

ASTM A276-316L: Stainless Steel Bars & Shapes

The semi-finished stainless steel is hot rolled into bars.

Components are machined from stainless steel bars.

This specification covers hot-finished or cold-finished bars except bars for re-forging

Table 1 shows the requirements of the chemical compositions for the major elements along the mechanical properties.

ASTM Specifications	ASTM A276 316L	ASTM A182F 316L
MAJOR ELEMENTS		
Carbon	0.03% max.	0.03% max.
Chromium	16.00 ~ 18.00%	16.00 ~ 18.00%
Molybendum	2.00 ~ 3.00%	2.00 ~ 3.00%
Nickel	10.00 ~ 14.00%	10.00 ~ 15.00%
MECHANICAL PROPERTIES		
Tensile Strength	70,000psi min.	70,000psi min.
Yield Strength	25,000psi min.	25,000psi min.
Elongation in 2in.%	40 min.	30 min.
Reduction in Area %	50 min.	50 min.

Table 1: ASTM A276-316L & ASTM A182-316L – Major Elements & Mechanical Properties

ASTM A182F-316L: Forged or Rolled Alloy-Steel Pipe Flanges, Forged Fittings& Valves & Parts for High Temperature Service

Forging is the process by which metal is heated in its “plastic state” and is shaped by applying compressive force. Forging refines the grain structure and improves physical properties of the metal making it stronger than cast or machined parts.

This specification covers forged low alloy and stainless piping components for use in pressure systems.

Included are flanges, fittings, valves and similar parts to specified dimensions or dimensional standards.

Table 1 shows the requirements of the chemical compositions for the major elements along with the mechanical properties.