

NPS		Outside diameter in mm				DIN / ISO Wall thicknesses					Wall thicknesses in acc. with DIN EN 10253-2								Wall thicknesses / Schedule in acc. with ASME B 36.10 Wall thicknesses series ASME B 36.19 Stainless steel series 5S, 10S, 40S, 80S																	
DN	INCH	DIN	ISO	EN	ASME	1	2	3	4	5	1	2	3	4	5	6	7	8	5 S	5	10 S	10	20	30	40 S	STD	40	60	80S	XS	80	100	120	140	160	XXS
15	½"	20.0	21.3	21.3	21.3	1.6	-	2.0	3.2	4.0	-	2.0	2.6	3.2	4.0	-	5.0	7.1	1.65	1.65	2.11	2.11	-	2.41	2.77	2.77	2.77	-	3.73	3.73	3.73	-	-	-	4.78	7.47
20	¾"	25.0	26.9	26.9	26.7	1.6	-	2.3	3.2	4.0	-	2.3	2.6	3.2	4.0	4.5	5.6	8.0	1.65	1.65	2.11	2.11	-	2.41	2.87	2.87	2.87	-	3.91	3.91	3.91	-	-	-	5.56	7.82
25	1"	30.0	33.7	33.7	33.4	2.0	-	2.6	3.2	4.0	-	2.6	3.2	<b>4.0</b>	<b>4.5</b>	5.6	6.3	8.8	1.65	1.65	2.77	2.77	-	2.90	3.38	3.38	3.38	-	4.55	4.55	4.55	-	-	-	6.35	9.09
32	1¼"	38.0	42.4	42.4	42.2	2.0	-	2.6	3.6	4.0	-	2.6	3.6	<b>4.0</b>	<b>5.0</b>	6.3	8.0	10.0	1.65	1.65	2.77	2.77	-	2.97	3.56	3.56	3.56	-	4.85	4.85	4.85	-	-	-	6.35	9.70
40	1½"	44.5	48.3	48.3	48.3	2.0	-	2.6	4.0	5.0	-	2.6	3.6	4.0	5.0	6.3	8.0	10.0	1.65	1.65	2.77	2.77	-	3.18	3.68	3.68	3.68	-	5.08	5.08	5.08	-	-	-	7.14	10.15
50	2"	57.0	60.3	60.3	60.3	2.0	-	2.9	4.5	5.6	-	2.9	3.6	<b>4.0</b>	5.6	7.1	8.8	11.0	1.65	1.65	2.77	2.77	-	3.18	3.91	3.91	3.91	-	5.54	5.54	5.54	-	-	-	8.74	11.07
-	2½"	-	-	73.0	73.0	-	-	-	-	-	-	2.9	3.6	4.5	7.1	-	-	14.2	2.11	2.11	3.05	3.05	-	4.78	5.16	5.16	5.16	-	7.01	7.01	7.01	-	-	-	9.53	14.02
65	-	76.1	76.1	76.1	-	2.3	-	2.9	5.0	7.1	-	2.9	3.6	<b>5.6</b>	7.1	8.0	10.0	14.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
80	3"	88.9	88.9	88.9	88.9	2.3	-	3.2	5.6	8.0	-	3.2	4.0	5.6	8.0	8.8	11.0	16.0	2.11	2.11	3.05	3.05	-	4.78	5.49	5.49	5.49	-	7.62	7.62	7.62	-	-	-	11.13	15.24
-	3½"	-	-	101.6	101.6	-	-	-	-	-	-	3.6	4.0	5.6	8.0	-	-	-	2.11	2.11	3.05	3.05	-	4.78	5.74	5.74	5.74	-	8.08	8.08	8.08	-	-	-	-	-
100	4"	108.0	114.3	114.3	114.3	2.6	-	3.6	6.3	8.8	-	3.6	4.5	6.3	8.8	11.0	14.2	17.5	2.11	2.11	3.05	3.05	-	4.78	6.02	6.02	6.02	-	8.56	8.56	8.56	-	11.13	-	13.49	17.12
125	-	133.0	139.7	139.7	-	2.6	-	4.0	6.3	10.0	-	4.0	5.0	6.3	10.0	12.5	16.0	20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	5"	-	-	141.3	141.3	-	-	-	-	-	-	4.0	5.4	6.3	10.0	-	16.0	20.0	2.77	2.77	3.40	3.40	-	-	6.55	6.55	6.55	-	9.53	9.53	9.53	-	12.70	-	15.88	19.05
150	6"	159.0	168.3	168.3	168.3	2.6	4.0	4.5	7.1	11.0	4.0	4.5	5.6	7.1	11.0	14.2	17.5	22.2	2.77	2.77	3.40	3.40	-	-	7.11	7.11	7.11	-	10.97	10.97	10.97	-	14.27	-	18.26	21.95
