

# ASTM A420 WPL6 Specification for Butt Weld Fittings

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## ASTM A420 / ASME SA420 Standard Introduction

ASTM A420 / ASME SA420 covers wrought carbon and alloy steel butt welding fittings intended for low-temperature service, where notch toughness is required for pressure piping systems.

## WPL6 Material Description

ASTM A420 WPL6 is a low-temperature carbon steel grade designed to maintain adequate impact toughness at sub-zero temperatures. It is widely used in LNG, LPG, and gas processing facilities.

## Chemical Composition of ASTM A420 WPL6 (wt.%)

Element	Content
Carbon (C)	0.30 max
Manganese (Mn)	0.50 – 1.35
Silicon (Si)	0.15 – 0.40
Phosphorus (P)	0.035 max
Sulfur (S)	0.040 max
Nickel (Ni)	0.40 max

## Mechanical Properties

Property	Requirement
Tensile Strength	≥ 415 MPa
Yield Strength	≥ 240 MPa
Elongation	≥ 20 %

## Heat Treatment

ASTM A420 WPL6 fittings shall be supplied in the normalized, normalized and tempered, or quenched and tempered condition to achieve the required low-temperature toughness.

## Product Range of ASTM A420 WPL6 Butt Weld Fittings

### ASTM A420 WPL6 Elbow

45 Degree Long Radius Elbow (45° LR); 90 Degree Long Radius Elbow (90° LR); 180 Degree Long Radius Elbow (Return Bend); 90 Degree Short Radius Elbow (90° SR).

### ASTM A420 WPL6 Tee

Equal Tee; Reducing Tee.

### ASTM A420 WPL6 Reducer

Concentric Reducer; Eccentric Reducer.

### ASTM A420 WPL6 Cap

Butt Weld Pipe Cap.

Standard size range is 1/2" NB to 48" NB (DN15 to DN1200) with wall thicknesses from SCH 10 to SCH 160. Custom dimensions are available upon request.

## Inspection and Testing

Chemical analysis, mechanical testing, low-temperature impact testing (Charpy V-Notch), non-destructive testing, and dimensional inspection are performed in accordance with ASTM A420.

## Typical Applications

LNG and LPG processing plants, cryogenic pipelines, gas processing facilities, petrochemical plants, and low-temperature pressure piping systems.

## Certification and Documentation

EN 10204 3.1 Mill Test Certificate, Manufacturer Test Report, and third-party inspection certificates are available upon request.

