



株洲艾美新材料有限公司 ZHUZHOU AMALLOY MATERIAL CO., LTD.

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AM173-AC (C17300) Rod

AM173-AC is a high performance copper alloy with free machining characteristics. It could minimize signal distortion in coaxial RF connectors and reduce power loss in circular connectors and contact probes.

AM173-AC (C17300) parts, after machining and forming operations, could be easily heat treated and plated to obtain maximum mechanical and electrical performance.

APPLICATION: In Electronic and Electrical Industry: probe cards, switch parts, relay parts, electrical connectors, fuse clips, contact bridges, electrical motor components, navigational instruments, electrical switch and relay blades.

FORM: In straight rod or coiled wire. Length: up to 12ft (3657mm), Diameters range from 0.039" (1.0mm) to 0.63" (16.0 mm). Rod end in pointed or(and) chamfered as required is made, depending on the diameter. Surface condition: cold drawn surface free of any scratch, residues and cracks.

SPECIFICATION: ASTM B 196, EN 12164

CHEMICAL COMPOSITION (weight percent)

Alloy	Beryllium	Nickel+Cobalt	Nickel+Cobalt+Iron	Lead	Copper
C17300	1.80 – 2.00	0.20 min.	0.6 max.	0.20 – 0.6	Balance

PHYSICAL PROPERTIES*

Elastic Modulus	Melting Point (Solidus)	Electrical Conductivity/Resistivity	Density**	Thermal Expansion Coefficient	Thermal Conductivity (25°C)	Machinability Index
19,000 ksi 131 Gpa	1600 °F 870 °C	25-30% IACS 5.8-6.9 μΩ-cm	0.302 lb/in ³ 8.36 g/cm ³	9.7x10 ⁻⁶ in/in °F 17.0x10 ⁻⁶ m/m °C	60 BTU/ft hr °F 105 W/m K	60% (vs. free-cutting brass)

*Specified for the heat treated condition. Density before the heat treated is 0.300 lb/in³ (8.30 g/cm³).

MECHANICAL PROPERTIES*

Temper	Diameter		Heat Treatment Required	0.2% Offset Yield Strength		Ultimate Tensile Strength		Elongation (4D) Percent
	inch	mm		ksi	Mpa	ksi	Mpa	
H (TD04)	0.039-0.375	1.0-9.5	2-3 hours	75-105	520-720	90-130	620-900	8-30
H (TD04)	>0.375-0.63	>9.5-16.0	2-3 hours	75-105	520-720	90-125	620-860	8-30
HT (TH04)	0.039-0.375	1.0-9.5	-	160-200	1100-1380	185-225	1280-1550	2-9
HT (TH04)	>0.375-0.63	>9.5-16.0	-	155-195	1070-1340	180-220	1240-1520	2-9

*Properties may vary by diameter.

*Rod is typically provided in an annealed or cold drawn temper and heat treated after machining.



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TOLERANCES

	Diameter (inches)		Standard Tolerance (inches)		Diameter (mm)		Standard Tolerance (mm)	
	Over	Including	Diameter	Out of Round	Over	Including	Diameter	Out of Round
Cold Drawn	0.0390	0.0800	±0.0003	0.0003	1.00	2.0	±0.008	0.008
	0.0800	0.1250	±0.0004	0.0004	2.0	3.2	±0.010	0.010
	0.1250	0.2500	±0.0006	0.0004	3.2	6.4	±0.015	0.010
	0.2500	0.3125	±0.0007	0.0007	6.4	7.9	±0.018	0.018
	0.3125	0.3750	±0.001	0.001	7.9	9.5	±0.025	0.025
	0.3750	0.500	±0.002	0.002	9.5	12.0	±0.05	0.05
	0.500	0.63	±0.003	0.003	12.0	16.0	±0.08	0.08

The specific tolerance should be provided when placing the order. Tighter tolerances may be available at additional cost.

PACKING

20-30Kg per bundle, 100-120kg per wooden case, other packing can also be made at customer's request.

*AM173, equivalent to C17300, is the alloy number of the Company.