ASTM A403 is a standard specification for wrought austenitic stainless steel pipe fittings designed for use in pressure piping systems. Stainless Steel WP304 is a specific grade of stainless steel, often referred to as 304 stainless steel, which is one of the most commonly used stainless steel alloys. In this context, "WP304" refers to the grade of stainless steel being used for the elbow.

Here are some key features and considerations for ASTM A403 Stainless Steel WP304 Elbows:

1. **Material:** WP304 indicates the use of Grade 304 stainless steel. This stainless steel alloy is known for its excellent corrosion resistance, versatility, and wide range of applications. It contains chromium and nickel, which provide its corrosion-resistant properties.
2. **Types of Fittings:** ASTM A403 covers various types of stainless steel fittings, including elbows, tees, reducers, caps, and more. The term "Elbow" in this context indicates that the fitting is designed for changing the direction of the pipe.
3. **Austenitic Stainless Steel:** Grade 304 is an austenitic stainless steel, characterized by its non-magnetic properties, excellent formability, and weldability.
4. **Pressure and Temperature Ratings:** ASTM A403 WP304 Elbows are designed to withstand various pressure and temperature conditions, depending on the specific application and size of the fitting. They are suitable for a wide range of industrial and high-temperature services.
5. **Size Range:** These fittings are available in various sizes and dimensions to accommodate different pipe diameters and system requirements.
6. **Standard Compliance:** ASTM A403 Stainless Steel WP304 Elbows are manufactured in compliance with the ASTM A403 specification, which ensures consistent quality and performance.
7. **Applications:** WP304 stainless steel fittings are commonly used in industries such as chemical processing, food and beverage, pharmaceuticals, petrochemical, and more, where corrosion resistance is crucial.
8. **Corrosion Resistance:** Grade 304 stainless steel is known for its excellent resistance to corrosion in a wide range of environments, including exposure to chemicals, acids, and various corrosive substances.
9. **Hygienic Properties:** Stainless steel WP304 is often chosen for applications where hygiene and cleanliness are important, such as in the food and pharmaceutical industries.
10. **Weldability:** WP304 is highly weldable, making it easy to join fittings and pipes using various welding methods, including TIG (Tungsten Inert Gas) welding and MIG (Metal Inert Gas) welding.

When selecting stainless steel WP304 elbows, it's essential to consider factors such as the operating conditions, pressure, temperature, and the specific fluid being conveyed. Proper installation and welding procedures are crucial to ensure the integrity and safety of the system. Additionally, these fittings are typically available in various configurations, including 90-degree elbows and 45-degree elbows, to suit different piping system requirements.