60	●	●		

Sizes up to and including 30 mm O.D. are bright annealed.

Sizes larger than 30 mm O.D. are in the annealed and pickled condition.



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Seamless hydraulic tube

Sandvik 3R60 = ASTM 316L
with 2.5% minimum molybdenum (W 1.4435)

THT

e.g. THT-3R60-10-1.5

A = Australia Stock
● = Stock standard Sweden

Outside diameter	Wall thickness	Weight	Sandvik 3R12 ASTM 304L SS 2352	Sandvik 3R60 ASTM 316L SS 2353	Sandvik 6R35 ASTM 321 SS 2337	Sandvik 5R75 ASTM 316Ti SS 2350
mm	mm	kg/m				
30	2.5	1.72		●		
	3.0	2.03	●	A		●
	4.0	2.60		A		●
35*	2.0	1.65	●	●		
	2.5	2.03	●			●
	3.0	2.40	●	A		
38*	2.0	1.80	●	●		●
	3.0	2.63	●	A		●
	4.0	3.41		A		●
	5.0	4.13		A	●	●
42*	2.0	2.00		●		●
	3.0	2.93	●	A		●
50*	5.0	5.63		●		

Other sizes and grades available on request.

* Pickled finish

Tolerances

Sandvik 3R12, 3R60, 6R35 and 5R75
OD 6-42 mm DIN 2391/EN 10305-1

OD mm	Tolerances OD, mm	Wall thickness %
6-30	± 0.08	± 10
32-40	± 0.15	± 10
42	± 0.20	± 10

Sandvik 3R60
OD < 6 mm, tolerances according to ASTM A632

OD mm	Tolerances OD, mm	Wall thickness %
<6-4.76	+0.10/-0	± 10
<4.76-2.38	+0.08/-0	± 10
<2.38	+0.05/-0	± 10

Standards

Sandvik 3R12 (ASTM 304L)
and **Sandvik 3R60 (ASTM 316L)**

DIN 17458, TCI
NFA 49-117
ASTM A213-AW (average wall), ASTM A269
PED 97/23/EC
EN10216-5 TCI
OD < 6 mm Tol. acc. to A632

Sandvik 6R35 (ASTM 321)
and **Sandvik 5R75**

DIN 17458, TCI
OD < 6 mm Tol. acc. to A632
PED 97/23/EC
EN10216-5 TCI

Electropolished tubes

Tubing and fittings are available in several improved surface conditions (bore and OD if required) for high purity applications (such as pharmaceutical production, high purity gas and liquid reticulation). Inch sizes according to ASTM A632/A269, EN1.4435. Metric according to EN-ISO 1127/96.

Brochures and dimensions are available on request.

Seamless instrumentation tube

Sandvik 3R60 = ASTM 316L
with 2.5% minimum molybdenum (W I.4435)



A = Australia Stock

● = Stock standard Sweden

THT

e.g. THT-3R60-12.7-1.65

Outside diameter	Wall thickness	Nominal size ⁽¹⁾	Wire gauge	Weight	Sandvik 3R12 ASTM 304L EN I 4306	Sandvik 3R60 ASTM 316L EN I 4435	Sandvik 2RK65 UNS N08904 EN I 4539	Sandvik SAF 2507 [®] UNS S32750 EN I4410	Sandvik Sanicro 28 UNS N08028 EN I 4563			
mm	mm	inch		kg/m								
1.59	0.36	1/16"	x 28 BWG	0.011		●						
	0.51			0.014		●						
3.18	0.71	1/8"	x 22BWG	0.044		●						
	0.89			0.051		A						
4.76	0.89	3/16"	x 20 BWG	0.086		A						
6.35	0.71	1/4"	x 22 BWG	0.100		●						
	0.89			0.122	●	A	●	●	●			
	0.91			0.124	●	●	●		●			
	1.22			0.157	●	●	●		●			
	1.24			0.159	●	A	●	●	●			
	1.63			0.193	●	●	●	●	●			
7.94	0.89	5/16"	x 20 BWG	0.157		A						
	0.91			0.160		●						
	9.53			0.89	3/8"	x 20 BWG	0.193	●	A	●	●	●
				0.91			0.196	●	●	●		●
				1.22			0.254	●	●	●		●
				1.24			0.257	●	A	●	●	●
1.63	0.322	●	●	●		●						
1.65	0.326	●	A	●	●	●						
12.7	0.89	1/2"	x 20 BWG	0.263	●	A	●	●	●			
	0.91			0.268	●	●	●		●			
	1.22			0.350	●	●	●					
	1.24			0.356	●	A	●	●	●			
	1.63			0.452	●	●	●					
	1.65			0.456	●	A	●	●	●			
15.88	1.22	5/8"	x 18 SWG	0.448		●						
	1.24			0.454		A						
	1.63			0.582		●			●			
	1.65			0.588		A			●			
	19.05			1.22	3/4"	x 18 SWG	0.544		●			●
1.24		0.553		A				●	●			
1.63		0.711		●								
1.65		0.718		A								
2.11		0.895		A								
2.41		1.00		●								
2.77		1.13		A					●			
25.4	1.22	1"	x 18 SWG	0.739		●						
	1.24			0.750		A						
	1.65			0.981		A						
	2.11			1.23		A						
	2.41			1.39		A			●			
	3.20			1.78		A						

1) SWG " Standard Wire Gauge, BWG = Birmingham Wire Gauge

Other sizes and grades available on request.

Seamless cold drawn, 1/4" - 1" O.D. incl., dual certified to ASTM A269/A213, ASTM 316/316L, bright annealed, hardness max. Rb 80, 6,000 mm fixed lengths. O.D. < 6 mm to ASTM A632.

Seamless general service tube

Annealed and pickled to ASTM A269



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THT

e.g. THT-316L-38.1-3.2

A = Australia Stock

● = Ex. mill stock or production

Dimension				Weight kg/m	ASTM 316L
Imperial O.D.	Wire gauge	O.D. mm	Wall mm		
1.1/4"	16	31.75	1.6	1.2	A
	10	31.75	3.2	2.27	A
1.1/2"	18	38.1	1.2	1.109	●
	16	38.1	1.6	1.45	A
	14	38.1	2.0	1.79	●
	10	38.1	3.2	2.77	A
2"	18	50.8	1.2	1.5	●
	16	50.8	1.6	1.99	A
	10	50.8	3.2	3.8	A
3"	16	76.2	1.6	3.01	●
	10	76.2	3.2	5.8	●

Other sizes and grades available on request.

