

## HASTELLOY C-276

Alloy C-276 (UNS N10276, W.Nr. 2.4819) is known for its corrosion resistance in a wide range of aggressive media. The high molybdenum content imparts resistance to localized corrosion such as pitting.

The low carbon minimizes carbide precipitation during welding to maintain resistance to intergranular attack in heat-affected zones of welded joints. It's used in chemical processing, pollution control, pulp and paper production, industrial and municipal waste treatment and the recovery of "sour" natural gas.

Applications in air pollution control include stack liners, ducts, dampers, scrubbers, stack-gas re-heaters, fans and fan housings. In chemical processing, the alloy is used for components including heat exchangers, reaction vessels, evaporators and transfer piping.

**Hastelloy C-276 Alloy** has excellent resistance to a wide variety of chemical process environments, including :

- Strong oxidizers (such as ferric and cupric chlorides)
- Hot contaminated media (organic and inorganic)
- Chlorine
- Formic and acetic acids
- Acetic anhydride
- Seawater and brine solutions

Moreover, it's used in flue gas desulfurization systems because of its excellent resistance to sulfur compounds and chloride ions encountered in most scrubbers. The product, such as Hastelloy C-276 pipe, also has excellent resistance to pitting and to stress-corrosion cracking. It's one of the few materials that withstands the corrosive effects of wet chlorine gas, hypochlorite, and chlorine dioxide.

### **Chemical Composition**

Limiting Chemical Composition, %

Nickel .....Balance

Molybdenum .....	15.0–17.0
Chromium.....	14.5–16.5
Iron .....	4.0–7.0
Tungsten .....	3.0–4.5
Cobalt .....	2.5 max.
Manganese .....	1.0 max.
Carbon.....	0.01 max.
Vanadium.....	0.35 max.
Phosphorus .....	0.04 max.
Sulfur .....	0.03 max.
Silicon .....	0.08 max

### **Specifications**

Hastelloy alloy C-276 is designated as UNS N10276 and Werkstoff Nr. 2.4819. It is listed in NACE MR0175 for oil and gas service.

Available Hastelloy Product Forms: Pipe, tube, fitting, flange, sheet, strip, plate, round bar, flat bar, fastener, forging stock, hexagon and wire

### **Rod, Bar, Wire and Forging Stock**

- ASTM B462 (Rod, Bar and Forging Stock), ASTM B564 & ASME SB564 (Forgings), ASTM B574 & ASME SB574 (Rod, Bar and Wire)
- ISO 9723 (Rod and Bar), ISO 9724 (Wire), ISO 9725 (Forgings)
- DIN 17752, DIN 17753, DIN 17754
- VdTÜV 400/12.98

### **Plate, Sheet and Strip**

- ASTM B575; ASTM B906; ASME SB575; ASME SB906
- ISO 6208
- DIN 17750

- VdTÜV 400/12.98.

#### **Pipe and Tube**

- ASTM B622; ASTM B829 & ASME SB622; ASME SB829 (Seamless Tube),  
ASTM B626; ASTM B751 & ASME SB626; ASME SB751 (Welded Tube),  
ASTM B619; ASTM B775 & ASME SB619; ASME SB775 (Welded Pipe)
- ISO 6207 (Seamless Tube)
- DIN 17751
- VdTÜV 400/12.98.

#### **Welding Products**

- Filler Metal C-276 – AWS A5.14 / ERNiCrMo-4
- Welding Electrode C-276 – AWS A5.11 / ENiCrMo-4.

#### **Others**

- ASTM B366 & ASME SB366 (Fittings)
- DIN 17744 (chemical composition)