

C	Co	Cr	Mn	Ni	P	S	SI	Ta
MAX			MAX		MAX	MAX	MAX	
.08	Trace *	17.0-20.0	2.0	9.0-13.0	0.04	0.30	0.75	Trace *

**CHEMICAL COMPOSITION %**

## DESCRIPTION

These types of stainless are austenitic chromium steels containing columbium. They are recommended for parts fabricated by welding which cannot be subsequently annealed. These types also are used for parts which are intermittently heated and cooled to temperatures between 800 and 1600F. The addition of columbium produces a stabilized type of stainless that eliminates carbide precipitation and, consequently, intergranular corrosion.

## DESIGN FEATURES

- Superior general corrosion resistance over Type 321 due to stabilization with columbium.
- Reduced tendencies to form continuous networks of chromium carbides at the grain boundaries.
- Better high temperature properties than 304 or 304L. Generally used for parts which are intermittently up to heated up to 1500F. For continuous service the maximum temperature is 1650F.
- Type 347H has high carbon (.04-.10) for better high temperature creep properties.
- Improved intergranular corrosion resistance.

## AVAILABILITY

## SPECS

AVAILABILITY		SPECS
SEAMLESS PIPE	1/2" - 12"	A312
WELD PIPE	8" - 12"	A312
BUTT-WELD FLANGES	1/2" - 8"	A182, F347
BAR	1" - 12"	A276, A479
PLATE	3/16" - 1"	A240
FORGINGS		A182

## TYPICAL APPLICATIONS

High temperature chemical process heat exchanger tubes  
Refineries  
High temperature steam service

## TENSILE REQ

Tensile Strength	(KSI) 75
Yield Strength	(KSI) 30

KSI can be converted to MPA (Megapascals) by multiplying by 6.895.