Tolerances

Sandvik 3R12, 3R60

OD 6.35-25.4 mm DIN 2391/EN 10305-1

OD > 25.4 mm according to ASTM A-1016

OD mm	Tolerances OD, mm	Wall thickness %
6.35-25.4	± 0.08	± 10
31.75	± 0.15	± 10

Sandvik 3R60

OD < 6 mm, tolerances according to ASTM A632

OD mm	Tolerances OD, mm	Wall thickness %
<6-4.76	+0.10/-0	± 10
<4.76-2.38	+0.08/-0	± 10
<2.38	+0.05/-0	± 10

Sandvik 2RK65 and Sandvik Sanicro 28

OD mm	Tolerances OD, mm	Wall thickness %
≤25.4	±0.10	± 10

Sandvik 3R60

OD < 6 mm, tolerances according to ASTM A632

OD mm	Tolerances OD, mm	Wall thickness %
≤19.05	±0.13	± 10

ASTM A269

OD mm	Tolerances OD, mm	Wall thickness %
0 - 12.6	± 0.13	± 15
12.7 - 38.0	± 0.13	±10
38.1 - 88.8	± 0.25	±10
88.9 - 139.6	± 0.38	±10
139.7 - 203	± 0.76	±10

Standards

Imperial size

**Sandvik 3R12 (ASTM 304L)
and Sandvik 3R60 (ASTM 316L)**

ASTM A213-AW

ASTM A269

OD<6 mm Tol. acc. to A632

PED 97/23/EC EN10216-5TCI

Sandvik 2RK65 (UNS N08904)

ASTM A269

PED 97/23/EC EN10216-5TCI

Sandvik Sanicro 28 (UNS N08028)

ASTM B668

PED 97/23/EC EN10216-5TCI

Sandvik SAF 2507 (UNS N32750)

ASTM A789

PED 97/23/EC EN10216-5TCI

Seamless heat exchanger tube



Make the right choice

Compared to a complete plant, the cost of a heat exchanger is relatively low. However, reliability can have a significant impact on operating costs.

For this reason, it's vital that fabricators and end users have access to seamless tubes developed and produced for specific service conditions. This requires that suppliers provide a range of tube grades and flexibility in production processes that meet specific requirements.

That's why many choose Sandvik stainless steel tubes. Our extensive experience in the production of special stainless steels and tubes, our flexibility in raw material sourcing, our willingness and ability to find materials solutions result in special steel grades with

chemical compositions tailored to specific applications, customers, markets or country requirements.

Our tubes are suitable for all types of heat exchangers: coolers, condensers, evaporators, preheaters, reheaters, reboilers, steam generators and air coolers.

Extreme conditions can be handled by developing competitive and innovative solutions through close cooperation with our customers. Together, we can achieve lower operating costs and increase long-term operating reliability.

Sandvik's assets are many: Product delivery and advanced communication systems. Strategic production locations worldwide. Sophisticated plant programming capabilities that ensure reliable and efficient product supply. Advanced logistics that provide global distribution.

A wide range of complementary products

The Sandvik heat exchanger tubes supply package includes standard stainless steel and special grade complementary products. These are: welded tubes, sheet and plate, tube fittings for butt welding and socket welding, threaded joints and flanges.



Seamless heat exchanger tube



Grades, standards and size range

Sandvik has an extensive manufacturing program for seamless heat exchanger tubes covering most types of standard austenitic, duplex (austenitic-ferritic) and high alloy austenitic stainless steels as well as titanium and zirconium.

Our main size range, produced in imperial and metric dimensions ranges from 12 mm up to 40 mm outside diameter. Special sizes can be made to order. Tubes are supplied in straight lengths up to 30 meters, or as U-bends. In the table below, you can find the most common standards and grades for heat exchangers.

Product standards

Sandvik Grade	American standards		European standards			
	ASTM	ASME	EN	DIN/VDTÜV	AFNOR	SS
Duplex						
SAF 2707 HD	A-789	SA-789				
SAF 2507	A-789	SA-789	10216-5	VD TÜV Blatt 508		
SAF 2205	A-789	SA-789	10216-5	VD TÜV Blatt 418	NFA 49-217	
SAF 2304	A-789	SA-789	10216-5			
3RE60	A-789	SA-789			NFA 49-217	
Ni-Alloy						
254 SMO	A-213	A-269	10216-5			
2RK65	A-269	SB-677	10216-5	VD TÜV Blatt 421	NFA 49-217	219711 219713
Sanicro 28	B-668	SB-668	10216-5	VD TÜV Blatt 483		
Sanicro 30	B-163 B-407	SB-163 SB-407	10216-5			
Sanicro 41	B-163 B-423	SB-163 SB-423				
Sanicro 69	B-163 B-167	SB-163 SB-167				
Sanicro 70	B-163 B-167	SB-163 SB-167		VD TÜV Blatt 305		
Austenitic						
3R12 (ASTM 304L)	A-213 A-269	SA-213	10216-5	DIN 17458	NFA 49-217	219711 219713
3R19 (ASTM 304LN)	A-213					
6R35 (ASTM 321)	A-213 A-269	SA-213	10216-5	DIN 17458	NFA 49-217	219711 219713
3R60 (ASTM 316L)	A-213 A-269	SA-213	10216-5	DIN 17458	NFA 49-217	219711 219713
3R64 (ASTM 317L)	A-213	SA-213				219711 219713
3R65 (ASTM316 / 316L)	A-213 A-269	SA-213	10216-5	DIN 17458	NFA 49-217	219711 219713
5R75 (ASTM 316Ti)	A-213		10216-5	DIN 17458	NFA 49-117	219711 219713
8R40 (ASTM 347)	A-213	SA-213	10216-5	DIN 17458		219711 219713

Titanium and zirconium tubing



In environments where not even the best stainless steels meet the corrosion resistance requirements, titanium and zirconium can be used.

The manufacture of seamless titanium and zirconium heat exchanger tubes at Sandviken, Sweden, is carried out through a completely integrated process. It starts with melting of raw materials in high vacuum furnaces and ends with the finished seamless tubes. The manufacturing process is specially designed to work with non-ferrous metals like titanium and zirconium.

The Sandvik group has been the world's largest independent manufacturer of seamless zirconium and titanium tubing for over 40 years, supplying to a wide range of industries including chemical, petrochemical, aerospace and nuclear.

Titanium

Titanium has a unique set of properties that makes it suitable for a variety of applications. It has a high environmental resistance, relying primarily on a very thin, tenacious and highly protective surface oxide film.

Titanium is highly resistant to wet chlorine chemicals, practically all salt solutions, seawater, a range of acids, organic and inorganic chemicals and gases. The same oxide film provides a high resistance to erosion in high velocity process streams. The corrosion and erosion resistance makes titanium a preferred heat transfer material for shell/tube heat exchangers, since it permits the use of thin heat transfer walls and high fluid flow rates.

In addition, titanium has only half the weight of steel. It is non-magnetic and is characterized by a high melting point, high strength-to-weight ratio and a low modulus of elasticity.

Available Sandvik ASTM/ASME defined grades: 1, 2, 3, 4, 9, 11, 12, 16, 17, 26, 28.

Other grades can be offered on request.

- The range of dimensions cover outside diameters from 8 mm up to 40 mm and 16 meters with certain OD/L and OD/Wt limitations
- All tubing can be supplied as straight lengths or as U-tubes.
- Non-destructive testing facilities include ultrasonic testing, Eddy Current testing and hydropressure testing.
- Tubes are normally supplied as cold pilgered, vacuum annealed and cleaned with the OD in the as polished condition.

