



# Piping groups thickness calculation report

Work Date & Time: 2025-10-23 13:19:44

## Tags and units

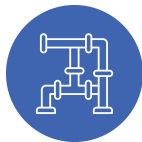
_Tag	Meaning	Unit
NPS	Nominal pipe size	inch
OD	Outside diameter	mm
CA	Corrosion allowance	mm
codeTol	Tolerance code	-
TOL	Tolerance value	% or mm
Y	Coefficient (from ASME B31.3 table 304.1.1)	-
E	Quality factor (from ASME B31.3 table A-1A or A-1B)	-
W	Weld joint reduction factor (from ASME B31.3 table 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

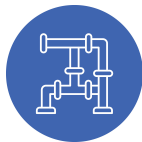
Group	Material	Temp	Press	CA	E	W	Dia_min	Dia_max	Allow	Y	codeTol
G_1	SMLS-ASTM A53 Gr.A Type S	150.0	7.0	2.5	0.9	1.0	1 1/4	36	110.32	0.4	1
G_2	SMLS-API 5L Gr.B	300.0	5.0	2.0	1.0	1.0	2 1/2	48	122.37	0.4	1
G_3	ERW -ASTM A333 Gr.1 (E=0.85)	350.0	10.0	3.0	1.0	1.0	6	48	84.84	0.4	1



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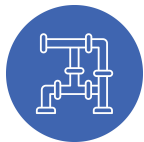
### Output

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



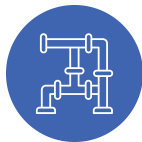
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G_2	SMLS-API 5L Gr.B	10	273.05	12.5	0.56	2.92	3.96	13.15
G_2	SMLS-API 5L Gr.B	12	323.85	12.5	0.66	3.04	4.37	13.8
G_2	SMLS-API 5L Gr.B	14	355.6	12.5	0.73	3.11	4.78	15.04
G_2	SMLS-API 5L Gr.B	16	406.4	12.5	0.83	3.23	4.76	13.06
G_2	SMLS-API 5L Gr.B	18	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



## Piping groups thickness calculation report

### **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