

Alloy C-276 is the alloy for outstanding performance in a range of aggressive environments. It is resistant to strong oxidizing chlorides, reducing acids, hot seawater and brine solutions. Alloy C-276 is one of the few materials resistant to wet chlorine gas, hypochlorite and chlorine dioxide. Alloy C-276 has excellent resistance to chloride pitting, crevice corrosion and stress corrosion cracking. Alloy C-276 is oxidation resistant to 1800°F in open air. However, Alloy C-276 is generally not recommended for elevated temperature service. The high molybdenum content renders Alloy C-276 susceptible to catastrophic oxidation in stagnant conditions, such as under solid deposits.

Specifications

UNS: N10276 ASTM: B 575, B 574, B 619, B 622 ASME: SB-575, SB-574, SB-619, SB-622 NACE: MR0175 DIN: 2.4819

Chemical Composition, %

	Ni	Cr	Mo	Mn	Si	C	S	P	Cu	V	W	Fe
MIN	—	14.5	15.0	—	—	—	—	—	—	—	3.0	4.0
MAX	balance	16.5	17.0	1.0	0.08	0.01	0.01	0.25	2.0	0.35	4.5	7.0

Features

- Excellent resistance to localized corrosion and to both oxidizing and reducing environments
- Resists wet chloride gas, hypochlorite and chlorine dioxide
- Resists chloride stress corrosion cracking even in boiling magnesium chloride
- Can be used as-welded for most chemical process environments

Applications

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

Physical Properties

Density: 0.321 lb/in³ Melting Range: 2415-2500°F Electrical Resistivity: 782 Ohm-circ mil/ft

Temperature, °F	-270	-100	0	100	200	400	600	800	1000
Coefficient* of Thermal Expansion, in/in°F x 10 ⁻⁶	—	—	—	—	6.2	6.7	7.1	7.3	7.4
Thermal Conductivity Btu • ft/ft ² • hr • °F	4.2	5.0	5.4	5.9	6.4	7.5	8.7	9.8	11.0
Modulus of Elasticity Dynamic, psi x 10 ⁶	—	—	—	29.8	—	28.3	27.3	26.4	25.5

* 70°F to indicated temperature.

Mechanical Properties

Average Tensile Data, Sheet and Plate

Temperature, °F	70	400	600	800	1000
Ultimate Tensile Strength, ksi	114	100	97	94	88
0.2% Yield Strength, ksi	52	40	35	32	33
Elongation, %	60	58	65	64	60
Impact Strength*Min average/ min single, ft-lbs	87-90	—	—	—	—



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