Zirconium

Zirconium is highly resistant to a wide range of acids and bases, both organic and inorganic, which makes it an interesting and exceptional long life alternative to other materials in highly demanding applications. The seamless tube zirconium grade, produced for heat exchanger applications, is Sandvik Zirconium 702*, which offers the process industry a high quality and competitive product concept.

* As per ASTM/ASME B, SB523 or equivalent.

U-bent tubes for heat exchangers



Sandvik is one of the world's leading suppliers of U-bent tubes. U-bends are manufactured from Sandvik precision straight tubes and are produced by the cold-pilgering method with a bright annealed surface. Production is strictly controlled, step-by-step, in order to fulfill all the technical demands from our customers.

Description of U-bend

- a..... difference in length of legs
- c..... distance between points of tangency
- da..... nominal outside diameter of tube
- e..... distance between legs measured on OD
- f..... distance between legs
- l..... leg length
- l_g developed length
- r_m nominal bend radius
- s..... nominal wall thickness
- s_{min} minimum wall thickness at the back of the bend
- t..... deviation from plane of the bend
- s_0 minimum wall thickness defined by specification

Heat treatment

If specified, we are equipped to carry out heat treatment of bends plus min. 150 mm of leg.

- Furnace is computer controlled and all data is recorded.
- We use an argon protective atmosphere inside the tubes.
- We can provide all types of annealing: solution, stress relieving or stabilization

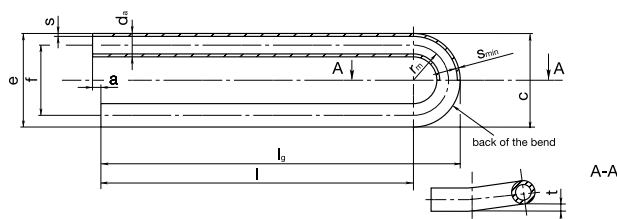
Technical parameters

- OD 12.7-38 mm
- Bending radii from 1.5xOD up to 1250 mm. Minimum bending radii for OD's over 28 mm after agreement.
- Leg length min. 1,000 mm
- Leg length max. 12,000 mm
- Heat treatment for radii up to 1,000 mm

Technical standards for bending

- Sandvik standard specification 7-2-1179
- DIN 28179, TEMA RCB 2.31
- Other specifications or special requirements available upon request.
- Copies of common standard specifications are available on request.

U-bend definitions



Hydrotesting

- After heat treatment all U-tubes are hydrotested.
- Minimum holding time at the required pressure is 5 sec.
- All tubes are dried and carefully cleaned after testing.

Measuring, cutting, deburring, cleaning

- U-bends are measured exactly in accordance with relevant standards, or to customer's specification.
- All tubes are cut to the specified leg lengths, ends are deburred and the tubes are internally cleaned with air.
- Before packing, both ends are capped with plastic caps.

Packing

- In strong, open or closed, wooden boxes depending on destination - max. 8,000 kg.
- Ends of tubes protected by plastic caps.
- Vertical separators for each radius.
- Chloride free plastic separators between each row, every 2 meters.
- Each bundle is covered with plastic.
- Customers can provide a packing drawing or Sandvik can prepare a packing plan.
- Packing lists, covered with plastic, are placed on each wooden box for easy identification of order details – including exact list of radii and lengths inside.

Welded tube

For decorative and other applications



A = Australia Stock
● = Ex. mill stock or production

TW

e.g. TW-316-25.4-1.6-AWBP

O.D. mm	Wall thickness mm	Nominal size Inch	Gauge SWG	Weight kg/m	ASTM 304 AWBP A554	ASTM 316 AW A554	ASTM 316 AWBP A554	ASTM 316 AWABP A269
12.7	1.2	1/2"	18	0.35	A	●	●	A
	1.6		16	0.44	A	●	●	A
15.88	1.2	5/8"	18	0.44	●	●	●	●
	1.6		16	0.57	A	●	●	A
19.05	1.2	3/4"	18	0.54	A	●	A	●
	1.6		16	0.70	A	●	A*	A
22.2	1.2	7/8"	18	0.63	A	●	●	●
	1.6		16	0.83	A	●	●	A
25.4	1.2	1"	18	0.73	A	●	A	●
	1.6		16	0.95	A	●	A*	A
31.75	1.2	1.1/4"	18	0.92	A	●	A	●
	1.6		16	1.21	A	●	A*	A
38.1	1.2	1.1/2"	18	1.24	A	●	●	●
	1.6		16	1.46	A	●	A*	A
44.45	1.6	1.3/4"	16	1.71	●	●	A	●
50.8	1.2	2"	18	1.54	●	●	●	●
	1.6		16	1.97	A	●	A*	A
	2.0		14	2.44	●	●	A	●
63.5	1.2	2.1/2"	18	1.93	●	●	●	●
	1.6		16	2.48	A	●	A	A
	2.0		14	3.08	●	●	A	●
76.2	1.2	3"	18	2.32	●	●	A	●
	1.6		16	2.99	A	●	A	A
	2.0		14	3.72	●	●	A	●
101.6	1.6	4"	16	4.12	A	●	A	A
	2.0		14	4.99	●	●	A	●
127.0	1.6	5"	16	4.92	A	●	A	●
	2.0		14	6.16	●	●		●
152.4	1.6	6"	16	5.95	A	●	A	●
	2.0		14	7.54	●	●		●
203.2	1.6	8"	16	7.95				
	2.0		14	10.12	A		A	
254.0	2.0	10"	14	12.62	● un pol.	A		
304.8	2.0	12"	14	15.2	● un pol.	A		

Other sizes and grades available on request.

Polished ornamental tube (handrail tube) ASTM 304 and 316

- Sold in 6 meter lengths
- 320/400 grit polished "Satin" finish (where noted * also stocked in 600 grit)
- ASTM A554: for structural and ornamental purposes only (not suitable for hygienic applications)
- Other options in size, grade or condition available on request
- Bends available to suit from stock

Food grade tube AS 1528

- Food grade tube and fittings to match available on request



- Introduction
- Flat products
- Pipe
- Tube**
- Oil and gas products
- Fittings and flanges
- Bar products and Sandvik Coromant
- Wire and strip steel products
- Welding products
- Kanthal products
- Medical products
- Technical information

Spiral welded tube (Available on request)

6 meter random lengths, pickled and passivated

Order Example: TW-316-254-2.0-SW

Spiralweld specifications/tolerances

Diameter	Maximum ± 0.75%
Length	+ 10 mm -0, Available in 6 meters up to 10 meters long
Material	As specified - material certificates issued upon request.
The Weld	Plasma arc weld, gas tungsten arc weld (low profile or wire filled)
Protection	Each length inspected prior to complete immersion to chemically descale and passivate the internal and external surfaces of the tube.
Packaging	Either loose or securely strapped on pallets - end bung protection available
Testing	When negotiated to BS3605 SW (i.e.radiography tensile test etc.)

