Technical Data Sheet

AMPCOLOY® 91

Forgings

Nominal composition:

Cobalt		2.4%
Beryllium	(Be)	0.5%
Others		max. 0.5%
Copper	(Cu)	balance

Nearest international specifications:

ISO	**NFA 82100**	
EN	**CW 104C**	**A3/1**
D	**DIN 17666**	**W. Nr. 2.1285**
F	**AFNOR**	**UK2Be**
GB	**BS**	
USA	**CDA** **RWMA**	**C17500** **Class 3**

Mechanical and physical properties	Units	Nominal Values
Tensile strength Rm	MPa	703
Yield strength Rp 0.5	MPa	496
Elongation A5	%	17
Brinell hardness	HBW 10/3000	217
Rockwell hardness	HRB	96
Modulus of elasticity E	GPa	130
Density ρ	g / cm³	8.75
Coefficient of expansion α	10^{-6} / K	17
Thermal conductivity λ	W / m ·K	208
Electrical conductivity γ	m / Ω · mm²	30
Electrical conductivity	% I.A.C.S.	52
Specific heat Cp	J / g ·K	0.42

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

APPLICATIONS:

AMPCOLOY® 91 finds its own applications due to its slightly higher mechanical properties. AMPCOLOY® 91 is principally used for spot welding electrodes, electrodes for mesh welding, electrode holders, seam welding discs for stainless steel, Monel and nickel alloys, flash welding dies, plunger tips in aluminium high pressure die casting machines, moulds for low pressure die casting and parts for injection moulding of plastic wherever a high thermal conductivity is desirable.

WARNING

Since the alloy contains 0.5 % 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.