

Average Stress

Maximum Allowable Design Stresses for ASME Boiler and Pressure Vessel Code (Section II, Part D, table 1A)

Temperature °F	SA-387*	SA-387**	410 [S41000]	410S [S41008]	17-4 H1150 [S17400]	304L [S30403]	304H [S30409]	316L [S31603]	316H [S31609]	347 [S34700]
Min. Tensile Strength, ksi	60	60	65	60	135	70	75	70	75	75
Min. Yield Strength, ksi	35	30	30	30	105	25	30	25	30	30
-20 to 100	17.1	17.1	18.6	17.1	38.6	16.7	20	16.7	20.0	20.0
200	17.1	17.1	18.4	17.1	38.6	14.3	20	16.7	20.0	20.0
300	17.1	16.6	17.8	16.8	38.6	12.8	18.9	16.7	20.0	18.8
400	17.1	16.6	17.4	16.5	37.5	11.7	18.3	15.7	19.3	17.8
500	17.1	16.6	17.2	16.3	36.8	10.9	17.5	14.8	18.0	17.2
600	17.1	16.6	16.8	15.9	36.2	10.4	16.6	14.0	17.0	16.9
650	17.1	16.6	16.6	15.6	35.9	10.2	16.2	13.7	16.6	16.8
700	17.1	16.6	16.2	15.2	-	10.0	15.8	13.5	16.3	16.8
750	17.1	16.6	15.7	14.7	-	9.8	15.5	13.2	16.1	16.8
800	16.8	16.6	15.1	14.1	-	9.7	15.2	12.9	15.9	16.8
850	16.4	16.6	14.4	13.4	-	9.5	14.9	12.7	15.7	16.8
900	13.7	13.6	12.3	12.3	-	9.3	14.6	-	15.6	16.7
950	9.3	10.8	8.8	8.8	-	9.1	14.3	-	15.4	16.6
1000	6.3	8.0	6.4	6.4	-	7.8	14	-	15.3	16.0
1050	4.2	5.7	4.4	4.4	-	6.3	12.4	-	15.1	12.1
1100	2.8	3.8	2.9	2.9	-	5.1	9.8	-	12.4	9.1
1150	1.9	2.4	1.8	1.8	-	4.0	7.7	-	9.8	6.1
1200	1.2	1.4	1.0	1.0	-	3.2	6.1	-	7.4	4.4
1250	-	-	-	-	-	-	4.7	-	5.5	3.3
1300	-	-	-	-	-	-	3.7	-	4.1	2.2
1350	-	-	-	-	-	-	2.9	-	3.1	1.5
1400	-	-	-	-	-	-	2.3	-	2.3	1.2
1450	-	-	-	-	-	-	1.8	-	1.7	0.9
1500	-	-	-	-	-	-	1.4	-	1.3	0.8
NOTES:	S4, T4	S4, T4, W7, W9	T4	T4	G-32, W1	G-36, T6	G5, T7	G5, G34	G5, T8	G5, G12, T6

* Grade 11 Condition 1, ** Grade 22 Condition 1