Schedule pipe sizes up to 4mm thick available

Grades ASTM 304L and 316L, Sandvik SAF 2304® and Sandvik SAF 2205®, LDX2101®

Nominal mm	Pipe diameter		Wall thickness		Weight per meter Approx. kg	Working pressure	
	True diameter mm	inches	Approx. mm	swg		mpa	psi
80	76.2 OD	3" OD	1.5	16	2.9	3.4	493
	76.2 ID	3" ID	2	14	3.9	4.6	667
			3	11	5.9	6.9	1000
100	101.6 OD	4" OD	1.5	16	4.1	2.8	406
	101.6 ID	4" ID	2	14	5.2	3.6	522
			3	11	7.8	5.2	754
125	127	5"	2	14	6.4	2.8	406
150	152.4 OD	6" OD	1.5	16	5.9	1.9	275
	152.4 ID	6" ID	2	14	7.5	2.4	348
			3	11	11.5	3.5	507
200	203.2 OD	8" OD	1.5	16	8.0	1.4	203
	203.2 ID	8" ID	2	14	10.0	1.7	246
			3	11	15.3	2.6	377
250	254 OD	10" OD	1.5	16	10.1	1.1	159
	254 ID	10" ID	2	14	12.7	1.4	203
			3	11	19.1	2.1	304
300	304.8 OD	12" OD	2	14	15.2	1.1	159
	304.8 ID	12" ID	3	11	22.8	1.7	246
			4	8	30.6	2.4	348
350	355.6 OD	14" OD	2	14	17.8	1.0	145
			3	11	26.7	1.5	217
			4	8	35.6	2.0	290
400	406.4 OD	16" OD	2	14	20.8	0.8	116
			3	11	31.2	1.3	188
			4	8	40.7	1.7	246
450	487.2 OD	18" OD	2	14	22.9	0.7	101
			3	11	34.4	1.2	174
			4	8	45.8	1.5	217
500	508 OD	20" OD	3.0	11	36.5	1.1	159
			4.0	8	50.5	1.4	203
600	609.6 OD	24" OD	3.0	11	45.5	0.9	130
			4.0	8	60.5	1.2	174

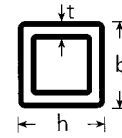
Sizes other than specified available upon request.

Square Hollow Sections (SHS)

Other dimensions and grades available on special request, plus Stalutube high strength tube also available on request

Standard finish polished grit 400, 320 or 220 (note: corners not polished).

Larger sizes pickled.



A = Australia Stock

● = Ex. mill stock or production

Nom in	h mm	b mm	t mm	A mm ²	m kg/m	I _{y,z} mm ⁴ x10000	W _{y,z} mm ³ x1000	i _{y,z} mm	I _v mm ⁴ x10000	W _v mm ³ x1000	ASTM 304	ASTM 316	Duplex LDX2101® EN 1.4162
1/2	12.7	12.7	1.2		0.5						●	A	
	12.7	12.7	1.6		0.64						A	●	
3/4	19	19	1.2		0.74						A	●	
	19	19	1.6		1.0						A	A	
7/8	22.2	22.2	1.6		1.02						A	●	
1	25	25.4	1.20	111	0.925	1.03	0.82	9.6	1.66	1.24	A	●	
	25	25.4	1.50	135	1.146	1.22	0.97	9.5	2.01	1.47	●	●	●
	25.4	25.4	1.6		1.22						A	A	
	25	25	2.00	174	1.495	1.48	1.19	9.2	2.53	1.80	●	●	●
1.1/8	25	25	3.00	241	2.216	1.84	1.47	8.7	3.33	2.27	A	A	
	30	30	1.20	135	1.106	1.83	1.22	11.7	2.93	1.84	●	●	
	30	30	1.50	165	1.371	2.20	1.46	11.5	3.57	2.21	●	●	●
	30	30	2.00	214	1.840	2.72	1.81	11.3	4.54	2.75	●	●	●
1.1/4	30	30	3.00	301	2.720	3.50	2.34	10.8	6.15	3.58	●	●	
	31.75	31.75	1.20	144	1.190	2.25	1.41	12.5	3.58	2.11	A	●	
	31.75	31.75	1.60	177	1.470	2.70	1.69	12.3	4.37	2.54	A	A	
	34	34	1.20	154	1.210	2.72	1.60	13.3	4.32	2.41	●	●	
1.5/16	34	34	1.50	189	1.490	3.28	1.93	13.2	5.28	2.90	●	●	
	35	35	1.20	159	1.310	2.98	1.70	13.7	4.73	2.56	●	●	
1.3/8	35	35	1.50	195	1.620	3.60	2.05	13.6	5.78	3.09	●	●	●
	35	35	2.00	254	2.150	4.51	2.58	13.3	7.41	3.89	●	●	●
	35	35	3.00	361	3.152	5.95	3.40	12.8	10.22	5.18	●	●	
	38.1	38.1	1.20	173	1.415	3.86	2.03	14.9	6.09	3.05	A		
1.1/2	38.1	38.1	1.60	213	1.758	4.67	2.46	14.8	7.46	3.70	A	A	
	38	38	2.00	278	2.319	5.88	3.10	14.6	9.60	4.67	●	●	●
	38	38	3.05								●	●	
	40	40	1.20	183	1.496	4.53	2.27	15.8	7.13	3.40	●	●	
1.5/8	40	40	1.50	225	1.859	5.49	2.75	15.6	8.75	4.13	●	●	●
	40	40	2.00	294	2.454	6.94	3.47	15.4	11.28	5.23	●	●	●
	40	40	3.00	421	3.756	9.32	4.66	14.9	15.75	7.07	A	A	
	40	40	4.00	535	4.808	11.07	5.54	14.4	19.44	8.48	●	●	
	50.8	50.8	1.60	285	2.329	11.07	4.43	19.7	17.42	6.65	A	A	
2	50	50	2.00	374	3.080	14.15	5.66	19.5	22.63	8.51	●	●	●
	50	50	3.00	541	4.650	19.47	7.79	19.0	32.13	11.76	A	A	
	50	50	4.00	695	5.960	23.74	9.49	18.5	40.42	14.43	●	●	
	50	50	5.00	836	7.410	27.04	10.82	18.0	47.46	16.56	●	●	
	50	50	6.00	963	8.832	29.45	11.78	17.5	53.23	18.20	●	●	
2.3/8	60	60	1.50	345	2.802	19.52	6.51	23.8	30.48	9.77	●	●	●
	60	60	2.00	454	3.711	25.14	8.38	23.5	39.79	12.59	●	●	●
	60	60	3.00	661	5.491	35.13	11.71	23.1	57.09	17.65	A	A	●
	60	60	4.00	855	7.222	43.55	14.52	22.6	72.64	21.97	●	●	●
	60	60	5.00	1036	8.902	50.49	16.83	22.1	86.42	25.61	●	●	
2.3/4	70	70	2.00	534	4.380	40.73	11.64	27.6	63.96	17.48	●	●	●
	70	70	3.00	781	6.530	57.53	16.44	27.1	92.42	24.74	●	●	●
	70	70	4.00	1015	8.450	72.12	20.61	26.7	118.52	31.11	●	●	●
	70	70	5.00	1236	10.629	84.63	24.18	26.2	142.21	36.65	●	●	
3	75	75	2.00	574	4.680	50.49	13.46	29.7	79.05	20.22	●	●	
	75	75	3.00	841	6.950	71.82	19.10	29.2	114.54	28.73	A	●	
	75	75	5.00	1336	11.240	106.33	28.35	28.2	177.35	42.92	●	●	
3.1/8	80	80	2.00	614	4.988	61.70	15.42	31.7	96.34	23.16	●	●	●
	80	80	3.00	901	7.530	87.84	21.96	31.2	139.93	33.02	A	A	●
	80	80	4.00	1175	9.816	111.04	27.76	30.7	180.44	41.84	●	●	●
	80	80	5.00	1436	12.395	131.44	32.86	30.3	194.23	49.68	●	A	
	80	80	6.00	1683	14.600	149.18	37.29	29.8	252.07	56.59	●	●	

