

# DUPLEX 2205

UNS S31803/UNS S32205



C	Cr	Fe	Mn	Mo	N	Ni	P	S	SI
MAX			MAX				MAX	MAX	MAX
0.30	21.0-23.0	BAL	2.0	2.50-3.5	0.08-0.20	4.50-6.50	0.03	0.02	1.0

CHEMICAL COMPOSITION %

## DESCRIPTION

Stainless 2205 is a ferritic-austenitic stainless steel which combines many of the beneficial properties of both ferritic and austenitic steels. As a result of high chromium and molybdenum contents, the steel has very good pitting and uniform corrosion resistance to stress corrosion cracking as well as high mechanical strength. 2205 has good weldability and can be welded using most of the welding techniques for stainless steels. Due to the balanced composition, when welded correctly, the heat affected zone contains sufficient austenite to avoid the risk of localized corrosion. The chemical composition of 2205 is balanced to give a microstructure containing roughly equal amounts of ferrite and austenite.

## DESIGN FEATURES

- High strength.
- Low thermal expansion and higher heat conductivity than austenitic steels.
- High resistance to stress corrosion cracking, corrosion fatigue and erosion.
- High uniform corrosion resistance.
- High pitting and crevice corrosion resistance.
- Good sulfide stress corrosion cracking resistance.

## AVAILABILITY

## SPECS

AVAILABILITY		SPECS
SEAMLESS PIPE	1/2" - 8"	A790
WELD PIPE	1/2" - 12"	A790
BUTT-WELD FITTINGS	1/2" - 12"	A182, A815
FLANGES	1/2" - 8"	A479, A182
BAR	1" - 8"	A182, A479,
		A276, A193
PLATE	3/16" - 4"	A240
FORGINGS		A182

## TYPICAL APPLICATIONS

Heat exchangers, tubes and pipe for production and handling of gas and oil  
Heat exchangers and pipes in desalination plants  
Pressure vessels, pipes, tanks and heat exchangers for processing and transport of various chemicals  
Pressure vessels, tanks and pipes in process industries handling chlorides  
Rotors, fans, shafts and press rolls where the high corrosion fatigue strength can be utilized  
Cargo tanks, piping and welding consumables for chemical tankers

## TENSILE REQ

Tensile Strength	(KSI) 65
Yield Strength	(KSI) 90

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