



Piping groups thickness calculation report

Work Date & Time: 2025-10-24 10:42:40

Tags and units

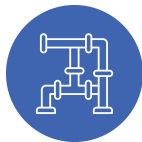
_Tag	Meaning	Unit
NPS	Nominal pipe size	inch
OD	Outside diameter	mm
CA	Corrosion allowance	mm
codeTol	Tolerance code	-
TOL	Tolerance value	% or mm
Y	Coefficient (from ASME B31.3 table 304.1.1)	-
E	Quality factor (from ASME B31.3 table A-1A or A-1B)	-
W	Weld joint reduction factor (from ASME B31.3 table 302.3.5)	-
Temp	Temperature	Celsius degree
Press	Pressure	bar
Allow	Material allowable stress	MPa
thkC	Calculated thickness	mm
thkCReq	Required thickness	mm
thkCom	Commercial thickness	mm
MAWP	Max allowable working pressure	bar

General Data

JAccount	Project	Location	Spec	Service
JA1000	Titolo1	Vibo Valentia	spec 11A	Azoto

Piping Data

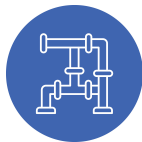
Group	Material	Temp	Press	CA	E	W	Dia_min	Dia_max	Allow	Y	codeTol
G_1	SMLS-ASTM A53 Gr.A Type S	150.0	7.0	2.5	0.9	1.0	1 1/4	36	110.32	0.4	1
G_2	SMLS-API 5L Gr.B	300.0	5.0	2.0	1.0	1.0	2 1/2	48	122.37	0.4	1
G_3	ERW -ASTM A333 Gr.1 (E=0.85)	350.0	10.0	3.0	1.0	1.0	6	48	84.84	0.4	1



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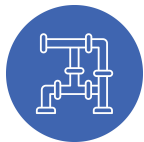
Output

Group	Material	NPS	OD	TOL	thkC	thkCReq	thkCom	MAWP
G_1	SMLS-ASTM A53 Gr.A Type S	1 1/4	42.16	12.5	0.15	3.03	3.56	29.07
G_1	SMLS-ASTM A53 Gr.A Type S	1 1/2	48.26	12.5	0.17	3.05	3.68	29.74
G_1	SMLS-ASTM A53 Gr.A Type S	2	60.32	12.5	0.21	3.1	3.91	30.44
G_1	SMLS-ASTM A53 Gr.A Type S	2 1/2	73.02	12.5	0.26	3.15	3.18	7.69
G_1	SMLS-ASTM A53 Gr.A Type S	3	88.9	12.5	0.31	3.21	3.58	14.15
G_1	SMLS-ASTM A53 Gr.A Type S	3 1/2	101.6	12.5	0.36	3.27	3.58	12.38
G_1	SMLS-ASTM A53 Gr.A Type S	4	114.3	12.5	0.4	3.32	3.58	11.0
G_1	SMLS-ASTM A53 Gr.A Type S	5	141.3	12.5	0.5	3.42	3.96	13.58
G_1	SMLS-ASTM A53 Gr.A Type S	6	168.27	12.5	0.59	3.53	3.58	7.47
G_1	SMLS-ASTM A53 Gr.A Type S	8	219.07	12.5	0.77	3.74	4.78	15.28
G_1	SMLS-ASTM A53 Gr.A Type S	10	273.05	12.5	0.96	3.95	3.96	7.02
G_1	SMLS-ASTM A53 Gr.A Type S	12	323.85	12.5	1.14	4.16	4.37	8.13
G_1	SMLS-ASTM A53 Gr.A Type S	14	355.6	12.5	1.25	4.29	4.78	9.41
G_1	SMLS-ASTM A53 Gr.A Type S	16	406.4	12.5	1.43	4.49	4.76	8.14
G_1	SMLS-ASTM A53 Gr.A Type S	18	457.2	12.5	1.61	4.69	4.78	7.31
G_1	SMLS-ASTM A53 Gr.A Type S	20	508.0	12.5	1.79	4.9	5.56	9.26
G_1	SMLS-ASTM A53 Gr.A Type S	22	558.8	12.5	1.96	5.1	5.56	8.41
G_1	SMLS-ASTM A53 Gr.A Type S	24	609.6	12.5	2.14	5.31	6.35	9.97
G_1	SMLS-ASTM A53 Gr.A Type S	26	660.4	12.5	2.32	5.51	6.35	9.2
G_1	SMLS-ASTM A53 Gr.A Type S	28	711.2	12.5	2.5	5.71	6.35	8.54
G_1	SMLS-ASTM A53 Gr.A Type S	30	762.0	12.5	2.68	5.92	6.35	7.97
G_1	SMLS-ASTM A53 Gr.A Type S	32	812.8	12.5	2.86	6.12	6.35	7.47
G_1	SMLS-ASTM A53 Gr.A Type S	34	863.6	12.5	3.04	6.33	6.35	7.03
G_1	SMLS-ASTM A53 Gr.A Type S	36	914.4	12.5	3.21	6.53	7.14	8.15
G_2	SMLS-API 5L Gr.B	2 1/2	73.02	12.5	0.15	2.46	2.77	14.22
G_2	SMLS-API 5L Gr.B	3	88.9	12.5	0.18	2.49	2.77	11.68
G_2	SMLS-API 5L Gr.B	3 1/2	101.6	12.5	0.21	2.52	2.77	10.22
G_2	SMLS-API 5L Gr.B	4	114.3	12.5	0.23	2.55	2.77	9.08
G_2	SMLS-API 5L Gr.B	5	141.3	12.5	0.29	2.62	3.18	13.57
G_2	SMLS-API 5L Gr.B	6	168.27	12.5	0.34	2.68	3.18	11.39
G_2	SMLS-API 5L Gr.B	8	219.07	12.5	0.45	2.8	4.78	24.44