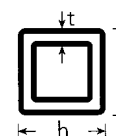
Other sizes and grades available ex. mill stock or production on request.

Square Hollow Sections (SHS)

Other dimensions and grades available on special request, plus Stalutube high strength tube also available on request

Standard finish polished grit 400, 320 or 220 (note: corners not polished).

Larger sizes pickled.



A = Australia Stock

● = Ex. mill stock or production

h mm	b mm	t mm	A mm ²	m kg/m	ly,z mm ⁴ x10000	Wy,z mm ³ x1000	i y,z mm x10000	Iv mm ⁴ x1000	Wv mm ³	ASTM 304	ASTM 316	Duplex LDX2101® EN 1.4162
100	100	2.00	774	6.400	123.01	24.60	39.9	190.54	36.92	●	●	●
100	100	3.00	1141	9.530	177.05	35.41	39.4	278.68	53.19	A	A	●
100	100	4.00	1495	12.400	226.35	45.27	38.9	362.01	68.10	●	●	●
100	100	5.00	1836	15.380	271.10	54.22	38.4	440.52	81.72	A	A	
100	100	6.00	2163	17.500	311.47	62.29	37.9	514.16	94.12	●	●	
100	100	8.00	2724	21.600	365.95	73.19	36.7	644.51	114.23	●	●	
100	100	10.00	3257	25.800	411.08	82.22	35.5	749.84	130.10	●	●	
120	120	3.00	1381	11.300	312.35	52.06	47.6	487.72	78.15	●	●	●
120	120	4.00	1815	15.030	402.28	67.05	47.1	636.57	100.75	●	●	●
120	120	5.00	2236	18.660	485.47	80.91	46.6	778.50	121.75	●	●	
120	120	6.00	2643	21.200	562.16	93.69	46.1	913.46	141.22	●	●	
120	120	8.00	3364	26.580	676.88	112.81	44.9	1162.95	174.58	●	●	
120	120	10.00	4057	32.370	776.81	129.47	43.8	1376.41	202.52	●	●	
150	150	3.00	1741	14.064	622.73	83.03	59.8	964.61	124.60	A	A	●
150	150	4.00	2295	18.624	807.82	107.71	59.3	1264.76	161.73	●	●	●
150	150	5.00	2836	22.400	982.12	130.95	58.9	1554.13	196.79	A	A	●
150	150	6.00	3363	27.360	1145.91	152.79	58.4	1832.69	229.84	●	●	●
150	150	8.00	4324	34.300	1411.83	188.24	57.1	2364.08	289.03	●	●	
150	150	10.00	5257	41.650	1652.53	220.34	56.1	2839.24	340.98	●	●	
150	150	12.50	6338	50.570	1896.51	252.87	54.7	3360.38	395.56	●	●	
200	200	4.00	3095	24.600	1968.13	196.81	79.8	3058.40	295.20	●	●	●
200	200	5.00	3814	30.800	2388.50	238.85	79.1	3776.96	361.54	●	●	●
200	200	6.00	4532	36.900	2801.64	280.16	78.6	4476.23	425.02	A	●	●
200	200	8.00	5924	47.250	3566.25	356.63	77.6	5815.18	543.64	●	A	
200	200	10.00	7257	57.600	4251.06	425.11	76.5	7071.74	651.48	●	●	
200	200	12.50	8838	69.830	4999.20	499.92	75.2	8521.22	771.69	●	●	
220	220	6.00	5012	39.600	3775.73	343.25	86.8	5998.75	520.08	●	●	
220	220	8.00	6564	51.900	4828.01	438.91	85.8	7814.84	667.86	●	●	
220	220	10.00	8057	63.650	5782.46	525.68	84.7	9532.77	803.62	●	●	
220	220	12.50	9838	77.730	6842.75	622.07	83.4	11536.29	957.02	●	●	
250	250	5.00	4836	38.400	4805.01	384.40	99.7	7443.01	576.84	●	●	●
250	250	6.00	5732	45.700	5623.44	449.87	99.0	8873.96	680.66	●	●	●
250	250	8.00	7524	59.450	7229.21	578.34	98.0	11597.77	878.18	●	●	
250	250	10.00	9257	73.500	8706.68	696.53	97.0	14197.22	1061.80	●	●	
250	250	12.50	11338	89.600	10378.58	830.29	95.7	17264.98	1272.42	●	●	
300	300	5.00	5836	46.200	8416.88	561.13	120.1	13004.86	841.57	●	●	●
300	300	6.00	6932	55.300	9893.78	659.59	119.5	15483.15	996.30	●	●	●
300	300	8.00	9124	72.800	12800.69	853.38	118.4	20311.84	1292.67	●	●	
300	300	10.00	11257	89.800	15519.37	1034.62	117.4	24965.66	1572.02	●	●	
300	300	12.50	13838	109.350	18659.64	1243.98	116.1	30529.02	1897.94	●	●	

Other sizes and grades available ex. mill stock or production on request.

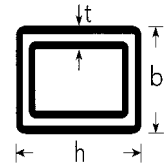
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Rectangular Hollow Sections (RHS)

Other dimensions and grades available on special request,

Standard finish polished grit 400, 320 or 220 (note: corners not polished).

Larger sizes pickled.



