

Technical Data Sheet

AMPCOLOY[®] 89

Extrusions, plates and forgings

Nominal composition:

Cobalt	(Co)	max. 0.3%
Beryllium	(Be)	0.4%
Nickel	(Ni)	1.8%
Others		max. 0.4%
Copper	(Cu)	balance

Specifications:

EN	CW 110 C	A 3/1
D	DIN 17666, 17672	W. Nr. 2.0850
USA	CDA RWMA	C17510 Class 3

Mechanical and physical properties	Units	Extrusions, plates and forgings
Tensile strength R _m	MPa	740
Yield strength R _{p 0.5}	MPa	680
Elongation A ₅	%	12
Brinell hardness	HBW 10/3000	230
Rockwell hardness	HRB	98
Modulus of elasticity E	GPa	135
Density ρ	g / cm ³	8.8
Coefficient of expansion α	10 ⁻⁶ / K	17.2
Thermal conductivity λ	W / m · K	300
Electrical conductivity γ	m / Ω · mm ²	40
Electrical conductivity I.A.C.S	% I.A.C.S.	69
Specific heat C _p	J / g · K	0.38

Indicated values are nominals. Assurances given with respect to properties or uses are subject to written approval from AMPCO METAL.

APPLICATIONS:

The applications are generally the same as AMPCOLOY[®] 95. Although both alloys are identically classified, AMPCOLOY[®] 89 finds its own applications due to its higher electrical and heat transfer properties. AMPCOLOY[®] 89 is principally used for welding wheels, flash welding dies, plunger tips in aluminium die casting machines and components in molds for injection molding of plastic.

WARNING:

Since the alloy contains 0.4 % Beryllium, it is recommended that during any operation which is liable to create dust or fumes (for example dry grinding, polishing or welding) precautions should be taken to ensure there is no inhalation or exposure to eyes or skin. Conventional machining (for example milling and turning) is not generally considered hazardous.