200	8"	216.0	219.1	219.1	219.1	2.9	4.5	6.3	8.0	12.5	4.5	6.3	7.1	8.0	12.5	16.0	17.5	22.2	2.77	2.77	3.76	3.76	6.35	7.04	8.18	8.18	8.18	10.31	12.70	12.70	12.70	15.09	18.26	20.62	23.01	22.23
250	10"	267.0	273.0	273.0	273.0	2.9	5.0	6.3	8.8	14.2	5.0	6.3	8.8	<b>10.0</b>	<b>12.5</b>	16.0	22.2	30.0	3.40	3.40	4.19	4.19	6.35	7.80	9.27	9.27	9.27	12.70	12.70	12.70	15.09	18.26	21.44	25.40	28.58	25.40
300	12"	318.0	323.9	323.9	323.8	2.9	5.6	7.1	10.0	16.0	5.6	7.1	8.8	10.0	<b>12.5</b>	17.5	25.0	32.0	3.96	3.96	4.57	4.57	6.35	8.38	9.53	9.53	10.31	14.27	12.70	12.70	17.48	21.44	25.40	28.58	33.32	25.40
350	14"	368.0	355.6	355.6	355.6	3.2	5.6	8.0	11.0	17.5	5.6	8.0	10.0	<b>12.5</b>	<b>16.0</b>	20.0	28.0	36.0	3.96	3.96	4.78	6.35	7.92	9.53	9.53	9.53	11.13	15.09	12.70	12.70	19.05	23.83	27.79	31.75	35.71	-
400	16"	419.0	406.4	406.4	406.4	3.2	6.3	8.8	12.5	20.0	6.3	8.8	10.0	12.5	<b>17.5</b>	22.2	30.0	40.0	4.19	4.19	4.78	6.35	7.92	9.53	9.53	9.53	12.70	16.66	12.70	12.70	21.44	26.19	30.96	36.53	40.49	-
450	18"	470.0	457.0	457.0	457.0	4.0	6.3	10.0	14.2	22.2	6.3	10.0	11.0	<b>12.5</b>	<b>17.5</b>	22.2	32.0	45.0	4.19	4.19	4.78	6.35	7.92	11.13	9.53	9.53	14.27	19.05	12.70	12.70	23.83	29.36	34.93	39.67	45.24	-
500	20"	521.0	508.0	508.0	508.0	4.0	6.3	11.0	16.0	25.0	6.3	<b>10.0</b>	11.0	<b>12.5</b>	<b>17.5</b>	25.0	36.0	50.0	4.78	4.78	5.54	6.35	9.53	12.70	9.53	9.53	15.09	20.62	12.70	12.70	26.19	32.54	38.10	44.45	50.01	-
600	24"	622.0	610.0	610.0	610.0	5.0	6.3	12.5	17.5	30.0	6.3	<b>10.0</b>	12.5	17.5	<b>25.0</b>	30.0	45.0	60.0	5.54	5.54	6.35	6.35	9.53	14.27	9.53	9.53	17.48	24.61	12.70	12.70	30.96	38.89	46.02	52.37	59.54	-
700	28"	720.0	711.0	711.0	711.0	5.0	7.1	12.5	-	-	7.1	<b>10.0</b>	12.5	25.0	-	-	-	-	-	-	-	7.92	12.70	15.88	-	9.53	-	-	-	12.70	-	-	-	-	-	-
800	32"	820.0	813.0	813.0	813.0	5.6	8.0	12.5	-	-	8.0	<b>10.0</b>	12.5	<b>25.0</b>	-	-	-	-	-	-	-	7.92	12.70	15.88	-	9.53	17.48	-	-	12.70	-	-	-	-	-	-
900	36"	920.0	914.0	914.0	914.0	6.3	10.0	12.5	-	-	10.0	12.5	20.0	<b>25.0</b>	-	-	-	-	-	-	-	7.92	12.70	15.88	-	9.53	19.05	-	-	12.70	-	-	-	-	-	-
1000	40"	1020.0	1016.0	1016.0	1016.0	6.3	10.0	12.5	-	-	10.0	12.5	20.0	<b>25.0</b>	-	-	-	-	-	-	-	-	-	-	-	9.53	-	-	-	12.70	-	-	-	-	-	-
1200	48"	-	1220.0	1219.0	1219.0	6.3	12.5	-	-	-	<b>10.0</b>	12.5	20.0	25.0	-	-	-	-	-	-	-	-	-	-	-	9.53	-	-	-	12.70	-	-	-	-	-	-

