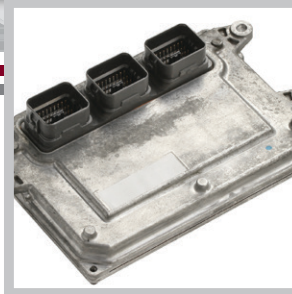


ALLOY 48/49



CHEMICAL COMPOSITION %	
Chemical Element	Alloy 48/49
Nickel	48
Chromium	.10
Manganese	.80
Silicon	.30
Carbon	.05
Aluminum	.10
Cobalt	.50
Phosphorus	.025
Sulfur	.025
Iron	Balance
MECHANICAL PROPERTIES	
Property	Alloy 48/49
Tensile Strength (x 1000 PSI)	
Annealed	85 Max.
1/4 Hard	90 – 115
1/2 Hard	105 – 125
Hard	120 Min.
Hardness, Rockwell B	
Annealed	70 Max.
1/4 Hard	78 – 83
1/2 Hard	84 – 88
Linear coefficient of thermal expansion cm. per cm. per °C x 10⁻⁶	
Temp. range – °C	Alloy 48/49
30 to 100	9.4
30 to 200	9.4
30 to 300	8.8
30 to 350	9.0
30 to 400	8.7
30 to 425	8.9
30 to 450	9.0
30 to 500	9.4
30 to 550	10.2
30 to 600	10.4
30 to 700	11.3
30 to 800	12.1
30 to 900	13.0
30 to 1000	13.9

Nickel Alloy 48/49 is a versatile alloy used in both for its Controlled Expansion characteristics as well as it's Magnetic Shielding capabilities.

This alloy is comprised of 48% Nickel with the balance of Iron offers a unique rate of expansion that makes it ideal for many applications such as Glass to Metals Seals, Hermetic Seals, Relay switches, Transformers and Cathode ray tubes.

Nickel Alloy 49/49 also has high-initial permeability, maximum permeability, and low core loss. This alloy exhibits the highest saturation flux density out of any other nickel-iron alloy making it a great fit for magnetic shielding applications where sensitive components are present. It's moderately resistant against weather and moisture corrosion. These alloys are often used in the aircraft and aerospace industry.

Pertinent specifications ASTM F30, ASTM A 753, MIL N 14411, AMS I 23011

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ALLOY 48/49

All Certified With Chemical & Physical Analysis

HOT ROLLED PLATE

Thick.		Width		Length
.300	x	16.250"	x	72"
.350	x	16.250"	x	72"
.375	x	16.250"	x	72"
.550	x	16.250"	x	72"
.875	x	16.250"	x	11.25"

Saw Cut or Sheared to Your Size

ROUND ROD

.250 Diameter	1.000 Diameter
.3125 Diameter	1.125 Diameter
.412 Diameter	1.250 Diameter
.437 Diameter	1.500 Diameter
	1.750 Diameter

SHEET

Thick.		Width		Length
.006	x	12"	x	72"
.010	x	12.5"	x	72"
.014	x	12.5"	x	72"
.020	x	12.5"	x	72"
.025	x	15"	x	72"
.030	x	15"	x	72"

Will Shear to Your Size

COIL

Cold Rolled — Slit to Your Width

Thickness

.006	x	12"	.020"	x	12.5"
.010	x	12.5"	.040"	x	12.5"
.014	x	12.5"	.062	x	12.5"
.020	x	12"			

Other sizes available on request

National Electronic Alloys stocks the highest quality alloys for industry.

- ASTM F15 (Kovar)
- Invar 36
- Alloy 42
- Alloy 45/46
- Alloy 4750
- 48 Alloy
- 49 Alloy
- 52 Alloy
- Nickel 200/201/205/233
- Magnetic Shielding Alloys
- OFHC Copper 101/102
- 1010 Carbon Steel
- 301 Stainless Steel
- 302/304 Stainless Steel
- 316/316L Stainless Steel
- Molybdenum
- Nickel Silver 770
- Phosphor Bronze 510/521

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