



# ALLOY 625

UNS N06625



C	CR	FE	NI	AL	TI	MO	CB + TA	MN	SI	P	S	CO
MAX		MAX	MIN	MAX	MAX			MAX	MAX	MAX	MAX	MAX
0.10	20.0 - 23.0	5.0	58.0	0.40	0.40	8.0 - 10.0	3.15 - 4.15	0.50	0.50	0.015	0.015	1.0

GRADE 1 - CHEMICAL COMPOSITION %

## DESCRIPTION

Alloy 625 is a Nickel-Chromium alloy used for its high strength, excellent fabricability and outstanding corrosion resistance. Service temperatures range from cryogenic to 1800° F. Alloy 625 strength is derived from the stiffening effect of molybdenum and columbium on its Nickel-Chromium matrix; thus precipitation-hardening treatments are not required. This combination of elements also is responsible for superior resistance to a wide range of corrosive environments of unusual severity as well as to high-temperature effects such as oxidation and carburization.

## DESIGN FEATURES

- Outstanding resistance to pitting, crevice corrosion, impingement corrosion and intergranular attack.
- Almost complete freedom from Chloride-induced stress corrosion cracking.
- Good resistance to mineral acids, such as nitric, phosphoric, sulphuric and hydrochloric acids.
- Good resistance to alkalis and organic acids.
- Good mechanical properties.

## TYPICAL APPLICATIONS

- Used for structures in contact with seawater and subject to high mechanical stresses
- Flue gas scrubbers components
- Chimney linings
- Superphosphoric acid production equipment
- Sour gas production tubes
- Offshore industry, marine equipment
- High tensile, creep, rupture strength, outstanding fatigue and thermal-fatigue strength; oxidation resistance; and excellent weldability and braze-ability make it a good choice in the aerospace industry

AVAILABILITY		SECS
FLANGES	1/2" - 8"	B444, B564, B16.5
FORGINGS		B564

TENSILE REQUIREMENTS	
TENSILE STRENGTH	(KSI) 120 - 150
YIELD STRENGTH	(KSI) 60 - 95
ELONGATION	30% MIN.

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