NPS Nominal Pipe Size  
 DN Diameter Nominal  
 PN Pressure Nominal

- EN series 1 = standard wall welded carbon steel equivalent to DN 1000 DIN/ISO series 2
- EN series 2 = standard wall seamless carbon steel equivalent to DN 450 DIN/ISO series 3
- EN series 3 = new wall thickness schedule from DIN 2448, below the DIN/ISO series 4, from DN 500–DN 800 DIN/ISO series 3
- EN series 4 = similar to DIN/ISO series 4
- EN series 5 = similar to DIN/ISO series 5
- EN series 6–8 = new wall thickness series, very thick-walled, in some areas in consistent with ASME schedules
- For buttwelding fittings in acc. with DIN EN 10253-4 (stainless steel), wall thickness in acc. with DIN EN ISO 1127 (stainless steel pipes) = old DIN/ISO series 1

The EN series 3 + 4 include thick-walled designs for seamless and welded fittings.

The EN series 5–8 are purely for seamless accessories and end at DN 600.

**Wall thicknesses:** The **bolded** wall thicknesses have been changed compared to the old DIN/ISO wall thicknesses.

Version: 9-2019 / All information is subject to change.

Pipes / Tubes				Flanges				Buttwelding Fittings			
Material number		EN	ASTM	Material number		EN	ASTM	Material number		EN	ASTM
<b>Non-alloy</b>				<b>Non-alloy</b>				<b>Non-alloy</b>			
1.0254	St 37.0	P235TR1	A 53 Grade A	1.0038	RSt 37-2	S235JR	–	1.0254	St 37.0	S235	–
1.0570	St 52-3	S355J2H (1.0576)	–	1.0570	St 52-3	S355J2 (1.0577)	–	–	–	–	–
1.0305	St 35.8/I	P235GH TC1 (1.0345)	A 106 Grade A	1.0460	C 22.8	P250GH	–	1.0305	St 35.8/I	P235GH (1.0345)	A 234 Grade WPA
1.0305	St 35.8/III	P235GH TC2 (1.0345)	–	1.0432	C 21	–	A 105	1.0305	St 35.8/III	P235GH (1.0345)	–
1.0405	St 45.8/I	P265GH TC1 (1.0425)	A 106 Grade B	1.0352	–	P245GH	–	1.0405	St 45.8/I	P265GH (1.0425)	A 234 Grade WPB
1.0405	St 45.8/III	P265GH TC2 (1.0425)	–	–	–	–	–	1.0405	St 45.8/III	P265GH (1.0425)	–
<b>Alloyed heat-resistant</b>				<b>Alloyed heat-resistant</b>				<b>Alloyed heat-resistant</b>			
1.5415	15 Mo 3	16Mo3	A 335 Grade P1	1.5415	15 Mo 3	16Mo3	A 182 Grade F1	1.5415	15 Mo 3	16Mo3	A 234 Grade WP1
1.7335	13 CrMo 4 4	13CrMo4–5	A 335 Grade P12	1.7335	13 CrMo 4 4	13CrMo4-5	A 182 Grade F12	1.7335	13 CrMo 4 4	13CrMo4-5	A 234 Grade WP12
–	–	–	A 335 Grade P11	–	–	–	A 182 Grade F11	–	–	–	A 234 Grade WP11
1.7380	10 CrMo 9 10	10CrMo9–10	A 335 Grade P22	1.7380	10 CrMo 9 10	11CrMo9-10 (1.7383)	A 182 Grade F22	1.7380	10 CrMo 9 10	10CrMo9-10	A 234 Grade WP22
