



In addition to our full compliment of F304/F304L & F316/F316L  
high pressure fittings

**ASP is pleased to offer the following Specialty Alloys:**

### Duplex 2205

ASTM A182 F60

Ferritic-austenitic stainless steel also referred to as duplex stainless steels, combine many of the beneficial properties of ferritic and austenitic steels. Due to the high content of chromium, nitrogen, and molybdenum, in the dual microstructure,

**Duplex 2205** stainless steel offers good weldability, high strength, good resistance to localized and uniform corrosion, and high resistance to stress corrosion cracking under many conditions where conventional austenitic grades are expected to fail.

### F317/F317L

UNS S31700/S31703

ASTM A182 317/317L

These Molybdenum-bearing austenitic stainless steels are more resistant to general corrosion and pitting/crevice corrosion than the conventional chromium-nickel austenitic stainless steels, and offer higher creep, stress-to-rupture, and tensile strength at elevated temperature, making them cost-effective choices for use in a wide range of corrosive conditions. Specifically, both Stainless Steel grades **F317** and **F317L** resist pitting in acetic and phosphoric acids.

### F321

UNS S32100

ASTM A182 F321

**F321** is essentially type 304 with addition of titanium that stabilizes carbides against sensitization. This stabilized grade is more resistant to sensitization by welding or by long-term exposure at temperatures of 800 to 1500F, and the stabilized grades are the preferred material when service involves exposure at these temperatures.

### ALLOY 20

UNS S32100

ASTM A182 F20

**Alloy 20** is an austenitic stainless steel possessing excellent resistance to hot sulfuric acid and many other aggressive environments which would readily attack type 316 stainless. This alloy exhibits superior resistance to stress-corrosion cracking in boiling 20-40% sulfuric acid. **Alloy 20** has excellent mechanical properties and the presence of columbium in the alloy minimizes the precipitation of carbides during welding.

### AL6XN

UNS N08367

ASTM A182 F62

**AL6XN**, although classified as nickel-base alloy by the UNS system, is part of the "superaustenitic" category of stainless steels. The superaustenitic alloys were developed for improved resistance to chloride corrosion.

### HASTELLOY

#### C276

UNS N10276

ASTM B366 WPC276

Significant additions of molybdenum make **Hastelloy C276** highly resistant to pitting. This alloy retains high strength and oxidation resistance at elevated temperatures, and has a high resistance to a wide variety of aqueous corrodents.

### MONEL 400

UNS N04400

ASTM B366 WPNC

Nickel and nickel alloys are used for a wide variety of applications, most of which involve corrosion resistance and/or heat resistance. **Monel 400** exceeds nickel in resistance to sulfuric and hydrofluoric acids and to brine. Handling of waters, including seawater and brackish water, is a major area of application. **Monel 400** is immune to chloride-ion SCC, which often is a factor in its selection.

### CuNi 90/10

UNS C70600/C70620

ASTM B151 / B283

### CuNi 70/30

UNS C71500/C71520

ASTM B151 / B283

The copper-nickel alloys **UNS C71500** and **UNS C70600** have been used in the shipbuilding, offshore, power and desalination industries for seawater piping, heat exchangers, steam turbine condensers, oil coolers, auxiliary cooling systems and high pressure pre-heaters at both nuclear and fossil fuel power plants. They can be used to convey clean seawaters, brackish water and fresh water. Of the wrought copper alloys, copper-nickels have the best resistance to seawater flow velocity. Copper-nickels are not sensitive to chloride attack as nickel-containing stainless steels might be. They have high resistance to chloride pitting, crevice corrosion, stress corrosion cracking, even at elevated temperatures. Ammonia stress corrosion cracking, which copper-zinc brass alloys can be susceptible to, is not found with copper-nickels in seawater. **UNS C70600 (CuNi 90/10, cupronickel)** is the more widely used alloy. **UNS C71500 (CuNi 70/30)** offers somewhat higher tensile strength at moderately high temperatures and maximum allowable flow rate, as well as low magnetic permeability.

## ALLOY STAINLESS PRODUCTS COMPANY INC.

611 Union Boulevard  
Totowa, NJ 07512



Phone 1-800-631-8372  
Fax 1-800-432-9277

*A Certified Woman Owned Small Business*