

# C-276 (HASTELLOY®) POWDER

## TECHNICAL DATA SHEET



## C-276 (HASTELLOY®) POWDER

AMETEK offers several different Hastelloy® alloys in powder form, including but not limited to C-22, C-276, B, and X alloys. They are nickel based and used in applications where the corrosion resistance or service temperature of stainless steels is insufficient.

### C-276 (HASTELLOY®) POWDER

C-276 (Hastelloy®) (UNS N10276) is used heavily in severe corrosion environments by the Chemical Processing Industry (CPI), Oil and Gas (O&G), and others. Our C-276 powders are used to create Filters for these industries, to apply coatings by thermal spray and cladding processes, and to make sintered parts.

The alloy is ductile with good formability and weldability properties. It has outstanding resistance to stress corrosion cracking in chloride-bearing solutions.

The high chromium and molybdenum contents give the alloy outstanding resistance to pitting and crevice attack.

It is also able to resist oxidizing and non-oxidizing acids.

C-276 (Hastelloy®) Powder is ideally suited for sour oilfield environments and possesses high resistance to sulfide stress cracking and stress corrosion cracking.

### MARKETS

- Chemical Process
- Oil & Gas
- Geothermal
- LNG (Liquefied Natural Gas)
- Petrochemical
- Pharmaceutical
- Sea Water
- Nuclear Power

### CHEMICAL COMPOSITION %

Alloy	Ni	Co	Cr	Mo	Fe	W	Mn	V	Si	C	Cu	Nb	B	Al	Ti	Ta	Zr
C-276	57 bal	2.5 max	16	16	5	4	1 max	0.35 max	0.08 max	0.01 max	0.5 max	-	-	-	-	-	-

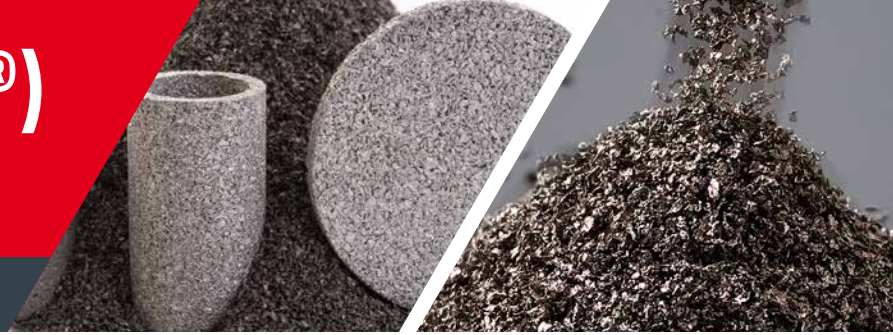


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# C-276 (HASTELLOY®) POWDER



## TECHNICAL DATA SHEET

### C-276 (HASTELLOY®) BULK PROPERTIES

PHYSICAL PROPERTIES				
Physical Property	Imperial units		Metric Units	
<b>Density</b>	RT	0.321 lb/in <sup>3</sup>	RT	8.89 g/cm <sup>3</sup>
<b>Electrical Resistivity</b>	RT	48.4 μohm.in	RT	1.23 μohm.m
	200°F	48.7 μohm.in	100°C	1.24 μohm.m
	400°F	49.0 μohm.in	200°C	1.25 μohm.m
	600°F	49.5 μohm.in	300°C	1.26 μohm.m
	800°F	49.8 μohm.in	400°C	1.26 μohm.m
	1000°F	50.6 μohm.in	500°C	1.28 μohm.m
	-	-	600°C	1.30 μohm.m
<b>Thermal Conductivity</b>	100°F	71 Btu.in/h.ft <sup>2</sup> .°F	50°C	10.5 W/m.°C
	200°F	77 Btu.in/h.ft <sup>2</sup> .°F	100°C	11.2 W/m.°C
	400°F	90 Btu.in/h.ft <sup>2</sup> .°F	200°C	12.9 W/m.°C
	600°F	104 Btu.in/h.ft <sup>2</sup> .°F	300°C	14.7 W/m.°C
	800°F	117 Btu.in/h.ft <sup>2</sup> .°F	400°C	16.5 W/m.°C
	1000°F	132 Btu.in/h.ftv.°F	500°C	18.3 W/m.°C
<b>Mean Coefficient of Thermal Expansion</b>	75 - 200°F	6.2 μin/in.°F	24 - 100°C	11.2 μm/m.°C
	75 - 400°F	6.7 μin/in.°F	24 - 200°C	12.0 μm/m.°C
	77 - 600°F	7.1 μin/in.°F	24 - 300°C	12.7 μm/m.°C
	77 - 800°F	7.3 μin/in.°F	24 - 400°C	13.1 μm/m.°C
	77 - 1000°F	7.4 μin/in.°F	24 - 500°C	13.3 μm/m.°C
	77 - 1100°F	7.8 μin/in.°F	24 - 600°C	13.8 μm/m.°C
<b>Magnetic Permeability</b>	200 oersted	1.0002	15.9 kA/m	1.0002
<b>Specific Heat</b>	RT	0.102 Btu/lb.°F	RT	427 J/kg.°C
<b>Dynamic Modulus of Elasticity</b>	RT	29.8 x 10 <sup>6</sup> psi	RT	205 GPa
	400°F	28.3 x 10 <sup>6</sup> psi	200°C	195 GPa
	600°F	27.3 x 10 <sup>6</sup> psi	300°C	189 GPa
	800°F	26.4 x 10 <sup>6</sup> psi	400°C	183 GPa
	1000°F	25.5 x 10 <sup>6</sup> psi	500°C	178 GPa
<b>Melting Range</b>	2415 - 2500°F	-	1323 - 1371°C	-
<b>Poisson's Ratio</b>	-	-	RT	0.31

RT = Room Temperature

Data shown for Physical Properties sourced from Haynes International, Inc.