1.7362	12 CrMo 19 5	X11CrMo5	A 335 Grade P5	1.7362	12 CrMo 19 5	–	A 182 Grade F5	1.7362	12 CrMo 19 5	X11CrMo5	A 234 Grade WP5
–	–	–	A 335 Grade P9	–	–	–	A 182 Grade F9	–	–	–	A 234 Grade WP9
1.4903	–	X10CrMoVNb9–1	A 335 Grade P91	1.4903	–	X10CrMoVNb9-1	A 182 Grade F91	1.4903	–	X10CrMoVNb9-1	A 234 Grade WP91
<b>Low temperature</b>				<b>Low temperature</b>				<b>Low temperature</b>			
1.5637	10 Ni 14	X12Ni14	A 333 Grade 3	1.5637	10 Ni 14	12Ni14	A 350 Grade LF3	1.5637	10 Ni 14	12Ni14	A 420 Grade WPL3
1.0356	TTSt 35 N	P215NL (1.0451)	A 333 Grade 1	1.0566	TSStE 355	P355QH1 (1.0571)	A 350 Grade LF2	1.0356	TTSt 35 N	P215NL (1.0451)	–
1.0356	TTSt 35 V	P255QL (1.0452)	–	–	–	–	–	1.0356	TTSt 35 V	–	–
–	–	P265NL (1.0453)	A 333 Grade 6	–	–	–	–	–	–	P265NL (1.0453)	A 420 Grade WPL6
<b>Fine-grain steels</b>				<b>Fine-grain steels</b>				<b>Fine-grain steels</b>			
1.0486	StE 285	–	API 5L Grade X42	1.0486	StE 285	–	A 694 Grade F42	1.0486	StE 285	–	A 860 Grade WPHY42
1.0562	StE 355	P355N	API 5L Grade X52	1.0562	StE 355	P355N	A 694 Grade F52	1.0562	StE 355	P355N	A 860 Grade WPHY52
1.8902	StE 420	P420N	API 5L Grade X60	1.8902	StE 420	P420N	A 694 Grade F60	1.8902	StE 420	–	A 860 Grade WPHY60
1.8905	StE 460	P460N	API 5L Grade X70	1.8905	StE 460	P460N	A 694 Grade F70	1.8905	StE 460	–	A 860 Grade WPHY70
<b>High yield steels</b>				<b>High yield steels</b>				<b>High yield steels</b>			
1.0457	StE 240.7	L245NB / L245NE	API 5L Grade B	–	–	–	–	1.0457	StE 240.7	–	–
1.0484	StE 290.7	L290NB / L290NE	API 5L Grade X42	–	–	–	–	1.0484	StE 290.7	L290NB / L290NE	A 860 Grade WPHY42
1.0582	StE 360.7	L360NB / L360NE	API 5L Grade X52	–	–	–	–	1.0582	StE 360.7	L360NB / L360NE	A 860 Grade WPHY52
1.8972	StE 415.7	L415NB / L415NE	API 5L Grade X60	–	–	–	–	1.8972	StE 415.7	L415NB / L415NE	A 860 Grade WPHY60
<b>Stainless steel</b>				<b>Stainless steel</b>				<b>Stainless steel</b>			
1.4307	–	X2CrNi18-9	A 312 Grade TP304L	1.4307	–	X2CrNi18-9	A 182 Grade F304L	1.4307	–	X2CrNi18-9	A 403 Grade WP304L
1.4306	X 2 CrNi 19 11	X2CrNi19-11	A 312 Grade TP304L	1.4306	X 2 CrNi 19 11	–	A 182 Grade F304L	1.4306	X 2 CrNi 19 11	X2CrNi19-11	A 403 Grade WP304L
1.4301	X 5 CrNi 18 10	X5CrNi18-10	A 312 Grade TP304	1.4301	X 5 CrNi 18 10	X5CrNi18-10	A 182 Grade F304	1.4301	X 5 CrNi 18 10	X5CrNi18-10	A 403 Grade WP304
1.4541	X 6 CrNiTi 18 10	X6CrNiTi18-10	A 312 Grade TP321	1.4541	X 6 CrNiTi 18 10	X6CrNiTi18-10	A 182 Grade F321	1.4541	X 6 CrNiTi 18 10	X6CrNiTi18-10	A 403 Grade WP321
