

# HIGH PURITY COBALT STRIP AMETEK 599 ALLOY

## TECHNICAL DATASHEET

### DESCRIPTION

High purity Cobalt strip has even higher purity than the powder from which it is formed. It is the highest purity cobalt strip produced in the United States.

### APPLICATIONS

- Cobalt 60 Gamma Radiation Sources
- Anodes for Electroplating
- High-temperature Magnetic Applications
- Catalytic Applications
- X-Ray Tube Targets

### CONDITION

High purity Cobalt is normally furnished in the annealed condition but can be furnished, on request, with various degrees of cold reduction to a maximum of 25%.

Cobalt as annealed consists of a mixture of the stable room temperature HCP structure and the high-temperature FCC phase. Upon cold working, the FCC phase transforms to the more brittle HCP, and a completely brittle state is achieved over 25% cold reduction.

### COIL SIZES

Up to 150 pounds per inch of width with no weld depending on order quantity.

Standard arbor diameters: 6 inch, 12 inch, and 16 inch.

TYPICAL COMPOSITION	
<b>Cobalt (Co)</b>	99.6% minimum
<b>Nickel (Ni)</b>	0.25% maximum
<b>Copper (Cu)</b>	0.015% maximum
<b>Iron (Fe)</b>	0.070% maximum

### STANDARD SIZES AVAILABLE

<b>Thickness</b>	0.002 to 0.050 inches
<b>Width</b>	Up to 10 inches

### TYPICAL PROPERTIES OF ANNEALED COBALT STRIP

<b>Ultimate Tensile Strength</b>	110,000 psi
<b>Elongation in 2 inches</b>	22%
<b>Hardness</b>	193 DPH

### STANDARD TOLERANCES

<b>Thickness</b>	±5%
<b>Width</b>	<b>Under 1 inch</b> ±0.003 inch
	<b>Over 1 inch</b> ±0.005 inch

Special tolerances on request.

### PHYSICAL CONSTANTS OF COBALT

<b>Density</b>	8.85 gm/cc
<b>Atomic No.</b>	27
<b>Atomic Weight</b>	58.94
<b>Melting Point</b>	2723°F (1495°C)
<b>Coefficient of Linear Thermal Expansion Near 68°F (20°C)</b>	7.66 microinches per inch per °F (13.8 microinches per inch per °C)
<b>Electrical Resistivity</b>	6.24 microhm/cm
<b>Electrical Conductivity</b>	27.6% IACS
<b>Modulus of Elasticity in Tension</b>	30 X 10 psi



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V1.05.24