

Carbon Steel A105

Description

This standard cover forged carbon steel piping components for ambient- and higher-temperature service in pressure systems. Flanges are ordered either to dimensions specified by the purchaser or to dimensional specifications such as ASME 16.5 and API 6A. Forgings made to ASTM A105 are normally limited to maximum weight of 10,000 lbs.

Specifications

ASTM: A105

ASME: SA105, B16.5

NACE: MRO175

MSS: SP 44

Chemical Composition%

C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V
0.35	0.60-1.05	0.035	0.04	0.10-0.35	0.4	0.4	0.3	0.12	0.08
max	–	max	max	–	max (1)	max (1)	max (1-2)	max (1-2)	max

1. The sum of Copper, Nickel, Niobium, Molybdenum and Vanadium shall not exceed 1.00%.
2. The sum of Niobium and Molybdenum shall not exceed 0.32%.

Note: For each reduction of 0.01% below the specified carbon maximum (0.35%), an increase of 0.06% Manganese above the specified maximum (1.05%) will be permitted up to a maximum of 1.35%.

Tensile Requirements

Tensile Strength: (KSI) = 70

Yield Strength: (KSI) = 36

(KSI converts to MPA {Megapascals} by multiplying by 6.895)

Typical Application

- Chemical and allied industries
- Tanks
- Valves
- Pressure vessels and pipes for various processes