A = Australia Stock

● = Ex. mill stock or production

h mm	b mm	t mm	A mm ²	m kg/m	ly mm ⁴ x10000	Wy mm ³ x1000	iy mm	lz mm ⁴ x10000	Wz mm ³ x1000	iz mm	lv mm ⁴ 10000	Wv mm ³ 1000	ASTM 304	ASTM 316Ti/ 316L	Duplex LDX2101® EN 1.4162
30	20	1.20	111	0.925	1.59	1.06	10.8	0.84	0.84	7.9	1.83	1.40	●	●	
30	20	1.50	135	1.146	1.94	1.29	10.6	1.02	1.02	7.7	2.29	1.71	●	●	●
30	20	2.00	174	1.495	2.41	1.60	10.0	1.25	1.25	7.2	2.99	2.13	●	●	●
40	10	1.50	135	1.146	2.15	1.08	12.6	0.21	0.43	4.0	0.70	0.81	●	●	
40	10	2.00	174	1.495	2.60	1.30	12.2	0.25	0.49	3.8	0.83	0.94	●	A	
40	20	1.20	135	1.106	2.73	1.36	14.2	0.92	0.92	8.3	2.27	1.60	●	●	
40	20	1.50	165	1.371	3.27	1.63	14.1	1.10	1.10	8.1	2.74	1.91	●	●	●
40	20	2.00	214	1.840	4.05	2.02	13.8	1.34	1.34	7.9	3.45	2.36	A	A	●
40	30	1.20	159	1.310	3.63	1.81	15.1	2.33	1.55	12.1	4.52	2.50	●	●	
40	30	1.50	195	1.620	4.38	2.19	15.0	2.81	1.87	12.0	5.52	3.02	●	●	●
40	30	2.00	254	2.150	5.49	2.75	14.7	3.51	2.34	11.8	7.07	3.79	●	●	●
40	30	3.00	361	3.152	7.27	3.63	14.2	4.60	3.07	11.3	9.72	5.03	●	●	
50	10	1.50	165	1.371	4.01	1.60	15.6	0.27	0.54	4.0	0.92	1.03	●	●	
50	10	2.00	214	1.840	4.93	1.97	15.2	0.31	0.62	3.8	1.09	1.20	●	A	
50	20	1.20	159	1.310	4.79	1.92	17.4	1.14	1.14	8.5	3.05	2.03	●	●	
50	20	1.60	195	1.620	5.77	2.31	17.2	1.35	1.35	8.3	3.69	2.42	●	●	●
50	20	2.00	254	2.150	7.23	2.89	16.9	1.67	1.67	8.1	4.66	3.00	●	●	●
50	25	1.20	171	1.415	5.50	2.20	18.0	1.88	1.50	10.5	4.54	2.59	●	●	
50	25	1.60	210	1.758	6.65	2.66	17.8	2.25	1.80	10.4	5.54	3.13	A	A	●
50	25	2.00	274	2.319	8.38	3.35	17.5	2.81	2.25	10.1	7.06	3.92	●	●	●
50	25	3.00	391	3.456	11.17	4.47	16.9	3.67	2.93	9.7	9.64	5.18	A	A	
50	30	1.20	183	1.496	6.22	2.49	18.5	2.83	1.89	12.5	6.22	3.17	●	●	
50	30	1.50	225	1.859	7.54	3.01	18.3	3.42	2.28	12.3	7.6	3.83	●	●	●
50	30	2.00	294	2.454	9.54	3.81	18.0	4.29	2.86	12.1	9.77	4.84	●	●	●
50	30	3.00	421	3.756	12.83	5.13	17.5	5.70	3.80	11.6	13.53	6.49	●	●	
50	30	4.00	535	4.808	15.25	6.10	16.9	6.69	4.46	11.2	16.53	7.71	●	●	
50	40	1.50	255	2.122	9.30	3.72	19.1	6.60	3.30	16.1	12.26	5.24	●	●	●
50	40	2.00	334	2.804	11.84	4.74	18.8	8.39	4.19	15.9	15.86	6.67	●	●	●
50	40	3.00	481	4.131	16.15	6.46	18.3	11.38	5.69	15.4	22.34	9.12	●	●	
60	10	1.50	195	1.620	6.69	2.23	18.5	0.32	0.65	4.1	1.13	1.25	●	●	
60	10	2.00	254	2.150	8.32	2.77	18.1	0.38	0.76	3.9	1.35	1.46	●	●	
60	20	1.20	183	1.496	7.64	2.55	20.5	1.35	1.35	8.6	3.85	2.45	●	●	
60	20	1.50	225	1.859	9.25	3.08	20.3	1.61	1.61	8.5	4.66	2.94	●	●	●
60	20	2.00	294	2.454	11.68	3.89	19.9	1.99	1.99	8.2	5.89	3.65	●	●	●
60	30	1.50	255	2.122	11.82	3.94	21.5	4.03	2.68	12.6	9.77	4.64	●	●	●
60	30	2.00	334	2.804	15.05	5.02	21.2	5.08	3.39	12.3	12.57	5.88	●	●	●
60	30	3.00	481	4.131	20.50	6.83	20.6	6.80	4.53	11.9	17.48	7.95	●	●	
60	30	4.00	615	4.650	24.70	8.23	20.0	8.06	5.37	11.4	21.47	9.52	●	●	
60	40	1.50	285	2.329	14.39	4.80	22.5	7.71	3.86	16.4	15.97	6.35	●	●	
60	40	2.00	374	3.080	18.41	6.14	22.2	9.83	4.92	16.2	20.70	8.12	●	●	
60	40	3.00	541	4.650	25.38	8.46	21.7	13.44	6.72	15.8	29.28	11.17	A	●	
60	40	4.00	695	5.960	30.99	10.33	21.1	16.28	8.14	15.3	36.67	13.65	●	●	
70	20	2.00	334	2.804	17.60	5.03	23.0	2.32	2.32	8.3	7.14	4.31	●	●	
70	40	2.00	414	3.405	26.85	7.67	25.5	11.28	5.64	16.5	25.72	9.56	●	●	
70	40	3.00	601	5.070	37.31	10.66	24.9	15.50	7.75	16.1	36.49	13.23	●	●	
70	50	2.00	454	3.711	31.48	8.99	26.3	18.76	7.50	20.3	37.45	12.20	●	●	●
70	50	3.00	661	5.491	44.05	12.59	25.8	26.10	10.44	19.9	53.62	17.06	●	●	●
80	10	1.50	255	2.122	15.12	3.78	24.3	0.43	0.87	4.1	1.57	1.69	●	●	
80	10	2.00	334	2.804	19.10	4.78	23.9	0.51	1.02	3.9	1.87	1.99	●	A	
80	20	1.50	285	2.329	19.74	4.94	26.3	2.13	2.13	8.6	6.64	3.97	●	●	
80	20	2.00	374	3.080	25.19	6.30	26.0	2.64	2.64	8.4	8.40	4.96	●	●	
80	40	1.50	345	2.802	28.99	7.25	29.0	9.94	4.97	17.0	23.77	8.57	●	●	●
80	40	2.00	454	3.711	37.36	9.34	28.7	12.72	6.36	16.7	30.88	11.00	●	●	●
80	40	3.00	661	5.491	52.25	13.06	28.1	17.56	8.78	16.3	43.88	15.28	A	A	●
80	40	4.00	855	7.222	64.79	16.20	27.5	21.49	10.74	15.9	55.24	18.84	●	●	●
80	40	5.00	1036	8.902	75.11	18.78	26.9	24.59	12.30	15.4	64.97	21.74	●	●	
80	50	1.50	375	2.964	33.61	8.40	29.9	16.36	6.54	20.9	34.72	10.88	●	●	
80	50	2.00	494	4.060	43.44	10.86	29.7	21.06	8.43	20.7	45.31	14.04	●	●	
80	50	3.00	721	5.928	61.15	15.29	29.1	29.42	11.77	20.2	65.00	19.71	●	●	
80	50	4.00	935	7.808	76.36	19.09	28.6	36.46	14.59	19.8	82.70	24.57	●	●	
80	50	5.00	1136	9.469	89.19	22.30	28.0	42.29	16.92	19.3	98.40	28.69	●	●	
80	60	2.00	534	4.380	49.53	12.38	30.5	31.87	10.62	24.4	61.22	17.08	●	●	●
80	60	3.00	781	6.530	70.05	17.51	30.0	44.89	14.96	24.0	88.35	24.14	●	●	●
80	60	4.00	1015	8.450	87.92	21.98	29.4	56.12	18.71	23.5	113.12	30.32	●	●	●
80	60	5.00	1236	10.629	103.28	25.82	28.9	65.66	21.89	23.1	135.53	35.67	●	●	