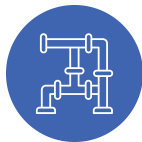
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G_2	SMLS-API 5L Gr.B	10	273.05	12.5	0.56	2.92	3.96	13.15
G_2	SMLS-API 5L Gr.B	12	323.85	12.5	0.66	3.04	4.37	13.8
G_2	SMLS-API 5L Gr.B	14	355.6	12.5	0.73	3.11	4.78	15.04
G_2	SMLS-API 5L Gr.B	16	406.4	12.5	0.83	3.23	4.76	13.06
G_2	SMLS-API 5L Gr.B	18	457.2	12.5	0.93	3.35	4.78	11.7
G_2	SMLS-API 5L Gr.B	20	508.0	12.5	1.04	3.47	5.56	13.82
G_2	SMLS-API 5L Gr.B	22	558.8	12.5	1.14	3.59	5.56	12.56
G_2	SMLS-API 5L Gr.B	24	609.6	12.5	1.24	3.71	6.35	14.3
G_2	SMLS-API 5L Gr.B	26	660.4	12.5	1.35	3.83	6.35	13.2
G_2	SMLS-API 5L Gr.B	28	711.2	12.5	1.45	3.94	6.35	12.25
G_2	SMLS-API 5L Gr.B	30	762.0	12.5	1.55	4.06	6.35	11.44
G_2	SMLS-API 5L Gr.B	32	812.8	12.5	1.66	4.18	6.35	10.72
G_2	SMLS-API 5L Gr.B	34	863.6	12.5	1.76	4.3	6.35	10.09
G_2	SMLS-API 5L Gr.B	36	914.4	12.5	1.87	4.42	6.35	9.53
G_2	SMLS-API 5L Gr.B	38	965.2	12.5	1.97	4.54	7.92	12.52
G_2	SMLS-API 5L Gr.B	40	1016.0	12.5	2.07	4.65	7.92	11.89
G_2	SMLS-API 5L Gr.B	42	1066.8	12.5	2.18	4.77	8.74	12.97
G_2	SMLS-API 5L Gr.B	44	1117.6	12.5	2.28	4.89	8.74	12.38
G_2	SMLS-API 5L Gr.B	46	1168.4	12.5	2.38	5.01	8.74	11.84
G_2	SMLS-API 5L Gr.B	48	1219.2	12.5	2.49	5.13	8.74	11.35
G_3	ERW -ASTM A333 Gr.1 (E=0.85)	6	168.27	12.5	0.99	4.56	4.78	11.95
G_3	ERW -ASTM A333 Gr.1 (E=0.85)	8	219.07	12.5	1.29	4.9	5.16	11.75
G_3	ERW -ASTM A333 Gr.1 (E=0.85)	10	273.05	12.5	1.6	5.26	5.56	11.61
G_3	ERW -ASTM A333 Gr.1 (E=0.85)	12	323.85	12.5	1.9	5.6	6.35	13.42
G_3	ERW -ASTM A333 Gr.1 (E=0.85)	14	355.6	12.5	2.09	5.81	6.35	12.22
G_3	ERW -ASTM A333 Gr.1 (E=0.85)	16	406.4	12.5	2.38	6.15	6.35	10.69
G_3	ERW -ASTM A333 Gr.1 (E=0.85)	18	457.2	12.5	2.68	6.49	7.14	12.07
G_3	ERW -ASTM A333 Gr.1 (E=0.85)	20	508.0	12.5	2.98	6.83	7.14	10.86
G_3	ERW -ASTM A333 Gr.1 (E=0.85)	22	558.8	12.5	3.28	7.17	7.92	11.95
G_3	ERW -ASTM A333 Gr.1 (E=0.85)	24	609.6	12.5	3.58	7.52	7.92	10.96
G_3	ERW -ASTM A333 Gr.1 (E=0.85)	26	660.4	12.5	3.87	7.86	7.92	10.11
G_3	ERW -ASTM A333 Gr.1 (E=0.85)	28	711.2	12.5	4.17	8.2	8.74	11.11
G_3	ERW -ASTM A333 Gr.1 (E=0.85)	30	762.0	12.5	4.47	8.54	8.74	10.36



