Technical Data Sheet

AMPCOLOY® 91

Extruded

Nominal composition:

Cobalt + Nickel	(Co + Ni)	2.4%
Beryllium	(Be)	0.5%
Others		max. 0.5%
Copper	(Cu)	balance

Nearest international specifications:

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

Mechanical and physical properties	Units	Nominal Values	
		≤ 2''	> 2''
Tensile strength Rm	**KSI**	**130**	**105**
Yield strength Rp 0.5	**KSI**	**80**	**75**
Elongation in 2"	**%**	**10**	**17**
Brinell hardness	**BHN 30**	**240**	**217**
Rockwell hardness	**HRB**	**100**	**96**
Modulus of elasticity E	**KSI**	**18850**	**18850**
Density ρ	**LBS / IN³**	**0.315**	
Coefficient of expansion α	**IN / IN / °F**	**$9.44 \cdot 10^{-6}$**	
Thermal conductivity λ	**CGS**	**0.497**	
Electrical resistivity γ (1mm² section)	**Microhms/ Meter**	**35.92**	
Electrical conductivity	**% I.A.C.S.**	**48**	
Specific heat Cp	**BTU / LB · °F**	**0.1**	

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 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.