

## Hastelloy® alloy C-4

UNS N06455  
W.Nr 2.4610

Hastelloy® alloy C-4 is a nickel-chromium-molybdenum alloy with good oxidation resistance and stress-corrosion cracking resistance at high temperatures. Hastelloy® alloy C-4 also has high resistance to many chemical process environments and is particularly resistant to hydrochloric acid, sulfuric acid, and chlorides.

Applications include springs and components operating in oxidizing and non-oxidizing acids.

Industries supplied include: Chemical Processing

### Nominal Composition

	Cr	Mo	Fe	Co	Mn	Ni	C	Ti	Si	P	S
min	14	14									
max	18	17	3	2	1	balance	0.015	0.7	0.08	0.04	0.03

### Physical Properties

	At 70°F	At 20°C
<b>Density</b>	.312 lb/in <sup>3</sup>	8.64 g/cm <sup>3</sup>
<b>Modulus of Elasticity (E)</b>	30.8 x 10 <sup>3</sup> ksi	211 GPa
<b>Modulus of Rigidity (G)</b>	11.8 x 10 <sup>3</sup> ksi	81 GPa
<b>Coefficient of Expansion</b>	7 microinches/in.-°F (70-600°F)	12.6 μm/m-°C (20-300°C)
<b>Electrical Resistivity</b>	49.1 μ ohm.in	125 μ ohm.cm
<b>Thermal Conductivity</b>	70 Btu-in./ft. <sup>2</sup> hr.-°F	10.1 W/m-K

### Applicable Specifications

Wire & Bar | ASTM B574, NACE MR0175 (ISO 15156-3).

### Typical Mechanical Properties – Spring Applications

Condition	Heat Treatment	Tensile Strength	Suggested Operating Conditions
Annealed	1950°F (1066°C)	110 – 150 ksi (758 – 1034 MPa)	-330°F to 750°F (-200°C to 400°C)
Spring Temper		190 – 220 ksi (1310 – 1517 MPa)	-330°F to 750°F (-200°C to 400°C)

Hastelloy® is a registered trademark of Haynes International, Inc.

**Phone: 1 847 695 1900**

Elgiloy Specialty Metals - Wire Products  
356 N.Cross Street  
Sycamore, IL 60178 USA

[WWW.ELGILOY.COM](http://WWW.ELGILOY.COM)

**LIMITATION OF LIABILITY AND DISCLAIMER OF WARRANTY:**

The content in these data sheets is provided primarily by third-party melting mills and is provided for reference only. It is not intended for engineering or design.

Applications may be discussed, however, Elgiloy Specialty Metals does not recommend or endorse any material for any particular end use or application.

The data included in this data sheet are typical values and may vary.

Elgiloy Specialty Metals makes no representations or warranties, express or implied, as to the accuracy, completeness, condition, suitability, performance, fitness for a particular purpose, or merchantability of any information contained in any data sheet.

In no event will Elgiloy Specialty Metals be liable for any damages whatsoever arising from the use of the information included in the data sheets.