

45/46 ALLOY



CHEMICAL COMPOSITION %	
Chemical Element	45/46 Alloy
Nickel	46.0
Chromium	0.10
Manganese	0.80
Silicon	0.30
Carbon	0.05
Aluminum	0.10
Cobalt	0.50
Phosphorus	0.025
Sulfur	0.025
Iron	Bal
PHYSICAL PROPERTIES	
Property	45/46 Alloy
Density	0.295
Specific Gravity	8.12
Specific Heat	0.12
Curie Temperature	860
Melting Point	2600°F
Electrical Resistivity	277
Thermal Conductivity	79.2
Linear coefficient of thermal expansion cm. per cm. per °C x 10 ⁻⁶	
Temp. range – °C	45/46 Alloy
30-350	7.1 - 7.8
30-500	8.2 - 8.9

45 Alloy: With a relatively constant rate of thermal expansion to about 800°F (538°C), low expansion 45 Alloy has been used in thermostats, and its thermal expansion is similar to some alumina ceramics. High permeability 45 Alloy is a 45% nickel-iron alloy capable of exhibiting a high initial permeability and has been used predominantly in the telecommunications industry. National Electronic Alloys does not sell the High Permeability version of 45 Alloy.

46 Alloy: Consisting of 46% nickel and iron balance, 46 Alloy is a controlled expansion alloy used mostly in electronic applications, especially for glass and ceramic seals. Alloy 46 is also known as Pernifer 462, NILO 464, and Glass-Seal 461. National Electronic Alloys primarily stocks and distributes 46 Alloy.

NEA *An ISO Certified Corporation*
Specialty Metal Service Center
Dedicated to Customer Service & Quality

NATIONAL ELECTRONIC ALLOYS
www.nealloys.com

EAST COAST

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 Toll Free: 877-632-9378
 Email: Sales@nealloyswest.com

45/46 ALLOY FROM STOCK

45/46 Alloy Coil

.015" x 12.5" x coil
.020" x 12.5" x coil
.025" x 12.5" x coil
.030" x 12.5" x coil
.040" x 12.5" x coil
.050" x 12.5" x coil

Will Slit To Your Size

45/46 Alloy Sheet

.015" x 12.5" x 72"
.020" x 12.5" x 72"
.060" x 24" x 72"
.061" x 25.8" x 72"
.070" x 24.5" x 72"
.082" x 24" x 72"
.155" x 10" x 72"

Will Shear To Your Width

Chemical Milling Coil

.015" x 12.5" x coil or sheet
.020" x 12.5" x coil or sheet
.025" x 12" x coil

45/46 Alloy Plate

.155" x 16.5" x 72"
.250" x 16.5" x 72"
.375" x 16.5" x 72"
.500" x 16.5" x 72"
.750" x 16.5" x 72"

Shearing and Saw Cutting Available
Other Sizes Available on Request

All Certified Chemical & Physical Analysis

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