

# DUCTILE COBALT STRIP AMETEK 591 ALLOY

## TECHNICAL DATASHEET

### DESCRIPTION

The 591 alloy was engineered exclusively by AMETEK Specialty Metal Products for fine weld wire applications. The alloy exhibits more elongation than other available cobalt alloys allowing finer diameter sizes. In addition to 591 alloy other special cobalt composites are available such as 580, 589, 595, and 599 alloys.

AMETEK Specialty Metal Products will also custom design other alloys to meet your needs.

### COIL SIZES

#### Pancake coils on cores

Up to 200 lb. per inch of width with no weld.  
Typical sizes 55 to 100 pounds.

#### Oscillated/traverse wound on spools/reels

Up to 225 continuous pounds per coil with fully integrated (invisible) welds.

Standard spool/reel sizes available.

### CONDITION

591 alloy is normally furnished in the annealed condition but can be furnished, on request, with various degrees of cold reduction.

#### STANDARD SIZES AVAILABLE

<b>Thickness</b>	0.002 to 0.050 inches
<b>Width</b>	Up to 12 inches

#### TYPICAL COMPOSITION

<b>Cobalt (Co)</b>	91%
<b>Iron (Fe)</b>	5.2%
<b>Nickel (Ni)</b>	3.8%
<b>Copper (Cu)</b>	0.01%

#### STANDARD TOLERANCES

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

Special tolerances on request.

#### TYPICAL PROPERTIES OF ANNEALED COBALT STRIP

<b>Ultimate Tensile Strength</b>	87,000 psi
<b>Elongation in 2 inches</b>	65%
<b>Hardness</b>	140 VHN
<b>Deep Drawing Ability</b>	13.5 mm

#### PHYSICAL CONSTANTS OF COBALT

<b>Density</b>	8.75 g/cc
<b>Melting Point</b>	2714°F 1490°C



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E: wfd.sales@ametek.com | T: +1 610.489.5260

[www.ametek-ct.com](http://www.ametek-ct.com)

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