1.4550	X 6 CrNiNb 18 10	X6CrNiNb18-10	A 312 Grade TP347	1.4550	X 6 CrNiNb 18 10	X6CrNiNb18-10	A 182 Grade F347	1.4550	X 6 CrNiNb 18 10	X6CrNiNb18-10	A 403 Grade WP347
1.4404	X 2 CrNiMo 17 13 2	X2CrNiMo17-12-2	A 312 Grade TP316L	1.4404	X 2 CrNiMo 17 13 2	X2CrNiMo17-12-2	A 182 Grade F316L	1.4404	X 2 CrNiMo 17 13 2	X2CrNiMo17-12-2	A 403 Grade WP316L
1.4401	X 5 CrNiMo 17 12 2	X5CrNiMo17-12-2	A 312 Grade TP316	1.4401	X 5 CrNiMo 17 12 2	X5CrNiMo17-12-2	A 182 Grade F316	1.4401	X 5 CrNiMo 17 12 2	X5CrNiMo17-12-2	A 403 Grade WP316
1.4571	X 6 CrNiMoTi 17 12 2	X6CrNiMoTi17-12-2	A 312 Grade S 31635	1.4571	X 6 CrNiMoTi 17 12 2	X6CrNiMoTi17-12-2	A 182 Grade F316Ti	1.4571	X 6 CrNiMoTi 17 12 2	X6CrNiTi18-10	–
1.4429	X 2 CrNiMoN 17 13 3	X2CrNiMoN17-13-3	A 312 Grade TP316LN	1.4429	X 2 CrNiMoN 17 13 3	X2CrNiMoN17-13-3	A 182 Grade F316LN	1.4429	X 2 CrNiMoN 17 13 3	X2CrNiMoN17-13-3	A 403 Grade WP316LN
1.4436	X 5 CrNiMo 17 13 3	X3CrNiMo17-13-3	A 312 Grade TP316	1.4436	X 5 CrNiMo 17 13 3	X3CrNiMo17-13-3	A 182 Grade F316	1.4436	X 5 CrNiMo 17 13 3	X3CrNiMo17-13-3	A 403 Grade WP316
1.4435	X 2 CrNiMo 18 14 3	X2CrNiMo18-14-3	A 312 Grade TP316L	1.4435	X 2 CrNiMo 18 14 3	X2CrNiMo18-14-3	A 182 Grade F316L	1.4435	X 2 CrNiMo 18 14 3	X2CrNiMo18-14-3	A 403 Grade WP316LN
1.4439	X 2 CrNiMoN 17 13 5	X2CrNiMoN17-13-5	UNS S 31726	1.4439	X 2 CrNiMoN 17 13 5	X2CrNiMoN17-13-5	A 182 Grade F48	1.4439	X 2 CrNiMoN 17 13 5	X2CrNiMoN17-13-5	UNS S 31726
1.4539	X 1 NiCrMoCuN 25 20 5	X1NiCrMoCu25-20-5	UNS N 08904 (904L)	1.4539	X 1 NiCrMoCuN 25 20 5	X1NiCrMoCu25-20-5	A 182 Grade F904L	1.4539	X 1 NiCrMoCuN 25 20 5	X1NiCrMoCu25-20-5	UNS N 08904 (904L)
1.4547	–	X1CrNiMoCuN20-18-7	UNS S 31254	1.4547	–	X1CrNiMoCuN20-18-7	UNS S 31254	1.4547	–	X1CrNiMoCuN20-18-7	UNS S 31254
1.4529	X 1 NiCrMoCuN 25 20 6	X1NiCrMoCuN25-20-7	UNS N 08926	1.4529	X 1 NiCrMoCuN 25 20 6	X1NiCrMoCuN25-20-7	UNS N 08926	1.4529	X 1 NiCrMoCuN 25 20 6	X1NiCrMoCuN25-20-7	UNS N 08926
1.4462	X 2 CrNiMoN 22 5 3	X2CrNiMoN22-5-3	UNS S 31803 (Duplex)	1.4462	X 2 CrNiMoN 22 5 3	X2CrNiMoN22-5-3	A 182 Grade F51 (Duplex)	1.4462	X 2 CrNiMoN 22 5 3	X2CrNiMoN22-5-3	UNS S 31803 (Duplex)
1.4410	–	X2CrNiMoN25-7-4	UNS S 32750 (Superduplex)	1.4410	–	X2CrNiMoN25-7-4	A 182 Grade F53 (Superduplex)	1.4410	–	X2CrNiMoN25-7-4	UNS S 32750 (Superduplex)

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