

Technical Data Sheet

AMPCOLOY[®] 91

Extrusions

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	
		Ø ≤ 35 mm	Ø > 35 mm
Tensile strength Rm	MPa	900	723
Yield strength Rp 0.5	MPa	550	517
Elongation A5	%	10	17
Brinell hardness	HBW 10/3000	260	250
Rockwell hardness	HRB	100	96
Modulus of elasticity E	GPa	130	130
Density ρ	g / cm ³	8.75	
Coefficient of expansion α	10 ⁻⁶ / K	17	
Thermal conductivity λ	W / m · K	208	
Electrical conductivity γ	m / Ω · mm ²	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 and seam welding discs for stainless steel, Monel and nickel alloys, flash welding dies, plunger tips in aluminium high pressure die casting machines 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.