Other sizes and grades available ex. mill stock or production on request.

**Sandvik in Australia and New Zealand
are stockists and distributors for Stalatable**

STALATA
TUBE

Stainless hollow sections

Elegance | Hygiene | Toughness | Corrosion resistance | Low maintenance | Long Life Cycle

- **Process Machinery**
- **Construction and Architectural Design**
- **Offshore and Marine**
- **Transport engineering**
- **Food and Pharmaceutical industries**

Stalatable

Stalatable stainless hollow sections are used around the world in construction, building and renovation, in the food and beverage industries, offshore and marine industries, in transport and general machinery.

Why choose stainless steel for structural design?

- Low Life Cycle Cost (LCC)
- Low maintenance
- Hygienic
- Corrosion resistance
- Strength
- Fire resistance
- Low temperature toughness
- Structurally aesthetic
- Cold formability
- Surface finish options
- Existing design codes
- 100% recyclable

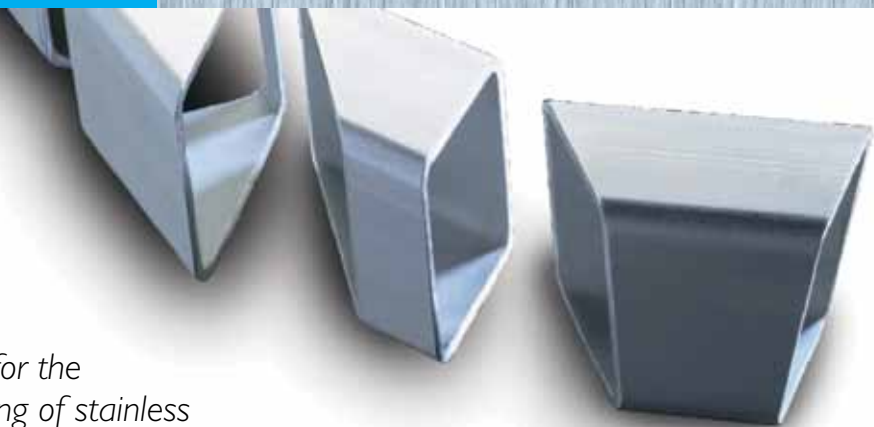
There are many reasons for choosing stainless hollow sections. Each application has its own priorities, plus each industry has its own standards and codes of practice. In marine environments, corrosion resistance is a priority. In architecture, the aesthetic elegance and self-healing properties are much appreciated. In the food and beverage industry, the hygienic advantages of stainless steel are vital. The combination of strength with fire resistance also offers considerable advantages over carbon steel in all kinds of structures.

The examples pictured below show the amazing versatility of stainless hollow section. Needing low maintenance, and being 100% recyclable, stainless steel offers perhaps its most attractive and increasingly valued benefit: a low life cycle cost.



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Advanced production capacity

Stalatable have the biggest production lines in the world for the continuous forming and welding of stainless hollow sections.

Total capacity is over 30.000 tons a year from their many tube production lines. Stalatable also has the world's biggest tube line for dimensions up to 300 x 300 x 12 mm. Value-adding services include polishing, precision cutting, laser cutting and perforating, bending, and pickling. Our welding methods are TIG, TIG/Plasma and Laser.

We offer a variety of surface finishes: brushed Stalazzo, polished and as welded.

A full range of services

Our cut-to-length service minimizes material costs by reducing waste and scrap, reduces transport, machinery and labour costs, and


speeds projects by the delivery of installation-ready components. Both standard and precision cutting to high tolerance are available.


The Stalatable technical support department offers engineering problem solving and construction advice

on hollow section usage at the initial stage of your projects. We can also supply special cross sections and materials.

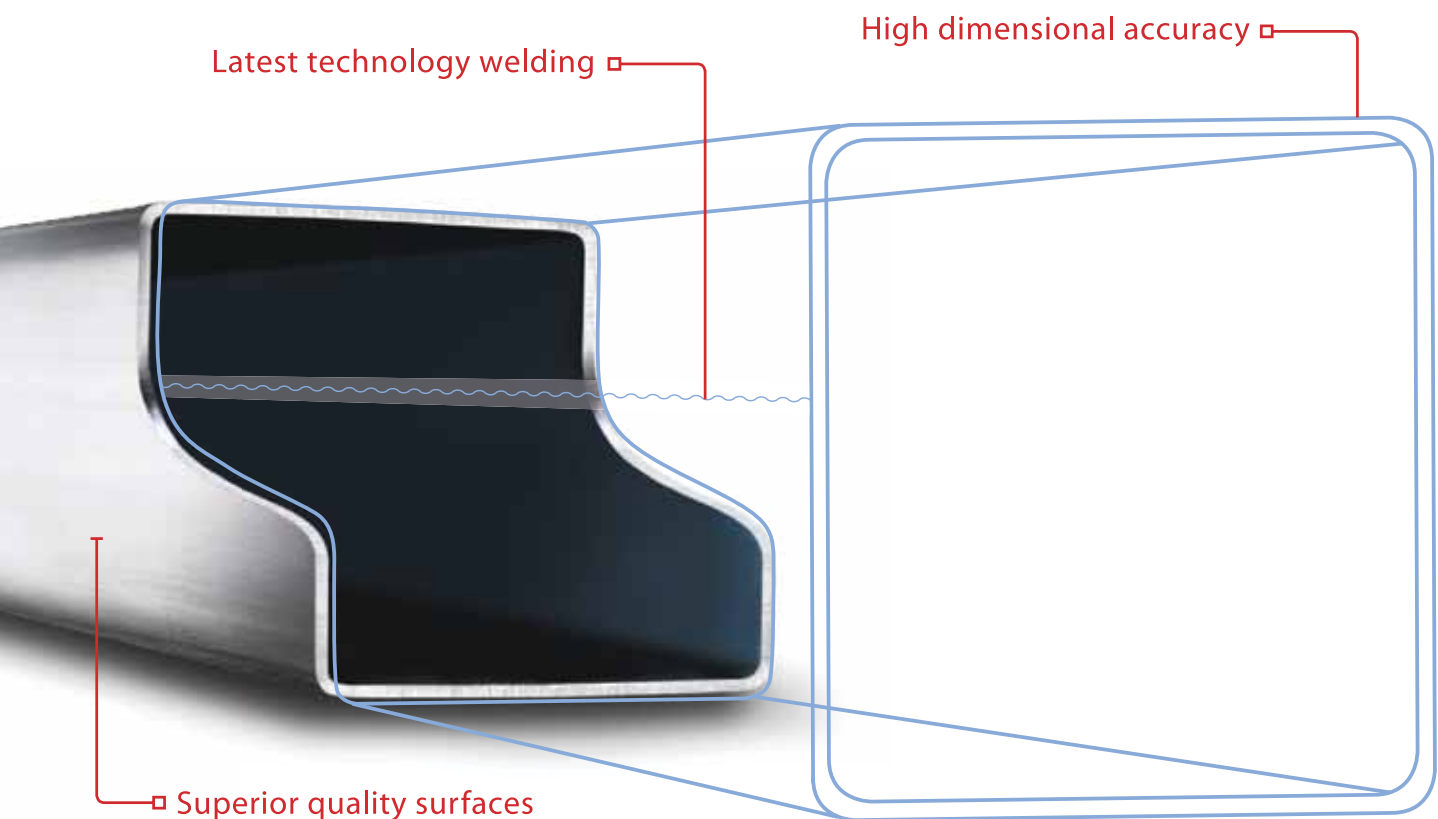
Custom packaging ensures that consignments are delivered in the

