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**	**type A 3/1**
D	**DIN 17666, 17672**	**W. Nr. 2.0850**
USA	**CDA**	**C17510**
	RWMA	**Class 3**

Mechanical and physical properties	Units		Extrusions, plates and forgings
Tensile strength Rm	**MPa**		**740**
Yield strength $R_{p\ 0.5}$	**MPa**		**680**
Elongation A_5	**%**		**12**
Brinell hardness	**HB 30**		**230**
Rockwell hardness	**HRB**		**98**
Modulus of elasticity E	**GPa**		**135**
Density ρ	**g / cm³**		**8.8**
Coefficient of expansion α	**10^{-6} / °K**		**17.2**
Thermal conductivity λ	**W / m ·°K**		**300**
Electrical conductivity γ	**m / Ω · mm²**		**40**
Electrical conductivity I.A.C.S	**%**		**69**
Specific heat Cp	**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 indentically 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 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.