

ALLOY 52

CHEMICAL COMPOSITION %

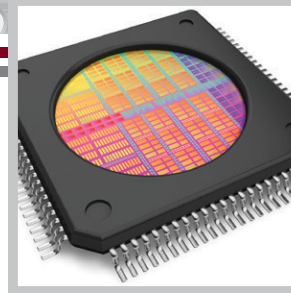
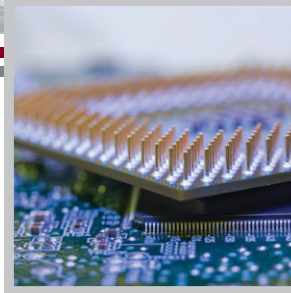
Chemical Element	Alloy 52
Nickel	50.5
Chromium	.10
Manganese	.60
Silicon	.30
Carbon	.05
Aluminum	.10
Cobalt	.50
Phosphorus	.025
Sulfur	.025
Iron	Balance

MECHANICAL PROPERTIES

Property	Alloy 52
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 52
30 to 100	10.5
30 to 200	10.4
30 to 300	10.2
30 to 350	10.2
30 to 400	10.1
30 to 425	10.1
30 to 500	10.0
30 to 550	10.5
30 to 600	10.8
30 to 700	11.7
30 to 800	12.5
30 to 900	13.3
30 to 1000	14.2



Glass sealing Alloy 52 is a controlled expansion alloy made of 51 percent Nickel and balance Iron exhibits low thermal expansion properties. Due to a higher content of Nickel than its other Nickel Iron family members, it also exhibits good magnetic properties. It's commonly used in the Semiconductor and Telecommunications industry it also has a variety of other electronic applications.

With the addition of Iron, Alloy 52 is more durable than Nickel by itself and exhibits good machining properties.

Uses include Glass to Metal Seals, Magnetic Reed switches and Semiconductor applications.

Certified to ASTM F30, AMS/MIL I 23011 Class 2

NEA ISO 9001:2015
Specialty Metal Service Center
Dedicated to Customer Service & Quality

NATIONAL ELECTRONIC ALLOYS
www.nealloys.com

EAST COAST

3 Fir Court, Oakland, NJ 07436
201-337-9400 • Fax: 201-337-9698
Toll Free: 800-524-4309
Email: Sales@nealloys.com

WEST COAST

1847 W. Business Center Dr., Orange, CA 92867
714-556-5561 • Fax: 714-556-5562
Toll Free: 877-632-9378
Email: Sales@nealloyswest.com

ALLOY 52

All Certified With Chemical & Physical Analysis

ROUND ROD

.040 Diameter

.093 Diameter

.250 Diameter

.0595 Diameter

.125 Diameter

.312 Diameter

.060 Diameter

.156 Diameter

.375 Diameter

.062 Diameter

.162 Diameter

.437 Diameter

.070 Diameter

.187 Diameter

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

Most orders ship within 24 hours

NEA ISO 9001:2015
Specialty Metal Service Center
Dedicated to Customer Service & Quality

NATIONAL ELECTRONIC ALLOYS
www.nealloys.com

EAST COAST

3 Fir Court, Oakland, NJ 07436
201-337-9400 • Fax: 201-337-9698
Toll Free: 800-524-4309
Email: Sales@nealloys.com

WEST COAST

1847 W. Business Center Dr., Orange, CA 92867
714-556-5561 • Fax: 714-556-5562
Toll Free: 877-632-9378
Email: Sales@nealloyswest.com