best condition and ready for installation, with each package specification and certification clearly identified.

 **25 x 25 x 1.2 – 300 x 300 x 12.5 mm**
1 x 1 x .047 – 12 x 12 x ½ inch

 **30 x 20 x 1.2 – 400 x 200 x 12.5 mm**
1½ x 1 x .060 – 16 x 8 x ½ inch

 **40 x 10 – 80 x 10 and 100 x 20 mm**



Rectangular lean duplex hollow sections (1.4162)

Outside dimensions H x B mm	Weight (kg/m)					
	1.5	2.0	3.0	4.0	5.0	6.0
30 x 20	1.111	1.457				
40 x 20	1.345	1.768				
40 x 30	1.578	2.079				
50 x 20	1.578	2.079				
50 x 25	1.694	2.235				
50 x 30	1.811	2.390				
50 x 40	2.044	2.701				
60 x 20	1.811	2.390				
60 x 30	2.044	2.701				
60 x 40	2.278	3.012				
70 x 50	2.744	3.634	5.378			
80 x 40	2.744	3.634	5.378	7.074		
80 x 60		4.256	6.311	8.318		
100 x 40		4.256	6.311	8.318		
100 x 50		4.567	6.778	8.940		
100 x 60		4.878	7.244	9.562		
120 x 40		4.878	7.244	9.562		
150 x 100		7.678	11.443	15.160		
200 x 100			13.776	18.270	22.715	27.112
250 x 150			18.441	24.490	30.490	36.442
300 x 100			18.441	24.490	30.490	36.442
300 x 200				30.710	38.265	45.772
400 x 200				36.930	46.041	55.102

Square lean duplex hollow sections (1.4162)

Outside dimensions H x B mm	Weight (kg/m)					
	1.5	2.0	3.0	4.0	5.0	6.0
25 x 25	1.111	1.457				
30 x 30	1.345	1.768				
32 x 32	1.438	1.893				
35 x 35	1.578	2.079				
38 x 38	1.718	2.266				
40 x 40	1.811	2.390				
50 x 50	2.278	3.012				
60 x 60	2.744	3.634	5.378	7.074		
70 x 70		4.256	6.311	8.318		
80 x 80		4.878	7.244	9.562		
100 x 100		6.122	9.110	12.050		
120 x 120			10.977	14.538		
150 x 150			13.776	18.270	22.715	27.112
200 x 200				24.490	30.490	36.442
250 x 250				30.710	38.265	45.772
300 x 300				36.930	46.041	55.102



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Chemical composition

	C %	Si %	Mn %	P %	S %	Cr %	Ni %	N %	Mo %	Cu %
min			4.00			21	1.35	0.2	0.1	0.1
max	0.040	1.00	6.00	0.040	0.030	22	1.70			

Mechanical properties

T mm	Yield strength $R_{p0.2}$ min N / mm ²	Tensile strength R_m min N / mm ²	Elongation A5 min %
< 5	530	700	30
≥ 5	450	650	30

Tolerances (EN 10219-2)

Characteristic	Tolerance
Outside dimensions, B and H	±1%, min ± 0.5mm, when B,H < 100mm ± 0.8 %, when 100 mm ≤ B, H ≤ 200 mm ± 0.6 %, when B, H > 200 mm
Concavity/convexity	± 0.8 % of side length, minimum ± 0.5 mm
Wall thickness, T	± 10%, when T < 6 mm ± 0.5 mm, when T = 6 mm
Squareness	90° ± 1°
External corner radius, R	1.6 T - 2.4 T
Length, L ¹⁾	0 / + 20 mm
Straightness	0.15% of tube length
Twist	2 mm + 0.5 mm/m
Weld position	Narrow side

1) Better than standard tolerance 0 / +50 mm



Lean Duplex stainless hollow sections provide possibilities to reduce weight and costs, which are valuable factors in for example transportation industry.

Value-adding services

Stalalube value-adding services and know-how save you time and money in planning and on site.

Cutting to length means ready to assemble. It saves waste and disposal, transport costs, time and on-site skills. Our state-of-the-art cutting equipment is fast and precise – straight or angled.

The surface finish is an essential part of the look and functionality of a stainless steel structure. A bright surface can be produced electrolytically or mechanically. We can also handle burr-removal and washing.

Laser precision cutting and perforation

Tube components are seldom just straight cut parts. To make complex structures you need angle cuttings and laser perforations. Customised high quality components from Stalalube enable fast assembly and cost savings.

By using our precision cut-to-length services you get all the tube components within ± 1 mm on length and an angle tolerance of ± 1 degree. Laser cutting and perforating can produce complex ready-to-assemble shapes. Our custom packaging ensures that consignments are delivered in the best condition and ready for installation, with each package clearly identified by specification and certification.

The components are ready for assembly, with no extra work or scrap. You can also get the tubes with tolerance - 0 / +20 mm in any length between 4 m and 18 m.

Surface finishing

We offer all conventional surface finishes such as Stalazzo brushing (standard for most dimensions), polishing (grit 180 - 400), pickling and also special finishes according to your needs. Naturally, washed tubes are available if the cleanliness requirement is exceptionally high.



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