

Alloy C22 is an improved alloy for use in a range of aggressive industrial environments. Alloy C22 has excellent resistance to pitting and crevice corrosion in oxidizing and acid chloride environments, and is practically immune to chloride stress corrosion cracking (SCC). Alloy C22 has superior weldability, and alloy C22 weld fillers are used to join other corrosion resistant alloys such as Alloy C-276 and AL-6XN® alloy.

Specifications

UNS: N06022 **ASTM:** B 574, B 575, B 619, B 622 **ASME:** SB-574, SB-575, SB-619, SB-622 **NACE:** MR0175

Chemical Composition, %

	Ni	Cr	Mo	Mn	Si	C	S	P	Cu	V	W	Fe
MIN	—	20.0	12.5	—	—	—	—	—	—	—	2.5	—
MAX	balance	22.5	14.5	0.5	0.08	0.015	0.02	0.02	2.5	0.35	3.5	6.0

Features

- Better overall corrosion resistance than Alloy C-276
- Outstanding resistance to chloride pitting, crevice corrosion and stress corrosion cracking
- Excellent resistance to oxidizing aqueous environments (wet chlorine and mixtures containing nitric acid and chloride ions)

Applications

- Stack liners
- Ducts
- Dampers
- Scrubbers
- Heat exchangers
- Reaction vessels
- Evaporators

Physical Properties

Density: 0.314 lb/in³ **Melting Range:** 2475-2550°F **Electrical Resistivity:** 651 Ohm-circ mil/ft

Temperature, °F	70	200	400	600	800	1000	1200	1400	1600	1800
Coefficient* of Thermal Expansion, in/in°F x 10 ⁻⁶	—	6.9	6.9	7.0	7.4	7.7	8.1	8.5	8.8	9.0
Modulus of Elasticity Dynamic, psi x 10 ⁶	29.9	29.4	28.5	27.6	26.6	25.7	24.8	23.6	22.4	21.1

* 70°F to indicated temperature.

Mechanical Properties

Average Tensile Data, Plate

Temperature, °F	70	200	400	600	800	1000	1200	1400
Ultimate Tensile Strength, ksi	114	107	98	95	92	88	83	76
0.2% Yield Strength, ksi	54	49	41	36	35	34	32	31
Elongation, %	62	65	66	68	68	67	69	68
Hardness MAX, HRB	95	—	—	—	—	—	—	—



CLAUDIO CZARNOBAI
COMMERCIAL MANAGER
ClaudioCzarnobai@intwinds.com
F +55 11 3825 2966
C +55 11 99112 2703

