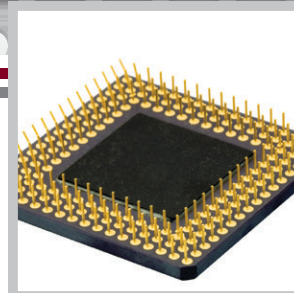
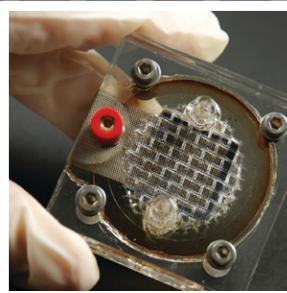


# NICKEL SILVER 770



Nickel Silver falls under the electronic grade alloys category. They have excellent mechanical properties, generally have high thermal and electrical conductivity, and are highly resistant to corrosion. These alloys are often used for electronic applications in anodes, lead wires, fuel cells, battery casings, packaging and lids. When exposed to oxygen for longer time increments, it develops a protective oxide or patina that turns a brownish-green. Nickel Silver is prone to corrosion due to the presence of zinc that makes the alloy sensitive to acids and other chemicals.

As compared to Nickel Copper, this alloy contains more zinc versus copper. Mostly comprised of copper, nickel and zinc (which causes its silvery appearance), Nickel Silver is named for its silvery appearance but, in actuality, contains no silver. Nickel Silver has many similarities to brass and bronze. This alloy can be wrought, rolled and machined. With the presence of lead, it can also be a proactive with soldering or welding.

The properties of Nickel Silver alloys include silvery-white in color, hard, malleable, ductile and nonmagnetic. Its electrical resistance makes nickel silver ideal for heating coils, while its corrosion resistance is well-suited for marine fittings and plumbing fixtures. Some other applications include jewelry, musical instrument components, screws and side fasteners.

CHEMICAL COMPOSITION %	
Chemical Element	Nickel Silver 770
Copper	55
Nickel	18
Zinc	27
MECHANICAL PROPERTIES	
Property	Nickel Silver 770
Density	(lbs. per cu. in): .314
Module of Elasticity	(x 10 <sup>-6</sup> PSI, tension): 18
Electrical Conductivity	(% IACS at 68°F (20°C) as annealed): 5.5
Thermal Conductivity	(BTU per sq.ft.per ft.per hr.per F at 68°F, (20°C): 17
PHYSICAL PROPERTIES	
Property	Nickel Silver 770
<b>Tensile Strength</b>	
<b>Yield Strength (0.2% Offset)</b>	
[x 1000 PSI (MPa = KSI x 6.8948)]	
Annealed: 61 – 76	23 – 41
1/2 Hard: 78 – 95	64 – 93
Full Hard: 92 – 107	90 – 106
Spring: 108 – 120	107 – 118
<b>Elongation</b>	
[% in 2 Inches (= % In 50mm)]	
Annealed: 39 – 48	
1/2 Hard: 5 – 25	
Full Hard: 3 – 6	
Spring: 1 Max.	
<b>Rockwell B Hardness</b>	
1/2 Hard: 81 – 92	
Full Hard: 90 – 96	
Spring: 97 – 100	
<b>Linear coefficient of thermal expansion cm. per cm. per °C x 10<sup>-6</sup></b>	
Temp. range – °C	Nickel Silver 770
20-300	9.3

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Email: Sales@nealloyswest.com

# NICKEL SILVER 770

## NICKEL SILVER 770

ASTM B 122 – TENSION LEVELED COIL

Thick.		Width			Thick.		Width		
.003"	x	12"	x	Coil	.010"	x	12"	x	Coil
.004"	x	12"	x	Coil	.012"	x	12"	x	Coil
.005"	x	12"	x	Coil	.015"	x	12"	x	Coil
.007"	x	12"	x	Coil	.020"	x	12"	x	Coil
.008"	x	12"	x	Coil	.032"	x	12"	x	Coil

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- Magnetic Shielding Alloys
- OFHC Copper 101/102
- 1010 Carbon Steel
- 301 Stainless Steel
- 302/304 Stainless Steel
- 316/316L Stainless Steel
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