

**GUIDELINE FOR DETERMINING THE MAXIMUM WORKING PRESSURE IN  
 PSI, CALCULATIONS ARE BASED ON 2016 ASME B31.1 POWER PIPING CODE**

| CONTINUOUS WELD PIPE<br>ASTM A 53 TYPE F GRADE A, APL5L GRADE A25 PSL 1 |             |          |             |          |
|---|-------------|----------|-------------|----------|
| NPS   | SCHEDULE 40 |          | SCHEDULE 80 |          |
|   | 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<br>ASTM A 53 GRADE B & API 5L GRADE B PSL 1 |             |          |             |          |
|---|-------------|----------|-------------|----------|
| NPS   | SCHEDULE 40 |          | SCHEDULE 80 |          |
|   | 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 2016 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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