Technical Data Sheet

AMPCOLOY® 95

AMPCOLOY® 95 is a remarkable alloy known for its exceptional properties and specifications. Forged or extruded to achieve optimum physical properties, this alloy offers excellent machinability combined with remarkable wear and corrosion resistance. Designed with high mechanical properties, this high copper alloy excels in applications requiring superior thermal conductivity, shorter cycle times, and longer tool life.

Key Features:

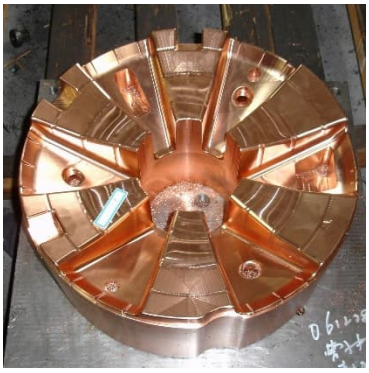
- High mechanical properties
- Wear & corrosion resistant
- High electrical & thermal conductivity
- Good machinability & coatability
- RWMA Class 3
- Forged or extruded to achieve best physical properties
- Remarkable properties up to 450°C
- Increasing conductivity at higher temperatures

Nominal Composition:

Copper (Cu)	Cobalt + Nickel (Co + Ni)	Beryllium (Be)	Others
Balance	2.0%	0.5%	max. 0.5%

Applications:

- Used where both high conductivity & mechanical properties are essential
- Spot welding, mesh welding & seam welding electrodes
- Electrode holders & flash welding dies
- Cooling plates & inserts for the plastic molding industry
- Plunger tips for high pressure aluminum die casting machines
- Molds for low pressure die casting



AMPCOLOY® 95 finds a wide range of applications thanks to its exceptional properties. It is primarily used for welding electrodes and flash welding dies for stainless steel, Monel®, and nickel alloys. Its excellent thermal conductivity also makes it invaluable for plunger tips in aluminum die casting machines and cooling inserts in plastic injection molding.

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Mechanical Properties (Nominal values)	Forged	Extruded	
		Ø ≤ 50.8 mm	Ø > 50.8 mm
Tensile Strength R_m (MPa)	703	850	723
Yield Strength $R_{p\,0.5}$ (MPa)	496	600	517
Elongation A_5 (%)	17	15	10
Brinell Hardness (10/3000)	217	240	220
Modulus of Elasticity E (GPa)	130	130	130

Physical Properties:

Density ρ (g/cm³)	Coefficient of Expansion α (10^{-6}/K)	Thermal Conductivity λ (W/m·K)			Electrical Conductivity γ (m/Ω·mm²)	Electrical Conductivity (% I.A.C.S.)	Specific Heat c_p (J/g·K)
		20°C	100°C	200°C			
8.75	17	220	235	254	30	52	0.42

Machining Parameters:

Operation	Cutting Speed v_c (m/min)	Feed f (mm/rev)	Depth a (mm)	Tool Specification
Milling – Roughing	110 - 160	0.1 - 0.4	up to 4	K10 - K20
Milling – Finishing	90 - 115	0.05 - 0.1	0.1 - 0.5	K10 - K20
Turning – Roughing	150 - 225	0.1 - 0.2	up to 2	K10 - K20
Turning – Finishing	170 - 250	0.05 - 0.1	0.1 - 0.2	K10 - K20

Scan the QR Code to view our machining recommendations:

Health & Safety:

Since the alloy contains 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.

Contact us