

DUCTILE COBALT STRIP

AMETEK 595, 591, AND 580 ALLOYS

TECHNICAL DATASHEET

DESCRIPTION

Ductile cobalt in strip form is finding increasing usage because of its ductility and formability in cobalt base welding rods and deep draw applications. It has more than double the elongation value of high-purity cobalt strip. Because of AMETEK's high purity and controlled chemistry, ductile cobalt is also used as a catalyst in the production of synthetic diamonds.

Ductile cobalt has sufficient iron to maintain a face centered cubic phase at room temperature. This produces a high cobalt alloy with excellent ductility and formability for applications requiring these properties.

STANDARD SIZES AVAILABLE

Thickness	0.002 to 0.050 inches
Width	Up to 12 inches

STANDARD TOLERANCES

Thickness	+5%
Width Under 1 inch	+0.003 inches
Over 1 inch	+0.005 inches

Special tolerances on request.

COIL SIZES

Pancake coils up to 200 lb. per inch of width with no weld or oscillated spools up to 500 lbs. Standard arbor diameters: 12 and 16 inches.

CONDITION

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

TYPICAL PROPERTIES OF ANNEALED COBALT STRIP

Ultimate Tensile Strength	80,000 psi
Elongation in 2 inches	35 - 55%
Hardness	140 VHN
Deep Drawing Ability	10.5 to 11.5 mm (787) Ball

PHYSICAL CONSTANTS OF COBALT

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

TYPICAL CHEMICAL COMPOSITION

	595 ALLOY	591 Alloy	580 Alloy
Cobalt (Co)	95%	Balance	Balance
Iron (Fe)	5%	4.7 - 5.7%	4.5 - 5.0%
Nickel (Ni)	0.1%	3.1 - 4.3%	14.5 - 15.0%
Copper (Cu)	0.002%	0.002%	0.002%



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