

**GUIDELINE FOR DETERMINING THE MAXIMUM WORKING PRESSURE IN PSI,
CALCULATIONS ARE BASED ON 2014 ASME B31.1 POWER PIPING CODE**

| CONTINUOUS WELD PIPE ASTM A 53 TYPE F GRADE A, APL5L GRADE A25 PSL 1 | | | | |
|---|-------------|----------|-------------|----------|
| | SCHEDULE 40 | | SCHEDULE 80 | |
| NPS | PLAIN END | THREADED | PLAIN END | THREADED |
| 1/4 | 2600 | 1150 | 3700 | 2100 |
| 3/8 | 2100 | 950 | 3000 | 1800 |
| 1/2 | 2000 | 850 | 2850 | 1600 |
| 3/4 | 1650 | 750 | 2350 | 1350 |
| 1 | 1550 | 650 | 2150 | 1200 |
| 1 ¼ | 1300 | 600 | 1750 | 1050 |
| 1 ½ | 1150 | 550 | 1600 | 1000 |
| 2 | 950 | 500 | 1400 | 900 |
| 2 ½ | 1050 | 500 | 1450 | 850 |
| 3 | 900 | 450 | 1300 | 800 |
| 3 ½ | 850 | 400 | 1200 | 800 |
| 4 | 750 | 400 | 1100 | 750 |

| ELECTRIC RESISTANCE WELD PIPE ASTM A 53 GRADE B & API 5L GRADE B PSL 1 | | | | |
|---|-------------|----------|-------------|----------|
| | SCHEDULE 40 | | SCHEDULE 80 | |
| NPS | PLAIN END | THREADED | PLAIN END | THREADED |
| 2 | 1700 | 850 | 2500 | 1600 |
| 2 1/2 | 1900 | 850 | 2600 | 1550 |
| 3 | 1650 | 800 | 2300 | 1450 |
| 3 1/2 | 1500 | 750 | 2100 | 1400 |
| 4 | 1400 | 750 | 2000 | 1350 |
| 5 | 1200 | 700 | 1800 | 1300 |
| 6 | 1100 | 650 | 1750 | 1300 |
| 8 | 1000 | 650 | 1550 | 1200 |

A SAFETY FACTOR SHOULD ALWAYS BE INCLUDED WHEN USING THE ABOVE PRESSURES. WORKING PRESSURES ARE THEORETICAL; THE ACTUAL WORKING PRESSURE MAY VARY BASED ON DESIGN CALCULATIONS.

| <u>Safety Factor</u> | <u>Multiplier</u> |
|----------------------|-------------------|
| 5 | 0.80 |
| 6 | 0.67 |
| 7 | 0.57 |
| 8 | 0.50 |
| 9 | 0.44 |
| 10 | 0.40 |

A safety factor of 8 would be suitable for the majority of applications, local codes or specific applications may require a higher safety factor. A piping design engineer should be consulted for specific applications. To determine a safe working pressure using a safety factor, multiply the values found in the tables by one of the above multipliers.

Note:

- The pressures listed are based on the 2014 ASME B31.1 Power Piping Code.
- No provision is made for abnormal or unusual conditions
- No allowance for the coupling design or limitations
- No allowance for the thinning of the pipe wall due to corrosion, bending etc.
- Temperature rating: -20 degrees to 400 degrees Fahrenheit.
- ERW or CW pipe may not be suitable for specific applications, consult a piping design engineer for specific applications.

SPRINKLER PIPE MAXIMUM WORKING PRESSURE

| <u>Type</u> | <u>Maximum Pressure in PSI</u> |
|---|--------------------------------|
| WST, Wheatland Super Tube | 175 |
| WLS, MEGA-FLOW, MLT, GL, MEGA-THREAD, SCH 10 & SCH 40 | 300 |

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