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G_3	ERW -ASTM A333 Gr.1 (E=0.85)	32	812.8	12.5	4.77	8.88	9.52	11.15
G_3	ERW -ASTM A333 Gr.1 (E=0.85)	34	863.6	12.5	5.07	9.22	9.52	10.49
G_3	ERW -ASTM A333 Gr.1 (E=0.85)	36	914.4	12.5	5.36	9.56	10.31	11.19
G_3	ERW -ASTM A333 Gr.1 (E=0.85)	38	965.2	12.5	5.66	9.9	10.31	10.6
G_3	ERW -ASTM A333 Gr.1 (E=0.85)	40	1016.0	12.5	5.96	10.24	10.31	10.07
G_3	ERW -ASTM A333 Gr.1 (E=0.85)	42	1066.8	12.5	6.26	10.58	11.13	10.74
G_3	ERW -ASTM A333 Gr.1 (E=0.85)	44	1117.6	12.5	6.56	10.92	11.13	10.25
G_3	ERW -ASTM A333 Gr.1 (E=0.85)	46	1168.4	12.5	6.85	11.26	11.91	10.79
G_3	ERW -ASTM A333 Gr.1 (E=0.85)	48	1219.2	12.5	7.15	11.6	11.91	10.34



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Piping Groups Rating

- RATING for material group G_1 (NPS range from `1 1/4` to `36`) is determined by: NPS = 10, MAWP = 7.02 bar
- RATING for material group G_2 (NPS range from `2 1/2` to `48`) is determined by: NPS = 4, MAWP = 9.08 bar
- RATING for material group G_3 (NPS range from `6` to `48`) is determined by: NPS = 40, MAWP = 10.07 bar