



# Technical Data Sheet

## AMPCOLOY® 88

AMPCOLOY® 88 is a high-performance bronze alloy known for its exceptional properties and specifications. This alloy exhibits remarkable wear resistance, making it ideal for applications where durability is paramount. Its impressive mechanical strength ensures longevity and reliability in a variety of industries. With excellent thermal conductivity, this high copper alloy increases efficiency and performance. It is designed to provide superior resistance to wear and corrosion, resulting in longer product life cycles and increased productivity.

### Key Features:

- ▶ High mechanical strength & hardness
- ▶ Corrosion & wear resistant
- ▶ Withstands heavy loads
- ▶ High thermal & electrical conductivity
- ▶ RWMA Class 3
- ▶ Forged or extruded to achieve best physical properties
- ▶ Remarkable properties up to 450°C
- ▶ Increasing conductivity at higher temperatures

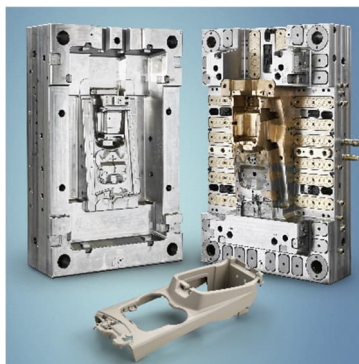


### Nominal Composition:

Copper (Cu)	Cobalt + Nickel (Co + Ni)	Beryllium (Be)	Others
Balance	2.5%	0.5%	max. 0.5%

### Applications:

- ▶ Used where both high mechanical strength & conductivity are essential
- ▶ Various resistance welding electrodes & flash welding dies
- ▶ Cooling plates & inserts for the plastic molding industry
- ▶ Damper ring segments in generators
- ▶ Molds for low pressure die casting & continuous casting process



AMPCOLOY® 88 is used in a wide range of industries due to its versatile properties. This high-performance bronze alloy is commonly used in the manufacture of welding tools and electrodes, where it stands out for its exceptional wear resistance and mechanical strength. It also plays a critical role in the injection molding of plastic components. Its unique composition and durability make it a trusted material in applications that demand reliability and extended service life.



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Mechanical Properties (Nominal values)	Forged	Extruded
Tensile Strength $R_m$ (MPa)	760	890
Yield Strength $R_{p0.5}$ (MPa)	550	680
Elongation $A_5$ (%)	14	14
Brinell Hardness (10/3000)	250	270
Modulus of Elasticity $E$ (GPa)	130	130

### Physical Properties:

Density $\rho$ (g/cm <sup>3</sup> )	Coefficient of Expansion $\alpha$ (10 <sup>-6</sup> /K)	Thermal Conductivity $\lambda$ (W/m·K)				Electrical Conductivity $\gamma$ (m/Ω·mm <sup>2</sup> )	Electrical Conductivity (% I.A.C.S.)	Specific Heat $c_p$ (J/g·K)
8.75	17	20°C 230	100°C 251	200°C 272	300°C 287	28	48	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

