

**ASTM A420 WPL6 90 Degree Low Alloy Steel Long Radius Butt Welding Elbow**

**Product Information**

Product Name	<b>ASTM A420 WPL6 90 Degree Low Alloy Steel Long Radius Butt Welding Elbow</b>
Size Range	Dimension: 1/2" to 48"
Wall Thickness	Sch10S Sch20 STD Sch40 XS Sch80
Standards	ASTM A420
Grade	WPL6
Manufacturing Standards	ASME B16.9

**Standards & Materials: ASTM A420 WPL6**

**ASTM A420 WPL6** fittings are wrought low alloy steel fittings of seamless or welded construction intended for use in pressure piping and pressure vessel service at low temperatures. They are most often used with ASTM A333 Gr.6 pipes and ASTM A350 LF2 flanges for the transmission of low-temperature liquids in process piping with the conventional minimum design metal temperature (MDMT) of -45°C [-50°F].

**Chemical Compositions of ASME A420 WPL6 Fittings**

Grade	C	Mn	P	S	Si	Ni	Cr	Mo	Cu	Nb	V
ASTM A420 WPL6	≤0.30	0.50-1.35	≤0.035	≤0.040	0.15-0.40	≤0.40	≤0.30	≤0.12	≤0.40	≤0.02	0.08

\*For welded fittings of ASTM WPL6, the chemical composition of weld metal is not required to meet the same limits of the base metal, however, the weld deposit shall meet the mechanical and impact requirements of the base metal.

**Mechanical Properties (at Room Temperature) of ASTM A420 WPL6 Fittings**

Grade	Tensile Strength (MPa)	Yield Strength, min (MPa)	Elongation in 2", Longitudinal, min (%)	Elongation in 2" Transvers, min (%)
ASTM A420 WPL6	415-655	240	30	16.5

\*At least one tension test shall be made on each heat of material.

**90 ° Butt Weld Elbow Dimensions and Weight**

Long Radius (LR) (Refer Standard ASME B16.9)

**Fittings Covered:**

- 90° and 45° elbows (long/short radius)
- Tees (equal and reducing)
- Reducers (concentric and eccentric)
- Caps
- Crosses
- Stub ends
- Dimensions typically follow ASME B16.9,

**Heat Treatment:**

- Normalizing, or
- Quenching and Tempering, or Normalization followed by Tempering
- Fittings must be supplied in a heat-treated condition suitable for low-temperature service.

**Testing Requirements:**

- Chemical Analysis: Required for each heat
- Mechanical Testing:
  - Tensile test
  - Charpy V-Notch impact test at -50 °F
  - Nondestructive Testing (NDT):
    - Required for welded fittings (per ASME/ASTM procedures)
    - Hardness Testing: Optional unless specified