

ASTM A234 WP11 CL1 CL2 CL3 Pipe Fittings

elbow, Tee, reducer ASME B16.9 Manufacturer & Exporter

We are a trusted **manufacturer, stockist, and global exporter of ASTM A234 WP11 alloy steel elbow pipe fittings**, available in **Class 1 (CL1), Class 2 (CL2), and Class 3 (CL3)**. These elbows, Tee, Reducer, Caps are designed in accordance with **ASME B16.9 and MSS-SP-75**, ensuring superior performance in **high-temperature, high-pressure piping systems**.

ASTM A234 WP11 is a **Cr-Mo alloy steel grade (1¼Cr-½Mo)** used in **butt-welded pipe fittings** such as elbows, tees, reducers, and caps. It is widely applied in **high-temperature and high-pressure services** such as boilers, heat exchangers, power plants, and refineries.

Key Features of ASTM A234 WP11 Elbows

- Manufactured from **Cr-Mo alloy steel (1¼Cr-½Mo)**
- Available in **45°, 90°, and 180° bends** (long radius & short radius)
- High resistance to **creep, oxidation, and thermal stress**
- Suitable for **welding and seamless piping connections**
- Supplied in **CL1, CL2, and CL3** as per project requirements

ASTM A234 WP11 Pipe Fittings Specifications

- **Standard:** [ASTM A234](#) / ASME SA234
- **Grade:** WP11 (Class 1, Class 2, Class 3)
- **Type:** Seamless, Welded, Butt Weld Fittings
- **Size Range:** ½" to 48" NB (DN 15 – DN 1200)
- **Dimensions:** [ASME B16.9](#), MSS-SP-75
- **Forms:** [Elbows](#) (45°, 90°, 180°), [Reducers](#), [Tees](#), Caps, Crosses, Stub Ends
- **Pressure Rating:** SCH 10 to SCH 160, XXS
- **Certification:** EN 10204 3.1 / 3.2, NACE MR0175, ISO 9001

ASTM A234 WP11 Chemical composition

Grade	ASTM A234 WP11 Class 1 Fittings	ASTM A234 WP11 Class 2 Fittings	ASTM A234 WP11 Class 3 Fittings
Carbon	0.05 – 0.15	0.05 – 0.15	0.05 – 0.20
Manganese	0.30 – 0.60	0.30 – 0.60	0.30 – 0.80
Phosphorus	0.03	0.03	0.04
Sulfur	0.03	0.03	0.04
Silicon	0.50 – 1.00	0.50 – 1.00	0.50 – 1.00
Chromium	1.00 – 1.50	1.00 – 1.50	1.00 – 1.50
Molybdenum	0.44 – 0.65	0.44 – 0.65	0.44 – 0.65

ASTM A234 WP11 CL1 CL2 CL3 Mechanical Property

	ASTM A234 WP11 Class 1 Fittings	ASTM A234 WP11 Class 2 Fitting	ASTM A234 WP11 Class 3 Fittings
Tensile Requirements			
Tensile Strength, min. (minumum), ksi[MPa]	60	70	75-100
(0.2% offset or 0.5% extension-under-load)	415	485	520
Yield Strength, min. (minumum), ksi[MPa]	30 [205]	32 [240]	45 [310]

Applications of ASTM A234 WP11 Alloy Steel Elbows

- **Power Generation Plants** – Boilers, steam piping, turbine lines
- **Oil & Gas Refineries** – Cracking units, hydroprocessing units
- **Petrochemical & Chemical Industries** – High-temperature reactors, heat exchangers
- **Fertilizer Plants** – Ammonia, urea processing systems
- **Nuclear & Thermal Plants** – High-pressure steam lines

Heat Treatment Requirements for ASTM A234 WP11

Depending on the **class (CL1, CL2, CL3)**, ASTM A234 WP11 fittings shall undergo proper heat treatment:

